

Detailed concrete pavement design is a non-event

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ABSTRACT

Concrete road pavement clients typically require both detailed design traffic loading estimates, usually over 40 years, and formal concrete pavement thickness design calculations. Design traffic estimate is based on present traffic counts with a cumulative annual growth, often arbitrarily 4%. This does not take in account likely lane saturation well within the design period. At design stage, concrete base thickness is based on flexural strength that is not used as a conformance requirement at construction, compressive strength being used. At approximately 250mm thick and with compressive strengths being achieved by industry, allowable traffic numbers are so large that based on published lane capacities, many more lanes would be required to carry the allowable volume than are usually constructed. In CRCP reinforcement design, the great majority of inputs are only assumptions. Design in accordance with formal procedures such as the Austroads Pavement Design Guide can have limited value. This paper aims to promote discussion on an alternative catalogue approach with design based on a range of road classifications, initial traffic and independent of concrete strength. Appropriate concrete quality can be covered within construction specifications.