### Sunday 19 October 2014

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<tr>
<th>Start time</th>
<th>End time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>10.00 am</td>
<td>5.00 pm</td>
<td>Technical tour (departs at 10.00 am sharp)</td>
<td>Leaves from ANZ stadium</td>
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<tr>
<td>5.00 pm</td>
<td>6.30 pm</td>
<td>Welcome reception &amp; registration open</td>
<td>TBA</td>
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<td>Sponsored by SIDRA SOLUTIONS</td>
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### Monday 20 October 2014

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<th>Start time</th>
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<tbody>
<tr>
<td>8.00 am</td>
<td>9.30 am</td>
<td>Registration &amp; welcoming tea and coffee</td>
<td>Exhibition area (Gold Members Lounge)</td>
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</table>
| 9.30 am    | 11.00 am | **Opening Ceremony: Research Driving Efficiency**  
This session is on how research can support doing more with less. | Gold Members room |

Road authorities in Australia and New Zealand face a changing and increasingly difficult operating environment. On the demand side – traffic is increasing, freight access demands are growing for higher-productivity vehicles and potentially heavier axle loads, and road users are expecting smooth, incident free and safe travel. While on the supply side – road agency budgets have remained static or declined and many agencies have faced efficiency dividends requiring 20-25% staff reductions.

Year on year, budgets are under pressure. In addition, extreme weather events and environmental pressures demand adaptation and network resilience, as well as the increasing use of recycled and reclaimed materials.

**Keynote speakers include:**

- **Professor David Henscher**, Director – Institute of Transport and Logistics Studies, The University of Sydney
- 2 additional speakers TBA

| 11.00 am    | 11.30 am | Morning tea | Exhibition area (Gold Members Lounge) |
1.1 Sprayed seals
(Room: Gold Members)

Model for long term bitumen oxidation
Phillip Herrington
NEW ZEALAND

Preliminary investigations of epoxy bitumen for resilient and sustainable chip seal (sprayed seal) road surfaces
Steve Bagshaw
AUSTRALIA

Design and construction of unconventional sprayed bituminous surfacing for a remote road network in Western Australia
Srijib Chakrabarti
AUSTRALIA

A review of the loading impacts of heavy vehicles on the Austroads sprayed seal design method
Khar Yean Khoo
AUSTRALIA

1.2 Unsealed roads & reinforced layers
(Room: Ambassadors)

Uncertainty associated with pressure cells and deflection measurements in geocell-reinforced layers
Moshe Livneh
ISRAEL

Developments of Hexahydrated Magnesium Chloride in unpaved roads
Alvaro Gonzalez
CHILE

Performance of low-volume road test sections with wearing course of silty clayey soil modified with lime in Uruguay
Leonardo Behak
URUGUAY

The impact of maintenance on unsealed road performance
Melissa Dias
AUSTRALIA

1.3 Network planning 1
(Room: Olympians)

Level-of-service framework for network operation planning
Ian Espada
AUSTRALIA

Evaluation and application of transport accessibility measures: a non-metropolitan focus
Brett Williams
AUSTRALIA

Efficiency modelling of bicycle infrastructure
Ajit Prabhakar
INDIA

An innovative methodology for converting axle counts to vehicle counts
Young Yoo
AUSTRALIA

1.4 Safe speeds
(Room: Platinum)

Improving compliance and acceptance of safer speeds
Shane Turner
NEW ZEALAND

Evaluation of Peninsula SaferSpeeds – speed limit reduction and community perceptions
Kate Pratt
AUSTRALIA

Impact of changes in road speed limits on arterial roads
Lay Peng Hau
SINGAPORE

Model national guidelines for setting speed limits at high-risk locations
Chris Jurwecz
AUSTRALIA

1.5 Environmental impact of traffic
(Room: Captains)

Estimation of road transport emissions for Australia
Robin Smit
AUSTRALIA

State highway noise mapping – Auckland motorways case study
Rob Hannaby
NEW ZEALAND

Brisbane Airport Link M7 tunnel ventilation system optimisation
Bruce Johnson
AUSTRALIA

The use of GPS and high resolution vehicle emission modelling to assess environmental benefits of driver behaviour change programs
Robin Smit
AUSTRALIA

2.1 Pavement design & analysis 1
(Room: Gold Members)

A holistic approach to flexible pavement design improves performance
Bryan Pidwerbesky
NEW ZEALAND

Influence of multiple-axle group loads on mechanistic design of asphalt pavements
Michael Moffatt
AUSTRALIA

Analytical solution of pavement deflections and its application to the TSD measurements
Adam Zofka
POLAND

APADS: finite element method software for enhanced pavement analysis including nonlinear behaviour of granular materials
Didier Bodin
AUSTRALIA

Developing a sustainability assessment framework for road transportation asset management practice
Prageeth Gunarathna
AUSTRALIA

Development of the Green Highway Technology Investment Evaluation System (G-TIES)
Jongdae Baek
REPUBLIC OF KOREA

Uptake of green technology through sustainable procurement
Simon Renton
AUSTRALIA

