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**SPECIAL
POINTS OF
INTEREST:**

- 2010 Roadshow
- 13th REAAA Conference
- NZTA Pavement & Rehabilitation Design Workshop
- State Highway Construction Funding
- 2009 Awards of Note
- REAAA NZ Roadshow 2009 & Young Presenter Competition

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Driving Progress

ROAD ENGINEERING ASSOCIATION OF ASIA & AUSTRALASIA (NZ)

Merry Christmas and a Happy New Year

The Chapter's committee would like to wish all its members a very Merry Christmas and a Happy New Year and wishes all the best for 2011.



The 2010 committee is made up from representatives across the industry with Richard Steel - Beca Infrastructure as Chairperson, Brendan Bisley - AECOM as Treasurer and Glenn Campbell - MWH NZ Ltd, Dave Bates - NZTA, Chris Gregory - GHD Ltd, Ewan Hunter - Opus International Consultants, Shaun Magee - Downer, Rob Napier - AECOM, Chris Scott - CityCare Ltd, Tim, Talbot-Fulton Hogan and Allan Tuck - Higgins.

Successful 2010 Roadshow

The 2010 Roadshow commenced in Auckland on 17 November and finished in Christchurch on 23 November.

The Young Presenter Competition was held for the second time at all five venues and proved again popular.

The winners of \$300 each were:

Prisca Tang, Opus International Consultants ~ Auckland seminar

Paul Anderson, Inroads ~ Taupo seminar

Craig Conner, Fulton Hogan Ltd ~ Palmerston North seminar

Scott Lanauze, Opus International Consultants ~ Dunedin seminar

and Kelly Blackie, MWH New Zealand Ltd ~ Christchurch seminar

The feedback from the attendees was very positive and it was commonly noted that the roadshow enables great networking opportunities and a great forum for the exchange of information and innovative ideas.

Please contact Lisa Pallister, Secretary at lisa.pallister@reaaa.co.nz for copies of this years and past presentations or go to the chapter's updated website in the New Year to download the presentations.

Some Observations on the Canterbury Earthquake of 4 September 2010 and its aftershocks

By George Jason-Smith, AECOM

There have been quite a few articles written about the effects of the earthquake in NZ and overseas publications. This one is going to depart from simple descriptors of damage and instead provide a thumbnail sketch of some roading-related aspects of the 'quakes' effects so that readers can hopefully inform themselves and position themselves to respond better when "their" emergency arrives.

To start, a short note on nomenclature: the quake has been named the "Darfield Earthquake" by the scientific community, but this term is not used locally - Greendale, Charing Cross or Burnham would be more accurate descriptors – rather it is referred to as the Canterbury Earthquake of 2010.

Key points

- Only a very small proportion of the networks in the Selwyn and Waimakariri Districts and Christchurch City were affected.
- Most obvious damage to roads was caused by liquefaction and most of that by lateral spread adjacent to present natural and artificial water courses. There is also extensive structural road damage from the liquefaction process, liquefaction eject, and sewer-cleaning (see below).
- After restoration of potable water and the ability to move around, albeit at low speeds, the immediate priority became restoration of sewage services. Many sewers in the worst affected areas were full of liquefaction eject. An attempt was made to clean every sewer (this is still occurring) and in the early days some were cleaned three or four times. However it soon became apparent that if more than two cleanings were required the subsequent efforts were likely to mine the road pavements by sucking material from the sub-grades and creating voids which could lead to pavement collapse.
- Most immediate road closures and disruption to traffic was caused by debris, principally from damaged buildings
- Subsequent road closures have been caused by barricades around severely damaged buildings and demolition work-sites.
- The flow of liquid fuels to the city and wider Canterbury was disrupted by a significant area of damage to the natural rock faces above the Lyttelton – Sumner Road (Evans Pass Road) which is the route that fuel tankers must take from the port as they are prohibited from Lyttelton Tunnel. It took two months of intensive work to make this route safe and allow it to be re-opened. NZTA recognised the severity of the problem and allowed the tunnel to be closed to allow the movement of single fuel tankers. Most of this movement occurred "in the wee small hours" to reduce disruption to other traffic.
- The full extent of damage to road pavements is not known, and neither are the effects of infiltration of liquefaction eject into the pavements' structural layers on their service lives.
- It was difficult to ascertain quickly and accurately the effects of all the movement on the road levels and on kerb and channel – principally because the area was largely free of rain for the first two months. Contingency plans were put in place to assess this damage when significant rain occurred.

