



<b>Cairns, QLD</b>	<b>1-2 February 2010</b>
<b>Townsville, QLD</b>	<b>4-5 February 2010</b>
<b>Rockhampton, QLD</b>	<b>1-2 March 2010</b>
<b>Toowoomba, QLD</b>	<b>4-5 March 2010</b>

ARRB is pleased to offer a two-day training workshop on the latest practices in the management of unsealed roads including practical aspects during a site inspection.

### Workshop purpose

- To Learn about the latest developments, new techniques and best practices on how to improve and lower maintenance costs of your unsealed roads.

### Unsealed Roads Manual –

#### Guidelines to Good Practice Mar 2009 ( 3<sup>rd</sup> edition)

ARRB Group released in Mar 2009 an updated and expanded edition of the very successful Unsealed Roads Manual, initially issued in 1993. This edition provides the latest research and developments worldwide to address issues identified by practitioners. It also includes the New Zealand Supplement to the 2000 edition of the Manual and the latest requirements and practices to make it an Australasian Manual on unsealed roads.

This updated and expanded edition of the Manual is recommended reading for practitioners in local government, state road authorities and other agencies responsible for the care, maintenance and management of unsealed roads.

The new features of the upgrade include:

- details on the latest research findings, new developments and applications of world best practice
- increased content to respond to comments made by delegates attending previous workshops held across Australasia
- New Zealand procedures and practices
- equipment developments that provide objective data on unsealed road performance and the better use of often marginal pavement materials
- a new chapter covering ways to improve safety on unsealed roads
- applications for logging and haulage routes
- case studies highlighting how the application of good practice has resulted in significant cost savings or improved operating conditions
- greater emphasis on asset management requirements.

The workshop will be a practical ‘hands on’ presentation with group participation, worked examples, case studies, equipment demonstrations and a field inspection of various unsealed road sites.

Attendance at the popular workshops will be invaluable to learn and share the knowledge and experience with the other practitioners attending.

**Course enquiries:** To enquire about this course, please call the Event Coordinator on 03 9881 1555, or email [training@arrb.com.au](mailto:training@arrb.com.au) [www.arrb.com.au/workshops](http://www.arrb.com.au/workshops)

This course is endorsed by:

**Institution of Engineers, Australia (IEAust):** These courses are recognised by ENGINEERS AUSTRALIA for Continuing Professional Development (CPD) purposes.



**Australian Local Government Association (ALGA)**



**Australian Institute of Traffic Planning and Management Inc (AITPM)**



This course is supported by:

**Institute of Transportation Engineers ANZ Section (ITEANZ)**





## The presenters:

### **Jon Roberts: Principal Research Engineer – ARRB Group**

Jon Roberts obtained his BSc (Civil Engineering) in 1979, and MSc (Highway Engineering for developing countries) in 1982, from the University of Birmingham, United Kingdom. He has been engaged for some 30 years exclusively on road projects with construction contractors, consultants, an Australian state road authority and, most recently, with ARRB in research, and its implementation within the road industry. These projects have involved network investigations, feasibility studies, detailed design, construction, pavement condition evaluation, maintenance, and asset management systems. Countries of work experience include Australia, the United Kingdom, Tanzania, Ghana, Congo, Sudan, Bangladesh, China, Cambodia, the Philippines and Greece

A particular strength of Jon's experience is his work on low volume roads, including unsealed earth and gravel roads, in remote areas. This has included the design, construction & maintenance, of the pavement, alignment, cross-section, drainage and low costs structures. Jon is a Chartered Professional Engineer and a Member of the Institution of Civil Engineers (UK). In 1995, he joined ARRB Group Ltd and is now a Principal Research Engineer, Sustainable Infrastructure Management. Jon is currently engaged in the development and implementation of road infrastructure management systems, and is an active member of the team delivering knowledge transfer workshops with ARRB. Jon also lectures part-time on the deterioration, maintenance and management of road pavements, from gravel roads through to concrete pavements, at Swinburne University of Technology, Melbourne.

### **Jon will be presenting at all four Queensland based workshops**

### **Paul Morris: Team Leader – Transport Planning WA/SA and Business Manager SA – ARRB Group**

Paul has been involved with transport planning and traffic engineering in local and state government and consulting roles for over twenty years. He has a double Masters Degree in Transport Planning and Traffic Engineering and is also an accredited senior road safety auditor and IT systems analyst.