Australian Cooperative-ITS platform
Freek Faber
AUSTRALIA

Cooperative-ITS interoperability with existing ITS infrastructure
David Green
AUSTRALIA

Electronic Work Diaries: overview and benefits
Shaun Talko
AUSTRALIA

Emerging digital mapping requirements for Cooperative-ITS
Clarissa Han
AUSTRALIA

Operational safety risk management – are you sure your transport project will operate safely?
Ryszard Gorell
AUSTRALIA

Assessment and treatment of high risk roads in Bangladesh
Md. Mazharul Hoque
BANGLADESH

Main Roads trial of Australian National Risk Assessment Model (ANRAM)
Jan Karpinski
AUSTRALIA

Using Australian National Risk Assessment Model (ANRAM) to improve road safety
Chris Jurwecz
AUSTRALIA

2.2 Sustainable asset management
(Room: Ambassadors)

Operational safety risk management – are you sure your transport project will operate safely?
Ryszard Gorell
AUSTRALIA

Assessment and treatment of high risk roads in Bangladesh
Md. Mazharul Hoque
BANGLADESH

Main Roads trial of Australian National Risk Assessment Model (ANRAM)
Jan Karpinski
AUSTRALIA

Using Australian National Risk Assessment Model (ANRAM) to improve road safety
Chris Jurwecz
AUSTRALIA

2.3 Vehicle telematics & technology
(Room: Olympians)

Initial Seals – their problems and solutions.
Many people experience problems with initial seals, particularly with regard to bleeding. But initial seals can also mean different things to different people – such as being a primer seal, or the first seal over a primerseal altogether or omitting the primerseal altogether before placing the initial seal. The use of initial seals with or without primes and primer seals will be discussed, beginning with experiences from the panel and from the floor. What are the risks, and what is the best way forward?

2.4 Road safety risk assessment
(Room: Platinum)

Operational safety risk management – are you sure your transport project will operate safely?
Ryszard Gorell
AUSTRALIA

Assessment and treatment of high risk roads in Bangladesh
Md. Mazharul Hoque
BANGLADESH

Main Roads trial of Australian National Risk Assessment Model (ANRAM)
Jan Karpinski
AUSTRALIA

Using Australian National Risk Assessment Model (ANRAM) to improve road safety
Chris Jurwecz
AUSTRALIA

2.5 Sprayed Sealing Alliance workshop
(Room: Captains)

Initial Seals – their problems and solutions.
Many people experience problems with initial seals, particularly with regard to bleeding. But initial seals can also mean different things to different people – such as being a primer seal, or the first seal over a primerseal altogether or omitting the primerseal altogether before placing the initial seal. The use of initial seals with or without primes and primer seals will be discussed, beginning with experiences from the panel and from the floor. What are the risks, and what is the best way forward?
Developing a methodology for estimating energy consumption in road construction, maintenance and operation
Hyejung Hu
REPUBLIC OF KOREA

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<tr>
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<tr>
<td>3.30 pm</td>
<td>Afternoon tea</td>
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</table>

4.00 pm – 5.30 pm Parallel technical sessions & workshops 3

### 3.1 Asphalt mix design & performance 1 (Room: Gold Members)
Comparison between resilient modulus and dynamic modulus of Western Australian hot mix asphalt based on flexible pavement design perspectives
Sarayoot Kumlai
AUSTRALIA

Stiffness variability of multigrade asphalt in Brisbane
Laszlo Petho
AUSTRALIA

Fourier transform infrared spectroscopy: a tool for detection of lime content in hot mix asphalt
Satish Pandey
INDIA

### 3.2 Road asset management (Room: Ambassadors)
Asset management as a means to assist in the delivery of road safety outcomes
Tyrone Toole
AUSTRALIA

Practical condition deterioration from historic data for asset management
Manish Jethwa
UNITED KINGDOM

The challenges and opportunities of managing a road maintenance backlog, Main Roads Western Australia’s experience
Flori Mihai
AUSTRALIA

Rebuilding Fiji’s road industry
Bruce Buxton
NEW ZEALAND

### 3.3 Transport demand (Room: Olympians)
Calculation of transport mode shift in the absence of complex transport models
Wayne Davies
AUSTRALIA

Effect of traffic mix on capacity of urban arterial roads
Satish Chandra
INDIA

Adverse weather effects on bus ridership
Syeed Kashfi
AUSTRALIA

Estimating travel times for light rail using a probabilistic method
Andrew Somers
AUSTRALIA

### 3.4 Implementation of ANRAM workshop (Room: Platinum)
The Australian National Risk Assessment Model (ANRAM) was released earlier this year. ANRAM aims to help road agencies identify, measure and report severe crash risk across all parts of the road network, and then manage this risk through development of treatment programs.

This workshop will include a discussion about experiences to date on those who have implemented trials of ANRAM.

The workshop will also feature a discussion on future versions of ANRAM, including identification of features and functions that may be useful.

This workshop is aimed at Australian state and local road agency practitioners.

