Roe Highway Bridge beams now in place
The longest bridge beams anywhere on the Main Roads network are now straddling the Kwinana Freeway at the Roe Highway interchange. The greater than normal length allows the beams to stretch from the one side of the freeway to the other, with no supporting piers in the rail corridor.

The operation to place these huge beams took more than six months of preparation. The Metropolitan Road Improvement Alliance (MRIA) worked closely with Main Roads, the Public Transport Authority, Jandakot Airport and local councils to coordinate the necessary logistical and safety precautions.

Night time closures of the Perth to Mandurah rail service, diversions of the Kwinana Freeway and coordination with Jandakot Airport air traffic control were all aligned to allow the beams to be safely placed in position.

A staged construction methodology was adopted to minimise the impact on road and rail users. This staging allowed much of the preparation work, including set up of a large crane, and placement of the sixteen smaller beams, to be carried out behind barriers without the need to divert the traffic or impact rail services.

The team had five nights to complete the placement of the eight 190t beams with temporary night closures in place. The team completed this major milestone safely over just four nights, with commuters able to see progress each day in between.

The MRIA bridge builders will now turn their attention to bridge deck construction at this location and preparation for beams lifts required at the other bridges as part of the Kwinana Freeway Widening and Murdoch Drive Connection projects.

Upon completion in late 2019, the Kwinana Freeway Northbound Widening project will provide additional capacity from Russell Road to Farrington Road, reduce congestion and address a notorious traffic bottleneck around Cockburn Central.
Construction Update

Construction is occurring across the entire 8km length of the Kwinana Freeway Northbound Widening project and is on schedule for completion at the end of 2019. Traffic barriers have been deployed across most of the site to separate road users from construction activities. We acknowledge traffic congestion levels through the site are high, particularly during peak periods, and appreciate your patience during this time.

Significant earthworks are continuing between Berrigan Drive and Bolderwood Reserve. These works will create the space necessary to build a 6-metre-high retaining wall to retain the upgraded Principal Shared Path (PSP) for cyclists and pedestrians.

In a first for Main Roads, the wall will be constructed using ECO blocks, environmentally friendly bricks comprising recycled construction waste. Approximately 35,000 ECO blocks will be used in the entire project, reducing the amount of waste going to landfill.

The installation of ECO blocks along Kwinana Freeway - a sustainability initiative for Main Roads.

Environmental stewardship

The freeway widening alongside Ramsay Park in Bibra Lake required the removal of approximately 300m of concrete noise wall. The team tried to dismantle the wall so that the panels could be reused. Due to their slender design the panels were unable to be dismantled without inducing cracks beyond repair.

A contractor was approached and they took the panels away to crush up and repurpose into road base for construction of access tracks. The panels that were still in reasonable condition, were repurposed by the company for use as partitions in their facility.

Recycling and re-use

The Kwinana Freeway Northbound Widening project will be the first in Western Australia to utilise crushed recycled concrete and demolition waste as road base in line with the guidelines jointly developed with the Department of Water and Environmental Regulation. This initiative will divert waste from landfill.

We also look for opportunities to reuse or recycle redundant infrastructure. Concrete waste from the project site, such as old drainage pipes, kerbs or pits, is crushed up and reused as access track material. The crushing process also separates the steel reinforcing from the concrete and the steel is then sent on for recycling.

The team explored techniques to lower the impact to vegetation in Bolderwood Reserve and settled on a specialist piece of equipment called a Silent Piler. Traditional piling techniques involve rigs with large footprints flattening vegetation. In contrast, the light-weight Silent Piler is a compact machine. In an environmental win, this has minimised the working space requirement and retained approximately 1,400m² of vegetation, including approximately 30 mature trees.

Innovative construction techniques

The design of the freeway widening and noise wall requires a retaining wall to be built along the eastern side of Bolderwood Reserve, South Lake. The team explored techniques to lower the impact to vegetation in Bolderwood Reserve and settled on a specialist piece of equipment called a Silent Piler. Traditional piling techniques involve rigs with large footprints flattening of embankments and removal of vegetation. In contrast, the light-weight Silent Piler is a compact machine. In an environmental win, this has minimised the working space requirement and retained approximately 1,400m² of vegetation, including approximately 30 mature trees.

Principal Shared Path (PSP) upgrades

Upgrades to 8km of the PSP for pedestrians and cyclists are well underway, and sections will be opened in stages. The improvements, which include realignments to eliminate tight bends, widenings and resurfacing will improve the safety and user experience of the path.

The upgraded PSP has been designed to cater for cyclists travelling at speeds up to 50km/h. This design required a review of the existing access points to ensure users can safely enter and exit the PSP. Several access points are unable to be upgraded to provide safe access and will therefore be permanently closed. Shared path access points will be closed at Zilner Close, South Lake, Verna Court, Cockburn; Minerva Loop (Nth), Success; Bartram Road, Success; Beaumont Parkway, Success and Sweetwater Bend, Success. The existing access point at Alexandra Follow will be relocated to the south of the current access point. All other access points will be upgraded to achieve a higher level of safety.

Noise wall construction underway

The construction of noise walls on the northbound side of the Kwinana Freeway, between Russell Road and Roe Highway is now underway. Two types of noise walls will be installed: South of Bolderwood Reserve, South Lake, the noise walls are the panel-and-post design and will be painted when the installation is complete. North of Bolderwood Reserve, the noise walls are built using limestone blocks.

Both walls will use an anti-graffiti coating to assist in the removal of graffiti.

Installation of ECO blocks along Kwinana Freeway - a sustainability initiative for Main Roads.

1,102 steel posts and 1,091 concrete panels will be used to build noise walls between Russell Road and Bolderwood Reserve.
Responding to feedback

Engagement with the local community and road users is important to achieving positive project outcomes. The project’s Construction Reference Group of residents and businesses has met several times and provided feedback to noise wall designs, the Environmental Management Plan, the Community and Stakeholder Engagement Plan and the Landscaping Plan.

In addition to feedback from the Construction Reference Group, road users, residents and other stakeholders have provided feedback and suggestions that have resulted in the following changes to the project:

- Enhanced noise wall design including the noise wall painting scheme.
- Shared path access point upgrades, closures and detour planning.
- Protection and relocation of native vegetation.
- Recycling of concrete panels for reuse on-site.
- Revision to traffic management based on road user experience and feedback.

We have also been collecting feedback on how effectively the project has been engaging with the community. To provide your feedback, visit the Main Roads project page and click on the survey tab - [https://project.mainroads.wa.gov.au/home](https://project.mainroads.wa.gov.au/home)

WANT MORE INFORMATION?

To stay up to date with the project, subscribe to email notifications via our project webpage at [https://project.mainroads.wa.gov.au/home](https://project.mainroads.wa.gov.au/home)

We have also set up a 24/7 project information line that can be contacted on 138 138 or email enquiries@mainroads.wa.gov.au