



## ABSTRACT

**Paper title:** Sustainability Assessment of Hydrated Cement Treated Crushed Rock Base (HCTCRB)

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### Abstract:

Hydrated Cement Treated Crushed Rock Base (HCTCRB), an advanced pavement material developed by Main Roads Western Australia in 2003 has experienced relative success in its application on major freeway projects in Western Australia. However, with its prematurity in the industry, its potential impact and long term benefits have yet to be assessed. The development of HCTCRB was motivated by reservation against the use of cement treated base (CTB) which is prone to cause reflective cracking induced by dry shrinkage of cementitious stabilisers. HCTCRB differs from the conventional CTB that it is stockpiled and retreated before construction. However, it has been presented that through proper shrinkage mitigation measures, CTB can be utilized with great success as seen in its extensive use in China, South Africa and the United States of America. This paper therefore investigates the sustainability, in terms of environmental and economical factors, surrounding HCTCRB and CTB and assesses a sustainable solution based on a multi criteria approach.