

23RD ARRB CONFERENCE

30 July – 1 August 2008 • Adelaide, South Australia

www.arrb.com.au/conferences

DETAILED PROGRAM

As at 28 July 2008. Please note that this program may be subject to change. Updates are available at www.arrb.com.au/23Conf/program.html.
Only presenting authors shown.

Tuesday 29 July						
5:00pm – 6:30pm	Registration and delegates welcome at the Adelaide Convention Centre					
Wednesday 30 July						
8:00am – 10:00 am	registration and tea & coffee					
10:00am – 12:00 noon	Opening ceremony – Research partnering with practitioners Session chair: Mr Neil Doyle <i>Hall E</i> Kaurna welcome ARRB Deputy Chairman – Mr Neil Doyle (QDMR) Opening address – Hon Patrick Conlon MP Keynote address – Dr Matthew Cuthbertson (AutoCRC)					
12:00 noon – 1:00pm	lunch					
1:00pm – 2:30pm	Research needs for our future Session chair: Dr Matthew Cuthbertson <i>Hall E</i> Mr Mike Shackleton (ARRB Group) Mr Asao Yamakawa (Infrastructure Development Institute – Japan) Dr Kyong-Soo Yoo (Korea Institute of Intelligent Transportation Systems)			Sustainable road infrastructure Session chair: Mr Menno Henneveld <i>Hall D</i> Mr Mike Haywood (Resourceco) Mr Charles Melhuish (gTKP) Mr Luigi Rossi (DTEI SA) Mr Steve Thorne (Design Urban Pty Ltd)		
	2:30pm – 3:00pm afternoon tea					
3:00pm – 4:30pm	Pavement surfacing Session chair: John Oliver <i>Meeting Room 2</i> Young Choi <i>Development of skewed wheel tester for open grade surfacings</i> Maurizio Crispino <i>Improving pavement waterproofing in Italy</i> Stephen Samuels <i>Determination and application of the long term road traffic noise attributes of road pavement surfaces in Queensland</i>	Pavement recycling Session chair: Warren Smith <i>Hall D</i> Bob Andrews <i>Engineering and environmental aspects of developing fill from construction and demolition waste</i> Dave Jones <i>Considerations for rehabilitating thick asphalt concrete pavements using deep in situ recycling and foamed bitumen</i> Bob Fulton <i>Use of recycled glass in pavement aggregate</i> David Zilm <i>Environmentally and financially sustainable residential roads</i>	Traffic signals Session chair: Philip Blake <i>Meeting Room 1</i> Zarko Andjic <i>Verification of microsimulated queue discharge flow rates at signalised intersections</i> Randhir Karma <i>Through kerbside lane utilisation at signalised intersections – some results from Auckland</i> Ehsan Mazloumi <i>Delay functions for different movements at a signalised intersection</i> (William Young presenting) Shane Turner <i>Accident prediction models for traffic signals</i>	Road user behaviour Session chair: Jon Bilson <i>Meeting Room 3</i> Victoria Pyta <i>ACT vehicle crash rates in ACT and NSW</i> David Quayle <i>Exception-based monitoring to identify road user behaviour</i> Tanya Styles <i>An innovative method for testing directional signs</i>	Asset management: maintenance management Session chair: Ken Russell <i>Hall E</i> Ewan Hunter <i>The procurement of integrated asset management computer systems</i> David Kennedy <i>Pavement and surfacing condition in Western Australia with ten-year maintenance contracts</i> Graeme Nichols <i>Development of a sustainable maintenance funding process for DIER Tasmania</i> Sean Rainsford <i>Prioritising maintenance work on the road corridor using a risk-based visual rating approach</i> Barry Walker <i>Pavement valuation review and development of an alternative approach for DIER Tasmania</i>	Workshop: Road safety engineering risk assessment – findings from a program of research <i>(note: 4:45pm finish)</i> Session chair: Blair Turner <i>Meeting Room 10</i>
	Starts at 7:00pm	conference dinner at the Adelaide Convention Centre (MC: Bob Hogarth)				

