



The West Gate Bridge is a 5-span cable stayed steel box girder bridge with a 336m main span. The deck is cable supported along its centreline by two sets of cables which pass over saddles at the steel box tower heads and splay out at deck level into cable anchorages within the steel deck box girder. Adjoining the bridge at each end are high level approach viaducts in concrete.

The West Gate Bridge forms a vital link in the Melbourne's main East - West transport corridor, the whole of which is undergoing a substantial upgrade to provide increased capacity. With 4 lanes in each direction the bridge already carries around 170,000 vehicles per day. The specific primary functional objectives for West Gate Bridge upgrade include strengthening the bridge to carry five lanes of traffic in each direction for an optimal design life, and to provide optimal serviceability for current and future operation.

The West Gate Bridge upgrade works are undertaken by an Alliance in which Flint & Neill has the major responsibility for the assessment and strengthening design for the steel bridge; advice on inspection, operation and maintenance; developing designs for early works improved access; and producing a current set of electronic as-built drawings from historical documents and original drawings.

Other key aspects are to provide a public safety barrier, architectural lighting and improved internal and external maintenance and inspection access.

Flint & Neill was also involved in the re-erection of West Gate Bridge following the tragic collapse of the western approach span during erection in October 1970 which followed the collapse of similar steel box girders at Milford Haven and Koblenz. The task included contributing to the development of new design and workmanship rules such as SBG6 and IDWR. Flint & Neill has been closely involved in the development of design and assessment criteria for steel bridges ever since.

Flint & Neill was appointed, following the collapse, by Redpath Dorman Long to develop the re-erection scheme for the bridge, and worked closely with the West Gate Bridge Authority throughout. The bridge was successfully completed to a modified design and eventually re-opened to traffic in 1978.

Client:
VicRoads

Location:
Yarra River, Melbourne,
Australia

Service Dates:
2008 - 2010

Services:
Structural Assessment &
Strengthening