### 3.5 Special session: using ICT to improve traffic management (Room: Captains)
Speakers include:
Mr John Doyle
Auditor-General
Victorian Auditor-Generals Office

#### 26th ARRB Conference Official Dinner
The venue for this year’s conference Gala Dinner is the Sydney Olympic Park Aquatic Centre, Olympic Boulevard. The price is inclusive of dinner, drinks (beer, wine & soft drinks), entertainment & the bus for the short trip from the conference venue (ANZ Stadium).

The Sydney Olympic Park Aquatic Centre was the venue for Sydney 2000 Olympic and Paralympic Games. Join us for our Conference Gala Dinner at this unique location.

**Attendee ticket:** $132
**Additional partner ticket:** $165
### Tuesday 21 October 2014

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<tr>
<th>Start time</th>
<th>End time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>8.00 am</td>
<td>8.45 am</td>
<td>Registration &amp; welcoming tea and coffee</td>
<td>Exhibition area (Gold Members Lounge)</td>
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<tr>
<td>8.45 am</td>
<td>10.30 am</td>
<td>Plenary session: Data: big, open and managed for all</td>
<td>Gold Members room</td>
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<td>The volume, velocity and variety of data that can be accessed by organisations is growing. Member agencies face unprecedented rapid developments in data management. Leading global corporations are exploring and developing big data from digital connectivity on an international scale. Governments are increasingly releasing data for open development. What opportunities do these offer road and transport agencies? How can data be managed, manipulated and developed into products and services for road users and government agencies? This is an exploration of the forward outlook across agency operations. Plenary speakers include:</td>
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<td>• Ms Birgitta Sandstedt, Director, Library and Information Centre VTI Sweden</td>
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<td>• Mr Rohan Fernando, Enterprise Business Development - Oceania HERE, a Nokia company, Australia</td>
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<td>• Mr Ian Webb, Chief Executive Roads Australia</td>
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<td>• Plus a special pre-recorded presentation from Ms Pia Waugh, Director Coordination and Gov 2.0, Commonwealth Department of Finance, Australia</td>
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<tr>
<td>10.30 am</td>
<td>11.00 am</td>
<td>Morning tea</td>
<td>Exhibition area (Gold Members Lounge)</td>
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</table>
| 11.00 am – 12.30 pm | Parallel technical sessions & workshops 4

#### Session 4.1
Asphalt mix design & performance 2 (Room: Gold Members)

- Asphalt fatigue performance criteria for the National War Memorial Park Anthony Stubbs NEW ZEALAND
- Estimation of dynamic modulus values of bituminous mixes from repeated indirect tensile test Bharath Gottumukkala INDIA
- Prediction of crack propagation phenomenon in asphalt mixtures Krishna Prapooma Biligiri INDIA

#### Session 4.2
Asset performance measurement (Room: Ambassadors)

- Monitoring ride quality on roads with existing sensors in passenger cars Philippe Nitsche AUSTRIA
- Seasonal variation in skid resistance of South Australian aggregates Hugo van Loon AUSTRALIA
- Formulating the South Australian automatic crack data processing methodology Jasmina Copcic AUSTRALIA

#### Session 4.3
Network planning 2 (Room: Olympians)

- Vulnerability assessment of a strategic rural road network using a prototype method Vaughn Scott NEW ZEALAND
- Road safety and transport planning decision making and the impact on community, economy and the environment Jayantha Withanaarachchi AUSTRALIA
- Economic evaluation of travel time reliability in road project planning: a practitioner’s perspective Baojin Wang AUSTRALIA

#### Session 4.4
Vehicle crashes & the safe system (Room: Platinum)

- Using driver errors to inform safe system infrastructure development Paul Roberts AUSTRALIA
- Vehicle crash types and the ability of road safety simulation models to replicate them Bill Young AUSTRALIA
- The Safe System approach in NSW: how are we traveling? David Beck AUSTRALIA

#### Session 4.5
Introducing the Transport Infrastructure Product Evaluation Scheme (TIPES) workshop (Room: Captains)

- The Transport Infrastructure Product Evaluation Scheme (TIPES) is a process aimed at providing an independent fit-for-purpose assessment of innovative road construction products. TIPES is intended for the evaluation of products that fall outside the scope of established standards and specifications.
- TIPES is a national scheme endorsed by all Australian State and Territory road agencies as well as IPWEA (QLD) and the Queensland Local Roads Alliance.
### Effect of gyration angle, ram pressure and number of gyration on the volumetric and mechanical properties of hot mix asphalts

Mofreh Saleh

NEW ZEALAND

### Preliminary field validation of the updated Traffic Speed Deflectometer (TSD) device

Wayne Muller

AUSTRALIA

### Factors influencing public acceptance of congestion pricing in Melbourne

Xiaoying Cao

AUSTRALIA

### Network management and the forecast of accident blackspot locations

Julian Laufer

AUSTRALIA

Is road infrastructure that improves operating speed a double-edged sword when it comes to road safety?

