



## CASE STUDY >

# CYP MELBOURNE METRO TUNNEL EMERGENCY STEEL WALKWAY – ARDEN TO ANZAC

## PROJECT OVERVIEW

The Metro Tunnel project is a \$12.5 billion-dollar end-to-end rail line from Sunbury to Cranbourne/Pakenham.

## SCOPE OF WORK

The project team proposed a steel solution for the tunnel egress walkway, as an alternative to the traditional concrete system. The design prioritised constructability and considered modularisation to minimise onsite congestion and de-risk the project program.

RSGx was responsible for the design of an 18km emergency steel walkway for the tunnel. RSGx delivered the concept design in accordance with the requirements of both the project design team (D&C JV) and the operator.

The basis of the technical scope of works, was established collaboratively with the D&C JV to achieve the design intent of the PSTR and D&C JV design documentation. RSGx coordinated with D&C JV to agree and track progress, develop designs and resolve any inconsistencies RSGx observed. The key outcome was to provide a concept design that was suitable for distribution as part of a tender package.

## SOLUTION

The solution includes the following key elements:

- ◆ Electrical isolation gaps in accordance with the E&B strategy.
- ◆ Trip hazard reduction measures such as a non-slip surface and minimisation of gaps and steps.
- ◆ Tread and handrail offset within tolerance.
- ◆ Cable route interface incorporated into the walkway structure where possible, considering space provision requirements, fire rating compliance, and interface with derailment transitions into stations.

Additionally, the steel walkway is optimised for construction and maintenance with a method and program that includes the following:

- ◆ Maximising trackwork space.
- ◆ Adjustment of the walkway post-track.
- ◆ Minimising bolted connections and cable ladder and cable installation.

The walkway is divided into 4 different versions with varying cants for East to West rail bound and vice versa, with frames categorised as Type A, B, and C according to location and setting.

## ACHIEVEMENTS TO DATE

RSGx successfully delivered the scope of works for the emergency steel walkway of the Metro Tunnel project. The walkway, divided into 4 different versions to accommodate varying cants, was designed with safety and functionality in mind. The final design met all project requirements and was delivered in a professional and efficient manner. RSGx demonstrated expertise in design management and delivery, resulting in a successful outcome for the project.

### CLIENT

CROSS YARRA PARTNERSHIP / RAIL PROJECT VICTORIA

### SERVICES PROVIDED

CONCEPTUAL AND DETAILED ENGINEERING DESIGN FOR EMERGENCY WALKWAY – 18 KM –

### SCOPE

DETAILED DESIGN & SHOP FABRICATION DRAWINGS

### INDUSTRY

ROAD AND TUNNEL

### LOCATION

MELBOURNE VICTORIA

