Cooperative Research Centre for *Construction Innovation* media release — 1.8.05

Project saving dollars on our pavements awarded high praise

With $16 million spent every day on road maintenance in Australia and roads assets valued at around $140 billion, finding ways to make more effective investment decisions has the potential for huge savings.

At the Cooperative Research Centre (CRC) for *Construction Innovation* a collaborative project team lead by Professor Arun Kumar of RMIT recognised the need to better understand the ability of Queensland's $25 billion road network to serve the State into the future and ensure our roads continue to provide service, particularly to the heavy transport industry.

The successes of this project, *Investment Decision Framework for Civil Infrastructure Asset Management*, were celebrated at the 2005 Queensland Engineering Excellence Awards. In the category of Research, Development and Innovation the project received a High Commendation at the gala awards night held 22 July at the Brisbane Convention & Exhibition Centre.

Construction Innovation CEO, Dr Keith Hampson says "This project contributes on many levels to greater cost effectiveness in asset data collection of our road network. This award is tremendous recognition of the outcomes being achieved through the collaborative participation of industry, government and research at our CRC."

"Pavement strength data is one of the most important but also one of the most expensive measures to obtain for assessing road condition and future maintenance requirements", says project team member Neil Robertson, Manager of Road Asset Management Systems, Queensland Department of Main Roads.

"One method of measuring it is with a device known as a Falling Weight Deflectometer (FWD) which uses readings from a series of geophones to detect the very small deflection in the pavement surface after a very heavy load is dropped on it. This deflection data also provides details on thickness and future load carrying capacity and is conventionally collected along roads at 200 metre intervals", he explains.

Analysis of data from FWDs by the project team showed that road authorities could actually reduce their sampling rates by 75 to 80 per cent compared to current practices by testing at much greater intervals of around 1000 metres. Neil Robertson sums up the project's achievement, "Through this research we've attained a four-fold increase in the length of network we could test for the same cost. Or to put it another way, this adjusted sampling plan for the road network makes it an affordable exercise

by effectively saving between 3.5 and 4 million dollars on state-wide data collection costs. And that's without losing the quality, reliability or statistical relevance of the data".

The team also developed methods that allow road authorities to produce budget estimates for a project life-cycle cost with defined levels of confidence.

Construction Innovation partners that collaborated on this project are Arup, John Holland, the Queensland Departments of Main Road and Public Works, RMIT and the Queensland University of Technology.

The CRC for *Construction Innovation* is a national research, development and implementation centre focussed on the needs of the Australian design, property, construction and facility management industry. *Construction Innovation* undertakes applied research to produce industry-relevant results for our partners and the whole industry. Website: www.construction-innovation.info

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