Wayne Davies

AUSTRALIA

### 12.30 pm | 1.30 pm | Lunch

Exhibition area (Gold Members Lounge)

### 1.30 pm – 3.00 pm Parallel technical sessions & workshops 5

#### 5.1 Granular pavements & water management

*Room: Gold Members*

- Heavy-duty unbound granular pavements: an example of best practice in Queensland
  - Jonathon Griffin
  - AUSTRALIA

- Managing the risks of using seawater for pavement construction
  - Kym Neaylon
  - AUSTRALIA

- Time domain reflectometry (TDR) based moisture monitoring system for unbound granular pavements
  - Will Hore-Lacy
  - AUSTRALIA

- A review of the structural performance of flooded pavements
  - Masuda Sultana
  - AUSTRALIA

The Road Infrastructure Workshop is tailored for both researchers and practitioners to develop and confirm the broad research themes in road infrastructure management that will serve practitioners in the medium to long term. From these research themes a series of research proposals will be developed in outline and prioritised on the basis of their contribution to the efficient practice of road infrastructure management. In addition, areas requiring better knowledge management and dissemination will also be identified.

#### 5.2 Research needs in road infrastructure management workshop

*Room: Ambassadors*

- The workshop will cover the latest practices and developments in traffic signal control in Australia.

1. Performance and Data
2. How traffic systems will fit into C-ITS
3. Planning for Operations (smart roads) - how it should drive traffic operational strategies
4. Traffic operational strategies (gating/metering etc.)
5. Developments across the STREAMS/SCATS port
6. Benefits of conducting regular reviews of traffic signal operation
7. Managing traffic signal operation using SmartRoads
8. Managing traffic signal operation in congested environments.

#### 5.3 Latest practices and developments in traffic signal control workshop (part 1)

*Room: Olympians*

- Expanded warrants for unsignalised intersection turn treatments
  - Owen Arndt
  - AUSTRALIA

- Public opinion survey for evaluation of traffic calming prioritisation process
  - Farzana Rahman
  - BANGLADESH

- Making informed decisions on selecting promising work zone safety treatments
  - Ashim Kumar Debnath
  - AUSTRALIA

- Innovative work zone traffic management using real-time GPS probe data
  - Kamal Weeratunga
  - AUSTRALIA

#### 5.4 Traffic management & work zones

*Room: Platinum*

- Managing traffic signal operation using SmartRoads
- Managing traffic signal operation in congested environments.

#### 5.5 Heavy vehicles workshop: PBS route assessment tool

*Room: Captains*

- Expanded warrants for unsignalised intersection turn treatments
- Public opinion survey for evaluation of traffic calming prioritisation process
- Making informed decisions on selecting promising work zone safety treatments
- Innovative work zone traffic management using real-time GPS probe data

### 3.00 pm | 3.30 pm | Afternoon tea

Exhibition area (Gold Members Lounge)
### 3.30 pm – 5.00 pm Parallel technical sessions & workshops

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<tr>
<th>Time</th>
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</table>
| 3.30 pm – 5.00 pm | **6.1 Pavement design & analysis 2**  
Room: Gold Members |
| 3.30 pm – 5.00 pm | **6.2 Infrastructure economics**  
Room: Ambassadors |
| 3.30 pm – 5.00 pm | **6.3 Latest practices and developments in traffic signal control workshop (part 2)**  
Room: Olympians |
| 3.30 pm – 5.00 pm | **6.4 Are we letting an opportunity slip by? – future directions in skid resistance management**  
Room: Platinum |
| 3.30 pm – 5.00 pm | **6.5 Workshop TBA**  
Room: Captains |

**Improved fatigue characterisation of cemented materials**  
Geoffrey Jameson  
AUSTRALIA

**Analytical solution for the heat propagation with infinite speed in the multilayer pavement system**  
Adam Zofka  
POLAND

**Development of a validated long life pavement threshold criterion for Australian asphalt pavement design**  
Bevan Sullivan  
NEW ZEALAND

**Calculating the cost of road wear on local roads**  
Mark Bondietti  
AUSTRALIA

**Input price indexes for arterial and local roads: a methodology and results**  
Bryan Lee  
AUSTRALIA

**A life cycle cost analysis case study - M80 Ring Road upgrade project**  
Nayana Weerakody  
AUSTRALIA

**ITS procurement methods and a proposed decision model**  
Clarissa Han  
AUSTRALIA

The workshop will cover the latest practices and developments in traffic signal control in Australia.

1. Performance and Data
2. How traffic systems will fit into C-ITS
3. Planning for Operations (smart roads) - how it should drive traffic operational strategies
4. Traffic operational strategies (gating/metering etc.)
5. Developments across the STREAMS/SCATS port
6. Benefits of conducting regular reviews of traffic signal operation
7. Managing traffic signal operation using SmartRoads
8. Managing traffic signal operation in congested environments.

This workshop will introduce and seek delegate comments and opinions on the latest issues and challenges with respect to skid resistance management. Four short presentations will be followed by a rotation of topics for discussion. Feedback from the respective discussion groups will be collated by the workshop facilitators. It is intended that a record of the workshop be prepared for general publication and possibly used to support a future submission to the Austroads research program.

**26th ARRB Conference Networking Function**

Enjoy a three hour Sydney harbour cruise departing Homebush Bay public wharf at 6.00pm (complimentary buses provided from the conference venue ANZ Stadium to wharf & return - this is just a 5 minute bus trip). Cruise concludes back at Homebush Bay at 9.00pm.