Thursday 31 July					
8:00am – 9:00am	registration and coffee & tea				
9:00am – 10:30am	Developments in asset management Session chair: Mr Neil Doyle <i>Hall E</i> Dr Max Antameng (Directorate General of Highways, Indonesia & Dr Hugh Brown (AusAID) Dr Tony Kane (AASHTO) Mr Ken Russell (Vicroads) Mr Tyrone Toole (ARRB Group)		Road safety initiatives and priorities Session chair: Mr Phil Allan <i>Hall D</i> Professor Mary Lydon (University of Adelaide) Mr Rob McInerney (iRAP) Mr Martin Small (DTEI SA)		
10:30am – 11:00am	morning tea				
11:00am – 12:30pm	Pavement performance: case studies Session chair: Ian Reeves <i>Hall E</i> Bob Fulton <i>Case study of how an environmental protection activity adversely affected the performance of a high quality pavement aggregate</i> Jencie McRobert <i>An investigation of the impacts of rising watertables and salinity on pavement performance</i> NKS Pundhir <i>Construction and performance of wearing courses with bitumen emulsions on National Highway No. 2 near Agra</i> Brian Shackel <i>Design of permeable pavements for Australian conditions</i> Devesh Tiwari <i>Pavement preservation utilising cost effective crumb rubber modified bitumen seals – a pilot study</i>	Infrastructure management Session chair: Murray Kidnie <i>Hall D</i> Neil Doyle <i>The industry capacity challenge (Paul Stephens presenting)</i> Tony Kane <i>Roadway asset management in the United States: trends, policy issues and research gaps</i> Cliff Naudé <i>An 'accelerated' approach to funding road rehabilitation</i> Bob Peters <i>World Road Association: best practice in road infrastructure asset management</i>	Intelligent transport systems and innovation I Session chair: Andrew Excell <i>Meeting Room 2</i> Peter Cairney <i>Industry and rider views of ITS for safer motorcycling</i> Praveen Kumar <i>Advanced traveller information system for developing countries</i> Diana Marks <i>Why is providing a range of traveller information services important?</i> James Shi <i>Some operational results from implementing a motorway on-ramp signal in Auckland</i> Michael Taylor <i>Towards new generation urban traffic control systems</i>	Vehicle emissions and fuel consumption Session chair: Mike Shackleton <i>Meeting Room 1</i> Philip Blake <i>Reducing greenhouse emissions by improving traffic signal operations</i> Tim Martin <i>New car fuel use trade-offs</i> S Velmurugan <i>Urban road traffic and vehicular pollution in major cities in India</i>	Workshop: Austroads Guidelines in traffic and safety Session chair: Peter Croft <i>Meeting Room 10</i>
12:30pm – 1:30pm	lunch				
1:30pm – 3:00pm	Asphalt characterisation and performance Session chair: Geoff Jameson <i>Hall D</i> Stephen Emery <i>Accelerated load testing of asphalt mix designs for heavy duty pavements in hot climates</i> Chidambaram Kamaraj <i>Construction and performance evaluation of experimental sections laid on urban roads using stone matrix asphalt mixtures</i> Mansour Solaimanian <i>A comparative study of laboratory and in situ elastic modulus of asphalt concrete</i> Paul Vardanega <i>A study of asphalt permeability: empirical permeability models</i>	Intelligent transport systems and innovation II Session chair: Bruce Clayton <i>Meeting Room 2</i> Christian Chong-White <i>NICTA & RTA partnership for traffic control innovation</i> Paul Hillier <i>Innovation in highway engineering – too risky?</i> Andrew Somers <i>Integrated speed and lane use signs: a new approach for the Monash–Citylink–West Gate upgrade</i> Yuanqing Wang <i>Transit equilibrium assignment: a model and solution algorithm under congested networks in Chinese cities</i>	Low-volume roads – engineering/design Session chair: Carlos Rial <i>Hall E</i> Bob Andrews <i>A polymer stabilisation and best value management of unsealed road networks</i> Ricky Cox <i>The geometric design of restoration projects and low volume roads – axiom or oxymoron?</i> Gordon Keller <i>Environmental and engineering best practices for low-volume roads</i> Michael Pinard <i>Revised approaches to the provision of low-volume roads in southern Africa</i> Jeff Waters <i>A cost effective sustainable treatment for dust minimisation</i>	Network operations – highways and freeways Session chair: Michael Taylor <i>Meeting Room 1</i> Larry Cameron <i>Passing & overtaking on New Zealand two-lane state highways: policy to practice</i> Satish Chandra <i>Speed characteristics on four-lane divided highways in mixed traffic</i> Satish Chandra <i>Overtaking process on two lane rural highways</i> Clarissa Han <i>A review of freeway flow breakdown process</i>	Workshop: Future directions in pavement management decision support systems Session chair: John Statton <i>Meeting Room 10</i>

