

# OPTIMISING PERFORMANCE - the Knowledge Challenge

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**Ken Mavin, Executive Manager: Academic, Centre for Pavement Engineering Education (CPEE)**

**Ray Farrelly, Executive Manager: Development, Centre for Pavement Engineering Education (CPEE)**

For most developed countries more and more use of allocated funds for roads will be spent on the maintenance of the road, as distinct from their construction. Limiting the deterioration rate of the road pavement is therefore an essential goal as typically pavement maintenance is the largest single component of a road agency's recurring costs.

The challenge then is to provide optimum design, construction and maintenance strategies, to understand the fundamentals of each and to ensure quality implementation of the most appropriate strategy.

Australia relies more on road transport than any other nation in the world, on a per capita basis and is challenged on critical fronts like few others, given its size, its climatic and geological diversity, and a low population base (but high road length km/head). The effective management of road assets is critically important and requires a suitable allocation of resources, especially human resources.

Future improved performance is however threatened by the continuing loss of experienced road and pavement engineers, more often now resulting in the design, provision and eventual evaluation of pavements, and the selection of the most appropriate maintenance and rehabilitation strategies being undertaken by less experienced and knowledgeable engineers. Today's roads and pavement engineers however need to be more skilled and knowledgeable. This is a priority issue in Australia, and becoming more so globally.

How we achieve this is a major task and old paradigms are no longer valid as we continue to become a more global society and technology provides new opportunities.

To enhance the standing of roads and pavements sector for attracting engineers, and to provide improved education and training of our current engineers and technologist, systems and learning materials for personal and career development need to be improved, and readily accessible. The development in iPads and other mobile phone devices which can rapidly deliver high quality video, text and sound, just about anywhere, provides attractive options for improved learning.

Technology transfer, education and the optimisation of design, construction and maintenance strategies are inextricably linked and success in enhancing each will play a big part in the sustainability of the asphalt road in the future.