This function provides a great opportunity for delegates to network with each other, aboard a wonderful vessel and also viewing iconic Sydney landmarks!

**Attendee ticket:** $66  
**Additional partner ticket:** $88

**3.30 pm – 5.30 pm**  
**Welcome Reception TBA**  
**Registration open for 9th Austroads Bridge Conference delegates**
### Wednesday 22 October 2014 (Joint conference day)

#### 26th ARRB Conference and the 9th Austroads Bridge Conference

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<td>Registration &amp; welcoming tea and coffee</td>
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### ARRB Conference

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<tr>
<td>9.00 am – 10.30 am</td>
<td>Parallel technical sessions &amp; workshops 7</td>
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<th>Session</th>
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<tr>
<td>7.1 Road surfacings (Room: Captains)</td>
<td>Exhibition area</td>
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<td>7.2 Asset management systems (Room: Ambassadors)</td>
<td>Exhibition area</td>
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<td>7.3 Traffic modelling (Room: Olympians)</td>
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<td>7.4 Design &amp; management of rural roads (Room: Platinum)</td>
<td>Exhibition area</td>
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<td>7.5 Austroads pavement design future directions forum (Room: Victory)</td>
<td>Exhibition area</td>
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### Bridge Conference

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<tr>
<td>9.00 am – 10.30 am</td>
<td>9th Austroads Bridge Conference opening &amp; keynote address</td>
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**Gold Members room**

#### 7.1 Road surfacings

- **Room: Captains**
  - **Asphalt trials to reduce traffic noise levels**
    - Cassandra Simpson
  - **Construction of test sections to evaluate performance of porous asphalt concrete**
    - Jian-Shiuh Chen
  - **Microsurfacing Suspended Fibre Technology – product innovation**
    - Paul Price  

#### 7.2 Asset management systems

- **Room: Ambassadors**
  - **Development and implementation of a pavement asset management system (PAMS) at Roads and Maritime Services NSW**
    - Riaz Ul-Islam
  - **On The RADAR, at Main Roads Western Australia, a journey for modernising the collection and management of road maintenance information**
    - Flori Mihai
  - **Investigating the appropriate level of management system functionality for various road infrastructure assets**
    - Riaz Ul-Islam

#### 7.3 Traffic modelling

- **Room: Olympians**
  - **Scenarios demonstrating congestion management policies using SCATS: stage 2**
    - Christian Chong-White
    - Essam Radwan
    - Riaz Ul-Islam
  - **Design criteria for permissive only and protected permitted left turns (US)**
    - Rahmi Akcakum
  - **A new lane-based model for platoon patterns at closely-spaced signalised intersections**
    - Jian-Shiuh Chen
  - **Automatic discrimination of traffic conflicts during lane changing manoeuvres**
    - Xiaoying Cao
  - **Performance of unsignalised intersections based on capacity and conflict streams**
    - Joewono Prasetijo

#### 7.4 Design & management of rural roads

- **Room: Platinum**
  - **Expanded operating speed model**
    - Michael Levasseur
  - **Safe passing as a measure to improve road safety on rural roads in Germany**
    - Thomas Jaehrig
  - **Evaluating vehicle activated signs on rural roads**
    - Tariro Makwasha
  - **Visitors acuity of tourism signs in Victoria**
    - Tapash Saha

**Research findings in the relation to:**
- **Introduction of Austroads research funding and overview of proposed changes to Austroads Guide**
- **The effects of multiple-axle loads on pavement damage**
- **Improved characterisation of cemented materials**
- **Development of a non-linear finite element model.**

To enable the implementation of these findings, the proposed AustPads software will be demonstrated.

#### 7.5 Austroads pavement design future directions forum

- **Room: Victory**
  - **Research findings in the relation to:**
    - **Introduction of Austroads research funding and overview of proposed changes to Austroads Guide**
    - **The effects of multiple-axle loads on pavement damage**
    - **Improved characterisation of cemented materials**
    - **Development of a non-linear finite element model.**

**9.15 am – 10.30 am Keynote address:**

**Professor Dan M. Frangopol, Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture at Lehigh University, USA**

#### 10.30 am 11.00 am Morning tea

**Exhibition area (Gold Members Lounge)**
### 11.00 am – 12.30 pm Parallel technical sessions & workshops

#### ARRB Conference

| 8.1 | Pavement recycling & foamed bitumen (Room: Captains) |
| 8.2 | Asset management modelling (Room: Ambassadors) |
| 8.3 | Managed motorways & heavy vehicles (Room: Olympians) |

#### Bridge Conference

| 1.1 | Design 1 (Regional Rail Link) (Room: Gold Members) |
| 1.2 | Construction & Strengthening 1 (Room: Platinum) |
| 1.3 | Assessment & Investigation 1 (Room: Victory) |