Whilst focusing on transport planning and traffic engineering, Paul has a diverse range of skills and experience in survey, road design and construction, road lighting and information technology. He has been involved with strategic transport and traffic plans, development traffic impact assessment, road network operation, traffic signal analysis and design, parking policy and design, highway planning and design, residential development planning and design, local area traffic management, traffic asset management, Black Spot programs and road safety audits.

Paul was also project manager for the Austroads revision of the Guide to Traffic Engineering Practice - Part 10, Local Area Traffic Management, in 2002. More recently Paul managed the Transport and Design Group at QED which covered a wide range of projects in South Australia and Northern Territory.

### **Paul will be presenting at the Rockhampton and Toowoomba workshops**

### **Bob Andrews: Principal Engineer – ARRB Group**

Bob completed a 38 year career with the South Australian Government in geotechnical and pavement engineering in 2001. Bob joined ARRB in 2003 as Principal Engineer in a part time capacity specialising in pavement and materials technology.

Bob is an honorary life member of the Australian Stabilisation Association, US TRB Committee AFS90 (Stabilisation) and principal author of the recently published Austroads Guides associated with Unsealed Roads (Part 6), Stabilised Materials (Part 4d) and Recycled Materials (Part 4e)

### **Bob will be presenting at the Cairns and Townsville workshops**



## Who should attend?

Anyone involved in the construction and maintenance of unsealed roads, including, but not limited to, the following:

- Local Road Authority Managers, Engineers and Plant Operators
- Road Consultants (Engineers and Supervisors)
- Road Contractors (Contract Managers, Road Engineers, Supervisors and Grader Operators)
- Queensland Department of Transport and Main Roads personnel
- Forest Owners and Forestry Consultants (operations staff)
- Department of Conservation (operations and field staff)
- Mining companies (operations staff)
- Quarry Owners (operations staff)

## Registrations:

To get better value from the workshop, delegates are advised to have access to a copy of the 2009 edition of the Unsealed Roads Manual – Guidelines to Good Practice. If you are unable to bring your own copy of the Manual to the workshop, please indicate that you require a Manual on the registration form (at an additional cost of \$275 inclusive of GST).

**Attendees should also bring a calculator and a safety vest for site inspections.**

Numbers for the workshop are strictly limited to 25 participants due to the nature of the group activities.

Participants will receive a certificate of attendance.



## Program\*

\*Subject to change

Time	Day 1	Time	Day 2
8.30am	Registration/Welcome	8.00am	Road maintenance techniques
8.45am	Introductions/maintenance overview	10.15am	Morning tea/coffee break
9.00am	<ul style="list-style-type: none"> <li>• Austroads - Purpose and Aims</li> <li>• Austroads Guides - General</li> <li>• The role of ARRB Group</li> </ul>	10.30am	Site inspection of various unsealed roads (Roads to be inspected are to be advised)
10.00am	Road design requirements: <ul style="list-style-type: none"> <li>• Geometric design</li> <li>• Horizontal and vertical sight distance requirements</li> <li>• Drainage considerations</li> <li>• Safety measures to reduce risk</li> </ul>	1.00pm	Lunch in the field
		3.00pm	Afternoon tea/coffee break (back in classroom)
10.30am	Morning tea/coffee break	3.15pm	Environment considerations <ul style="list-style-type: none"> <li>▪ Techniques to minimising soil erosion</li> <li>▪ Improving run-off water quality</li> <li>▪ Vegetation clearing requirements</li> </ul>
10.45am	Pavement and material selection <ul style="list-style-type: none"> <li>▪ Pavement design with worked examples</li> <li>▪ Pavement material properties and grading requirements</li> <li>▪ Base and wearing course specifications</li> </ul>	3.30pm	Asset management activities and tools <ul style="list-style-type: none"> <li>▪ Establishing road hierarchy</li> <li>▪ Determining maintenance intervention levels/road class</li> <li>▪ Estimating a roads works program</li> </ul>
1.00pm	<ul style="list-style-type: none"> <li>• Lunch</li> </ul>	4.00pm	Maintenance specifications
1.30pm	Getting better value from existing pavement materials <ul style="list-style-type: none"> <li>▪ Stabilisation techniques</li> <li>▪ Basic soil testing methods</li> <li>▪ Examples on how to calculate material mixes</li> <li>▪ Reducing dust and gravel loss</li> <li>▪ When to seal a road</li> </ul>	4.15pm	Forum discussions
3.30pm	Afternoon tea/coffee break	4.30pm	Close
3.45pm	Road construction techniques <ul style="list-style-type: none"> <li>▪ Construction sequence</li> <li>▪ Compaction methods</li> <li>▪ Plant/equipment requirements</li> </ul>		
5.00pm	Close		