Thursday 31 July (cont.)						
3:00pm – 3:30pm	afternoon tea					
3:30pm – 5:00pm	Pavement analysis Session chair: Richard Yeo <i>Hall E</i> Donald Cameron <i>The resilient modulus of clay subgrades</i> Graham Jacoby <i>Analysis and interpretation of falling weight deflectometer data</i> Binh Vuong <i>Pavement impact on quad axle vehicles</i> Thomas White <i>Mechanistic pavement analysis</i>	Asset management: data management and performance modelling Session chair: Tyrone Toole <i>Meeting Room 1</i> Matt Byrne <i>An approach to identifying families in roughness progression through design group classification and MML inference and</i> <i>Interpreting time series roughness progression rates and identifying outlier types with MML inference</i> Tim Martin <i>Calibration of HDM-4 road deterioration models and development of works effects models for Australian conditions</i> Marco Pasetto <i>Representativity of longitudinal road profiles</i> Vincent Rouillard <i>Decomposing pavement profile data into a Gaussian sequence</i>	Road safety engineering I Session chair: Jon Douglas <i>Meeting Room 2</i> Joseph Affum <i>Application of NetRISK road network safety assessment tool: the North Coast Hinterland District case study</i> Peter Cairney <i>Relationship between road surface characteristics and crashes on Victorian rural roads</i> Alister Harlow <i>A partnership to improve safety on New Zealand roads</i> (David Bates presenting)	Asphalt mix design Session chair: Allan Alderson <i>Hall D</i> William Douries <i>Factors influencing asphalt compaction</i> Steph Bredenhann <i>Evaluation of cold asphalt patching mixes</i> Serji Amirkhanian <i>Properties of rubberised warm asphalt binders – a preliminary analysis</i> Cassandra Simpson <i>Proposed wheel tracking requirements for asphalt</i>	Traffic network management Session chair: Flett Steele <i>Meeting Room 3</i> Ricky Cox <i>Using the Austroads Operating Speed Model (maybe we will get it right this time!)</i> Azlina Ismail <i>Interactive traffic impact assessment study for Kuantan</i> Vincent Lin <i>Managing traffic in real time – goals and outcomes from the Auckland Motorway Ramp Signalling Project</i> VS Manju <i>Analysis of route choice behaviour of bus transit users using fuzzy logic</i> Michael Taylor <i>Vulnerability analysis of regional road networks</i>	Workshop: Heavy vehicles – compliance, charging and the integration of access management and asset management Session chair: Philip Halton <i>Meeting Room 10</i>
Starts at 6:00pm	conference interchange at the National Wine Centre (MC: Jon Bilson)					