**Comparison of four full depth reclaimation strategies in an accelerated loading test**
David Jones United States

**Evaluation of strength characteristics of recycled asphalt pavement materials**
Phillip Neumann Australia

**Effect of foamed bitumen content in laboratory tests**
Alvaro Gonzalez Chile

**Performance of foam bitumen stabilised (FBS) pavements in New Zealand**
Josh von Pein New Zealand

### 12.30 pm - 1.30 pm Lunch

#### ARRB Conference

| 1.30 pm – 4.15 pm Special session Gold Members room |

**The future of our cities – enabling driverless cars**

1. City and urban planning – what are the impacts and enabling mechanisms?  
   **Speaker:** Mr Garry Bowditch  
   CEO SMART Infrastructure facility  
   The University of Wollongong

2. Emerging issues – an international perspective

3. Driverless cars – an industry perspective

#### Bridge Conference

| 2.1 | Design 2 (M80 Ring Road Upgrade) (Room: Ambassadors) |
| 2.2 | Construction & Strengthening 2 (Room: Olympians) |
| 2.3 | Life Cycle Management 1 (Room: Platinum) |

**Engineering challenges faced during widening, strengthening and underpinning of bridges - M80 Ring Road Upgrade, Victoria**
Justin Ariffin Australia

**M80 Ring Road Upgrade - widening of bridge over Furlong Road**
Kabir Patoary Australia

**Design and construction of Omega Bridge, Gerringong**
David Hicks Australia

**Constructability considerations in long span bridge design**
Mike Tapley Hong Kong

**Auckland Harbour Bridge painting: Development of a future maintenance strategy**
Raed El Sarraf New Zealand

**Cost effective method of surface preparation for the bridges in future**
Narendra Tripathi Australia
4. Driverless cars – an agency perspective

Speaker: Ms Penny Gale
General Manager, Public Affairs
Royal Automobile Association of South Australia

5. Driverless cars – a community perspective

3.00 pm – 3.30 pm Afternoon tea served in Exhibition area

3.30 pm – 4.15 pm Q&A panel discussion

Incorporating ACI440.8 into AS5100.5 for FRP strengthening via M80 Upgrade Project case study
Liam Ingram
AUSTRALIA

Antigua Street Footbridge earthquake recovery and refurbishment
Jeremy Jennings
NEW ZEALAND

Deck widening stitch pours under live traffic
Matthew Deery
AUSTRALIA

West Gate Bridge - maintenance of demag joint and roller bearings
Javier Silla-Sanchez
AUSTRALIA

Flood resilient bridge design; case studies from challenging design environments
Cherry Fulmer
AUSTRALIA

Sustainable management of installation of impressed current cathodic protection projects for bridges of the future
Ram Ramanan
AUSTRALIA

3.00 pm – 5.00 pm Parallel technical sessions 3

3.1 Design 3
(Room: Ambassadors)

Namoi Floodplain Viaduct – design of a 1km rail viaduct in a remote area for a 35 year design life
Dennis Gunaseelan
AUSTRALIA

Rail bridges for the Richlands to Springfield project
Brendan Ryan
AUSTRALIA

Three rail bridges, Rangiriri, Waikato, New Zealand
John McNeil
NEW ZEALAND

Metro Train Melbourne bridge renewal works - Victoria Street and Langridge Street bridge replacement, North Richmond.
Sheiman Mikhail
AUSTRALIA

Menangle Bridge - maintaining an aged structure into the future
Matthew Ing
AUSTRALIA

3.2 Standards & Specifications 1
(Room: Olympians)

A quantitative assessment for pier collision loads to AS 5100
David Taylor
AUSTRALIA

Rational effect of ‘Crack control measures in AS5100.5’ for partially prestressed composite concrete beam
Hari Pokharel
AUSTRALIA

Safety in design for railway bridges - new provisions in AS5100-2014
Frank Rapattoni
AUSTRALIA

A new vehicle loading standard for road bridges in New Zealand
Ken Wheeler
AUSTRALIA

4.15 pm – 4.45 pm ARRB Conference close

5.00 pm Day 1 Bridge Conference close
### Thursday 23 October 2014

<table>
<thead>
<tr>
<th>Start time</th>
<th>End time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>8.00 am</td>
<td>9.00 am</td>
<td>Registration &amp; welcoming tea and coffee</td>
<td>Exhibition area (Gold Members Lounge)</td>
</tr>
<tr>
<td>9.00 am</td>
<td>10.00 am</td>
<td>Plenary session: Speaker: Dr Amir Fam, Professor and Canada Research Chair in Innovative and Retrofitted Structures (2003-13) and Undergraduate Chair in the Department of Civil Engineering at Queen’s University, CANADA</td>
<td>Gold Members room</td>
</tr>
<tr>
<td>10.00 am</td>
<td>10.30 am</td>
<td>Morning tea</td>
<td>Exhibition area (Gold Members Lounge)</td>
</tr>
<tr>
<td>10.30 am</td>
<td>12.00 pm</td>
<td>Parallel technical sessions 4</td>
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#### 10.30 am – 12.00 pm Parallel technical sessions 4

