

CASE STUDY

Major Projects

PENINSULA LINK

2018 EDITION





Project Impact Statement

Originally drafted in the 1969 Melbourne Transportation Plan, Peninsula Link is a six-lane freeway spanning 27 kilometres, beginning at the southern end of Eastlink in Carrum Downs and leading into the Mornington Peninsula Freeway in Mount Martha.

Peninsula Link gives drivers the choice of bypassing nine sets of traffic lights and six major roundabouts, allowing road users to travel from the Mornington Peninsula to Melbourne Airport without encountering a single traffic light.

The freeway officially opened in January 2013, at a total cost of \$759 million, and is the first road project in Australia to be delivered as an Availability Model Public Private Partnership (PPP).

Abigroup, Billfinger Berger and the Royal Bank of Scotland made up Southern Way, the successful consortium. They engaged Abigroup to design and construct the Peninsula Link Project. As part of developing its proposal, Abigroup formed an alliance with Boral Resources (Vic) and agreed upon the scope, price, program and commercial terms for the delivery of asphalt pavement and sealing works.

With construction now completed and the freeway opened, Lend Lease Infrastructure Services now operates and will maintain the freeway for the next 25 years before handing back the asset in an agreed condition to VicRoads.

Project Scope

The scope of the works included:

- Full depth asphalt in five layers including OGA surfacing for the northern 14km
- Prime and 10mm SAMI followed by thin lift SMA and OGA surfacing for the Southern 13km
- Widening and 40mm overlay of the 13 local roads associated with the freeway
- Approximately 410,000 tonnes and 300,000m² of SAMI Seal

Boral Quarries supplied about 350,000 tonnes of asphalt aggregates to the project. Another 230,000 tonnes of rock and crushed rock products from Boral Quarries and 3900m³ of concrete from Boral Concrete was also supplied to the project.

Client/Construction Team

Client: Abigroup.

Contractor: Boral Resources (Vic).

Existing Conditions

Wet weather can cause costly delays in asphalt works. After experiencing two of the wettest years on record in Australia, a compressed program was implemented which saw approximately 300,000 tonnes of asphalt pavement laid in four months, with our largest month at 113,000 tonnes.

Design

To ensure greater comfort and safety for road users, a key factor in the performance of the freeway is ride quality, which is a measure of the 'roughness' of the road surface. After construction was completed, a series of measurements showed that the ride comfort along the 27 kilometre span came well within VicRoads specifications.

Performance

Of the 410,000 tonnes of asphalt produced, approximately 50,000 tonnes of Recycled Asphalt Product (RAP) was utilised by the Astec T400 mobile asphalt plant. This included increasing the VicRoads Standard RAP specifications by an additional 10%, with up to 40% RAP used for the fatigue asphalt layer. On average, there was a total of 22% RAP across the asphalt produced for the project with a total of 50,000 tonnes of RAP used in the production of around 228,000 tonnes of asphalt that allowed the use of RAP.

The ride quality achieved for the project was 0.75 IRI – much lower than the maximum of 1.4 IRI allowed in the VicRoads Specification. Prior to this project, typical IRI achieved by the industry on any Victorian Freeway was around 1.0 IRI.

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