

West Gate Bridge – Conquering the Logistical Challenges

Alan PLATT

Alliance Project Manager

John Holland

Melbourne, Australia

alan.platt@jhgc.com.au

Alan Platt, born 1962, received his mechanical engineering degree from the Univ. of Salford

Summary

The 2.5km long West Gate Bridge comprises an eastern and western concrete approach viaduct, 871m and 670m respectively in length either side of the 848m long cable stayed steel box girder main span section. The key objective with the West Gate Bridge Strengthening Project was to increase the number of lanes in each carriageway from 4 to 5 to reduce traffic congestion on the M1 Freeway.

With the bridge carrying over 170,000 vehicles per day, being a key link in the transport network around Melbourne and spanning the Yarra River, the entrance to Australia's busiest port, the project was always going to be a logistical challenge. This paper describes these challenges and the extraordinary measures that were implemented for the work to be completed safely and economically.

Keywords: Bridges, rehabilitation; strengthening; logistics; box girders.

1. Introduction

The 2.5km long West Gate Bridge spans the Yarra River in Melbourne, Victoria. The bridge is part of the M1 freeway and links Melbourne's CBD with the western suburbs. It comprises Eastern and Western concrete approach viaducts, 871m and 670m respectively long and an 848m long cable stayed steel box girder main span section.

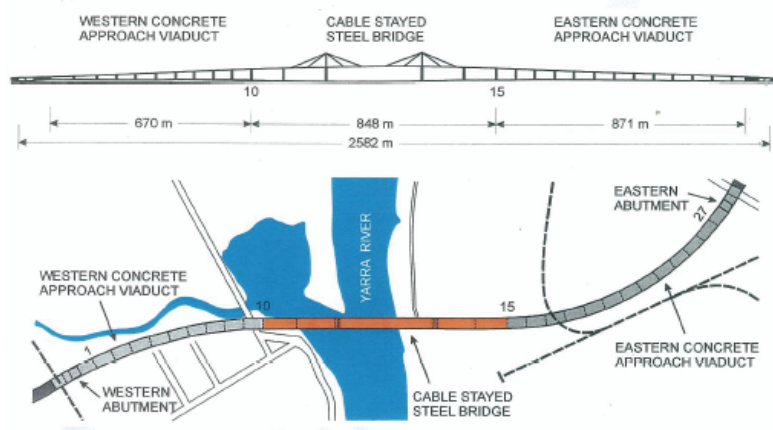


Fig. 1. General arrangement of the West Gate Bridge.

The success of most construction projects depends largely on arranging all the materials and the crew to be at the right place at the right time in an efficient and cost effective way. At the commencement of the West Gate Bridge strengthening project the access to the bridge was highly restricted, as the 1960's design of the bridge could not have foreseen such a major strengthening project. Not only was the access restricted but the bridge had to remain open