

Project 1.22

Strategies and Solutions for the Future of Roads

RESEARCH PROGRAM 1: GREENING THE BUILT ENVIRONMENT

The coming decades will see a great deal of innovation and creativity in the way that our road and transport networks are designed, constructed, and maintained. This will be sparked in part by the need to respond to climate change, resource shortages, shifting transport preferences, and increasing maintenance costs. There is a great deal of activity in this area and Australia has the opportunity to show the world how to prepare for and deliver the Future of Roads. The SBEnc is committed to assisting our nation to navigate this challenging future in a way that strengthens our economy, creates jobs, and delivers strong environmental outcomes.

The 'Strategies and Solutions for the Future of Roads' project will be completed in December 2015 and is being developed in collaboration with the CRC for Low Carbon Living. Building on the previous research findings this project is developing three modules, namely a focus on 'Technology and Processes Innovation', 'Sustainability Reporting', and 'Low Carbon Readiness'.

Objectives

- **Technology and Process Innovation:** This module is focused on three areas selected by the project steering group, namely: the potential for active traffic management methods to defer capital investment in road infrastructure, while reducing traffic congestion, trip time, and vehicle emissions; the updating of route and signal lighting to advanced lighting options; and the inclusion of renewable energy generation technologies in road and transport infrastructure.
- **Sustainability Reporting:** This module will investigate sustainability assessment and reporting tools, in particular the Infrastructure Sustainability Council of Australia sustainability performance tool (IS Tool). The research team will work with project partners to identify where the use of the 'IS Tool' has provided value to projects. The investigation will cover all sustainability criteria assessed by the 'IS Tool' as applied to actual projects.

- **Low Carbon Readiness:** This module will present a detailed review of the low carbon related elements of 'IS Tool', and highlight how the tool can add value to low carbon tendering, including identification of specific client actions. The research team will undertake a supply chain investigation to identify the level of readiness to deliver on the low carbon criteria in the 'IS Tool', including: Energy and Carbon, Materials, Procurement, Climate Change Adaptation, and Management Systems.

Industry Outcomes

Building on previous SBEnc findings, the project is focused on delivering tangible value to government and industry by:

- Presenting a clear case to support the use of new technologies and processes that can reduce costs, achieve greater utilisation of road infrastructure, and reduce greenhouse gas emissions.
- Provide guidance as to the value of sustainability reporting in road projects and in particular where value can be enhanced.
- Identify the level of 'low Carbon Readiness' in key road infrastructure supply chains (in collaboration with the CRC for Low Carbon Living) to inform pre-qualification and project tendering.

As with all SBEnc projects, this project will work closely with government and industry partners to identify opportunities to generate outcomes that provide tangible value, both in economic and environmental terms. Project partners include Main Roads Western Australia, Queensland Department of Transport and Main Roads, John Holland Group, and NSW Roads and Maritime Services. The project is advised by the Infrastructure Sustainability Council of Australia (ISCA) and Roads Australia.



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