<table>
<thead>
<tr>
<th>Session</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>4.1 Design 4 (Room: Gold Members)</td>
<td>4.2 AS5100 1 (Room: Ambassadors)</td>
</tr>
<tr>
<td>Launch of twin steel bridges over Australia’s second busiest rail corridor - temporary works design Tom Sheasby AUSTRALIA</td>
<td>Review of the Bridge Design Code (AS5100) Part 1 - scope and general principles Nigel Powers AUSTRALIA</td>
</tr>
<tr>
<td>Safe design - robust and practical temporary propping of Super-T girders Adam McManus AUSTRALIA</td>
<td>Review of the Bridge Design Code (AS5100) Part 2 - design loads Nigel Powers AUSTRALIA</td>
</tr>
<tr>
<td>Integral Super-T bridges - pushing the limits Andrew Dickson NEW ZEALAND</td>
<td>The revision of AS5100.4 bearings and deck joints Mark Bennett AUSTRALIA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start time</th>
<th>End time</th>
<th>Lunch</th>
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<tbody>
<tr>
<td>12.00 pm</td>
<td>1.00 pm</td>
<td>Exhibition area (Gold Members Lounge)</td>
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<tr>
<td>1.00 pm</td>
<td>3.00 pm</td>
<td>Parallel technical sessions 5</td>
</tr>
<tr>
<td>Session</td>
<td>Title</td>
<td>Presenter</td>
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<tr>
<td>5.1</td>
<td>Design 5 (Room: Gold Members)</td>
<td>The incremental launching of Beauharnois Bridge</td>
</tr>
<tr>
<td>5.2</td>
<td>AS5100 2 (Room: Ambassadors)</td>
<td>An overview of structural designs in the gateway WA project</td>
</tr>
<tr>
<td>5.3</td>
<td>Assessment &amp; Investigation 4 (Room: Olympians)</td>
<td>Bridge widening on Auckland’s causeway upgrade’</td>
</tr>
<tr>
<td>5.4</td>
<td>Design 6 (Room: Victory)</td>
<td>Design and construction of New Zealand National War Memorial Park and underpass</td>
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<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>3.00 pm</td>
<td>Afternoon tea</td>
<td>Exhibition area</td>
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<tr>
<td>3.30 pm</td>
<td>Parallel technical sessions 6</td>
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<tr>
<td>6.1</td>
<td>Design 7 (Room: Gold Members)</td>
<td>MacKays to Peka Peka expressway bridges - advanced seismic design in a challenging seismic and geotechnical environment</td>
</tr>
<tr>
<td>6.2</td>
<td>Standards &amp; Specifications 2 (Room: Ambassadors)</td>
<td>Installation of vehicle restraint systems (VRS) on bridges: European current developments applied on a common Australian VRS</td>
</tr>
<tr>
<td>6.3</td>
<td>Design 8 (Room: Olympians)</td>
<td>Distribution of wheel loads on Buried Arch Structures</td>
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<tr>
<td>6.4</td>
<td>Life Cycle Management 3 (Room: Victory)</td>
<td>Application of new seismic design rules to Australian bridges</td>
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<td>Coonamit Bridge rehabilitation</td>
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</table>

Changes in the standards for managing corrosion of the bridges in future | Narendra Tripathi, AUSTRALIA |
Restoration of scoured out bridge foundations and approaches - a Queensland Department of Transport and Main Roads (QDTMR) perspective | Lambert Ezeajugh, AUSTRALIA |
Specification and use of geopolymer concrete | Fred Andrews-Phaedonos, AUSTRALIA |
The NZTA bridge painting guide | Willie Mandeno, NEW ZEALAND |
Adelaide’s Riverbank Footbridge | Harry Turner, AUSTRALIA |
Westgate Footbridge, Auckland, New Zealand | John McNeil, NEW ZEALAND |
Cape Preston Creek Bridge over environmentally sensitive tidal mudflats. | Andreas Kerkovius, AUSTRALIA |
Modular joint testing for the Hunter Expressway | Eric Anich, AUSTRALIA |
Rehabilitation of Peats Ferry Bridges | Scott MacDonald, AUSTRALIA |
Building bridges, building communities | Jacqueline Bell, NEW ZEALAND |
Life cycle management of bridges and bridge networks | Barry Wright, NEW ZEALAND |
Management of post flood damage bridges | Muhammad Khattak, AUSTRALIA |
Strategic review of flood impact on Victorian structures | Nigel Powers, AUSTRALIA |
Auckland Harbour Bridge: Meeting environmental challenges sustainably | David Greig, NEW ZEALAND |
7.00 pm - 11.00 pm

**9th Austroads Conference Official Dinner**
Luna Park Sydney
Come & join us for a very special evening commencing with pre-dinner drinks on-board the "MV Lady Rose" cruise boat for a scenic trip to our dinner destination Luna Park Sydney.

Luna Park Sydney is an Australian icon in a prime Sydney CBD location on the foreshore of Sydney Harbour. With spectacular and uninterrupted views of the Sydney Harbour Bridge, Sydney Opera House and the city skyline Luna Park offers a picture perfect backdrop for our Bridge Conference dinner.

* Ticket price includes return boat transfers, pre-dinner drinks, three course dinner & entertainment.

