

Jean-Francois Delvaen and Horst (Oz) Kayak

Title: What can we learn from previous road tunnel experience in Australia?

Abstract

There have been a limited number of road tunnels built in Australia. As the state of Victoria is about to embark on building the first phase of the East/West link project, this paper proposes to assess a set of variables from completed Australian road tunnels and then to compare them to the new East/West Link venture.

The methodology entails a literature survey including 4 completed road tunnel projects in 3 States:

- City Link, Victoria (completed Dec 2000)
- Cross City Tunnel, New South Wales (completed Aug 2005)
- Clem 7, Queensland (Completed Mar 2010)
- Airport Link, Queensland (Jul 2012)

The project construction cost, unit construction cost, the road capacity planning and traffic usage prediction for the completed projects are reviewed against the forecasted values in the pre-construction proposal. The resulting findings are summarised in a tabular form and the variability of the “planned versus actual” is used as a set of performance metrics indicators. Finally, the performance variability is utilised as a benchmark baseline and applied to the proposed East/West Link project. A set of tables summarised into a scorecard provides a sensitivity analysis range for the known data, therefore highlighting potential economics and financial risk exposure factors for the project having in mind the recent financial collapse of the two Queensland tunnel operators.