Friday 1 August							
8:00am – 9:00am	registration and coffee & tea						
9:00am – 10:30am	Heavy vehicles: the next generation Session chair: Mr Peter Damen <i>Hall D</i> Mr Neil Aplin (Meyrick and Associates) Mr John Bushell (Truck Industry Council) Mr Chris Koniditsiotis (TCA)			Ensuring our pavement futures Session chair: Mr David Hubner <i>Hall E</i> Mr Geoff Ayton (RTA NSW) Dr Dave Jones (University of California Davis) Dr Cliff Nicholls (TRL) Mr Richard Yeo (ARRB Group)			
10:30am – 11:00am	morning tea						
11:00am – 12:30pm	Concrete structures Session chair: Lex Vanderstaay <i>Meeting Room 1</i> Riadh Al-Mahaidi <i>Strength assessment of prestressed concrete bridge deck planks damaged by AAR</i> Fred Andrews-Phaedonos <i>Test methods for the assessment of durability of concrete</i> Reza Salamy <i>Reliability of pile integrity testing by low strain impact</i> Ahmad Shayan <i>Structural assessment and materials investigation of the Como Bridge piles, exhibiting vertical cracking</i>	Road safety engineering II Session chair: Graham Brisbane <i>Meeting Room 3</i> Owen Arndt <i>Speed control at roundabouts – use of maximum entry path radii</i> Siti Zaharah Ishak <i>An improved methodology development in assessing the level of risk at railway level crossing locations</i> Chris Jurewicz <i>Impact of LATM treatments on speed and safety – overview of recent research</i>	Network operation and performance – transport Session chair: Michael Taylor <i>Meeting Room 2</i> Charles Karl <i>Improving traffic network performance in Australia</i> James Luk <i>Improving the level of service for on-road public transport, high-occupancy vehicles and emergency vehicles</i> Dennis Walsh <i>New performance indicators for network operations using real-time traffic data</i>	Impact of heavy vehicles on infrastructure Session chair: Chris Koniditsiotis <i>Hall D</i> Tim Martin <i>Economic evaluation of increasing heavy vehicle axle mass limits</i> Norbert Michel <i>FAMLIT: Freight Axle Mass Limits Investigation Tool</i> Steve Patrick <i>Review of passenger car equivalency factors for heavy vehicles</i> Parry Serafim <i>Performance based standards network classification guidelines road mapping</i>	Workshop: Making best use of local materials – demonstration of field test tool kit Session chair: George Giummarra <i>Meeting Room 10</i>		
12:30pm – 1:30pm	lunch						
1:30pm – 3:00pm	Geotechnical and concrete structures Session chair: Vasanth Wijekukasuriya <i>Meeting Room 2</i> Rod Fyfe <i>Highway edge drainage systems: comparison of geo-composite panel drains and round pipe</i> Gordon Keller <i>Use of geosynthetic reinforced soil (GRS) for bridge abutments</i> Ahmad Shayan <i>Effects of exposure to seawater on AAR potential of concrete</i> Aimin Xu <i>Evaluation of chloride diffusion coefficient in concrete by the rapid chloride penetration tests: problems and observations</i>	International traffic and safety Session chair: Peter Cairney <i>Meeting Room 1</i> Megha Agarwal <i>Role of cycle rickshaws as a potential feeder mode to Delhi Metro</i> Mazharul Hoque <i>Road safety hazards at Jamuna Multipurpose Bridge (JMB) site: implications for bridge management</i> Richard Tay <i>Crash severity analysis of motorised three-wheelers in Bangladesh</i> Leong Lee Vien <i>Effect of motorcycles travel behaviour on saturation flow rates at signalised intersections in Malaysia</i>	Asset management: maintenance and rehabilitation Session chair: Neil Robertson <i>Hall D</i> Flori Mihai <i>The effect of the civil liability legislation on negligence claims arising from road maintenance activities</i> Michael Moffatt <i>Why road pavements are replaced: a pilot study</i> Cliff Nicholls <i>The introduction of a harmonised asphalt package of standards in Europe</i> Devesh Tiwari <i>Impact assessment of rehabilitation works on road roughness for state highways – a case study</i>	Heavy vehicle operations Session chair: John Jarrad <i>Meeting Room 3</i> Anthony Germanchev <i>Measuring the dynamic wheel loads of heavy vehicles</i> Charles Karl <i>A review of heavy vehicle on-board mass monitoring for evidentiary applications</i> Steve Patrick <i>Interoperable trailer monitoring program for the Intelligent Access Program (IAP)</i> Adam Ritzinger <i>The burning question: on-road performance of a sulphuric acid quad trailer road train</i>	Workshop: Traffic congestion Session chair: Dennis Walsh <i>Meeting Room 10</i>	Technical tour of Resourceco <i>(departs 1:15pm, returns 2:45pm)</i>	Technical tour of South Road Upgrade – Anzac Highway Underpass project <i>(departs 3:30pm, returns 5:15pm)</i>
3:00pm – 3:30pm	afternoon tea and conference close						