**Attendee ticket:** $132
**Additional partner ticket:** $165

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### Friday 24 October 2014

<table>
<thead>
<tr>
<th>Start time</th>
<th>End time</th>
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<tbody>
<tr>
<td><strong>8.00 am</strong></td>
<td><strong>9.00 am</strong></td>
<td>Registration &amp; welcoming tea and coffee</td>
<td>Exhibition area (Gold Members Lounge)</td>
</tr>
<tr>
<td><strong>9.00 am</strong></td>
<td><strong>10.00 am</strong></td>
<td>Plenary session: Dr Riadh Al-Mahaidi, Professor of Structural Engineering, Director of the Smart Structures Laboratory, Swinburne University of Technology, Melbourne, AUSTRALIA</td>
<td>Gold Members room</td>
</tr>
<tr>
<td><strong>10.00 am</strong></td>
<td><strong>10.30 am</strong></td>
<td>Morning tea</td>
<td>Exhibition area (Gold Members Lounge)</td>
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10.30 am – 12.00 pm Parallel technical sessions 7

<table>
<thead>
<tr>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>7.1 Design 9 (Room: Gold Members)</td>
<td>7.2 Standards &amp; Specifications 3 (Room: Ambassadors)</td>
</tr>
<tr>
<td>Lengthening of bridges for the Southern Expressway duplication and challenges faced in the design and construction Tim Warren AUSTRALIA</td>
<td>Dynamic vehicle bridge interactions Torill Pape AUSTRALIA</td>
</tr>
<tr>
<td>Influence of substructure properties on analysis and design of seismically-isolated bridges Moustafa Al-Ani NEW ZEALAND</td>
<td>Load testing in-service monitoring of transversely stressed deck unit bridges Hanson Ngo AUSTRALIA</td>
</tr>
<tr>
<td>The design of bridges for liquefaction and lateral spreading effects Alexei Murashev NEW ZEALAND</td>
<td>A comparison between the technical specifications for elastomeric seismic protection bearings in European norm EN 15129, international standard ISO 22762. Moustafa Imam CHINA</td>
</tr>
<tr>
<td>Assessment of current design requirements for FRP shear strengthened bridge structures Yew-Chin Koay AUSTRALIA</td>
<td>What now for bridges? Gareth Collins AUSTRALIA</td>
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<tbody>
<tr>
<td>7.3 Innovation &amp; Research (Room: Olympians)</td>
<td>7.4 Maintenance &amp; Rehabilitation (Room: Victory)</td>
</tr>
<tr>
<td>Importance of reactive SiO2, Al2O3 and Na2O in geopolymer formation Chandani Tennakoon AUSTRALIA</td>
<td>An innovative construction technique for extensions to existing reinforced earth retaining walls. Southern Expressway duplication in Adelaide (Australia) Antonio Ramirez AUSTRALIA</td>
</tr>
<tr>
<td>Influence of placement method to In-place concrete hardened properties on deep foundation using self-compacting concrete Huber Madrio AUSTRALIA</td>
<td>Design of an innovative support scheme to strengthen Tarban Creek Bridge at Hunters Hill in Sydney Salah Assi AUSTRALIA</td>
</tr>
<tr>
<td>Assessment of chloride ingress in concrete exposed to brackish water Radhe Khatri AUSTRALIA</td>
<td>Strategy for retrofit-upgrading of sub-standard bridge barriers Vince Colosimo AUSTRALIA</td>
</tr>
<tr>
<td>Establishing compliance of steel mill products - a comparison between Australian steel standards and the corresponding American standards Hamid Fatemi-Nayeri AUSTRALIA</td>
<td>Underpinning abutments founded on reinforced soil walls - a novel approach Gareth Jelenich AUSTRALIA</td>
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<thead>
<tr>
<th>12.00 pm</th>
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<th>Lunch</th>
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<tbody>
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<td></td>
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<td>Exhibition area (Gold Members Lounge)</td>
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</table>
1.00 pm – 2.30 pm Special technical session 8

8.1 Gold Members room

International Association for Bridge Maintenance and Safety (IAMBAS) special session

We welcome special guest speakers from IAMBAS to present latest research and innovation:

Session Chair: Professor Dan M. Frangopol

1. Long term performance of concrete bridges under extreme events
   
   **Speaker:** Professor Mitsuyoshi Akiyama, Professor of Civil Engineering, Waseda University, JAPAN

2. Time-variant performance indicators for concrete bridges exposed to corrosion
   
   **Speaker:** Professor Fabio Biondini, Associate Professor of Structural Engineering, Politecnico di Milano, ITALY

3. Life-cycle management of bridges based on robustness to deterioration
   
   **Speaker:** Professor Joan R. Casas, Professor of Bridge Engineering, Technical University of Catalunya (UPC-BarcelonaTech), SPAIN

2.30 pm 3.30 pm Closing ceremony

Gold Members room

Saturday 25 October 2014

<table>
<thead>
<tr>
<th>Start time</th>
<th>End time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00 am</td>
<td>5.00 pm</td>
<td>Technical tour (departs at 10.00 am sharp)</td>
<td>TBA</td>
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