Some Observations on the Canterbury Earthquake of 4 September 2010 and its aftershocks contd.

- Dust caused by drying of potentially polluted liquefaction eject was a major public health concern. People cleared this material from their properties by dumping it in the streets. The Council's reacted by clearing it and washing down the streets to remove as much residue as possible. It is a difficult material to remove.
- Most major river/flood protection structures performed well but there was some damage to stop-banks and to at least one flood-gate.
- In the worst affected areas roads are likely to be the last infrastructural assets repaired, because this must logically occur only after all the other assets (which are under the road in most cases) are repaired. This may lead to some temporary repairs being carried out. Temporary speed limits are in place in both Kaiapoi and Christchurch to reduce the adverse effects traffic on these damaged streets is having on adjoining houses.

¹ George is a Principal Consultant – Asset management with AECOM (NZ) Ltd in Christchurch. He is a Lifelines Co-ordinator team at the Canterbury Regional Emergency Co-ordination Centre and was on duty there during the response phase of the earthquake. Post-response work has included assisting Christchurch City Council with development of its Infrastructure Recovery Plan.



REAAA Breakfast Forums

Canterbury Earthquake initial response to natural disasters/recovery

The REAAA NZ Chapter committee is currently organising forums in Auckland and Wellington in mid-March and the topic is one of national interest - the earthquake in Christchurch and the initial response to natural disasters and recovery from both an asset owner and contractor perspective. The dates and venues are to be confirmed however you can email Lisa Pallister, Secretary lisa.pallister@reaaa.co.nz to register your interest in attending and secure a place at what will be very popular forums.

Mark your diaries now!

Low Volume Roads Workshop 2011

17—19 August 2011, Millenium Hotel, Queenstown

REAAA TECHNICAL COMMITTEES – Expressions of Interest Invited

The REAAA Governing Council has recently adopted the following strategic objective:

To meet the needs of members in terms of their professional development through the provision of technology interchange, technology transfer and other services which result in an enhancement of the quality of good road engineering practice, improved cooperation and a reduction in the duplication of effort.

In pursuit of this objective REAAA will establish eight technical sub-committees with leadership of each sub-committee assigned to an owner country as shown in the following table.

Topic / Sub-Committee	Owner (Country)	Topic / Sub-Committee	Owner (Country)
TC-1: Network Management	Korea	TC-5: Road Safety	Indonesia
TC-2: Foundations & Pavements	Japan	TC-6: Green Technologies	Singapore
TC-3: Road Furniture	Philippines	TC-7: Public-Private Partnerships	Malaysia
TC-4: Asset Management	Australia	TC-8: Structures & Bridges	New Zealand

The “Owner” country will nominate a Chairperson for the Technical Committee for which they have responsibility. Members of these committees will be drawn from and nominated by the various Chapters of REAAA. It is intended that technical committee members will be actively involved in the topic area so as to play a ‘technical’ role in guiding the activities of the Committee.

NZ Chapter members who have an interest in participating in any of the above technical sub-committees are encouraged to send an email to Lisa Pallister confirming the topic area of interest. Matters related to the operation of each sub-committee and cost recovery (if any) have not yet been resolved and no obligations or commitments are associated with an expression of interest at this time.



REAAA (Road Engineering Association Asia Australasia) is an international fellowship of members interested in the science and practice of road engineering. Currently there are more than 1,200 members from 27 countries with over 100 members in the New Zealand Chapter.

Key objectives of the association are:

- To promote and advance the science and practice of road engineering and related professions.
- To educate and seek to improve, extend and elevate the technical and general knowledge of persons concerned with road engineering.

Chapter activities in New Zealand include:

- Regional seminars/forums
- Site visits to projects of interest
- Regular newsletters on current developments and practices
- Network opportunities with other members in NZ and overseas

Membership is open to individuals & companies, for more detail on membership contact: Lisa Pallister, Secretary, lisapallister@reaaa.co.nz

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REAAA NZ Chapter
PO Box 12 647,
Thorndon, Wellington
Phone: 06 379 5579
Fax: 06 379 5578
E-mail: lisa.pallister@reaaa.co.nz