



Turning Waste into Roads

Our commitment to innovation, collaboration and sustainability is demonstrated in our use of recycled materials in road construction.

The Roads to Reuse Pilot project, a joint initiative between Main Roads, the Department of Water and Environment and the Waste Authority, has facilitated the use of recycled construction and demolition products in road building. The project trialled a new product specification and independent audit regime for crushed recycled concrete, which aims to assist industry in supplying a quality recycled road building product and prevent contaminated products being used in construction projects.

To support the recycling of tyres in WA, the Western Australian Road Research and Innovation Program (WARRIP), a research collaboration between Main Roads, the Australian Road Research Board, and industry partner Fulton Hogan, has seen the development of new asphalt mixes incorporating crumb rubber modified binder. In addition to the direct initial sustainability benefits from recycling, the crumb rubber in the binder is also expected to provide a longer service life for the asphalt. Our target of doubling usage of crumb rubber to 1,300 tonnes per annum by 2021 has already been exceeded with almost 1,500 tonnes used this year in asphalt and spray sealing works.

WARRIP has also developed draft engineering guidelines and specifications to increase the use of reclaimed asphalt in full depth asphalt pavements. We have worked with industry partners Downer and BGC to develop and place 40,000 tonnes of new asphalt mix designs with 20 to 25 per cent reclaimed asphalt.

We have also commenced a partnering project between WARRIP and Queensland's National Asset Centre of Excellence to explore the beneficial uses of waste plastics in road infrastructure and develop a performance-based specification for the use of recycled plastic in, for example, asphalt.

Roads to Reuse

34,225 tonnes

34,225 tonnes of crushed recycled concrete used in road construction.

100,000 tonnes

Main Roads is now committed to using 100,000 tonnes of crushed recycled concrete within the next two years and 200,000 tonnes in later years.

WARRIP

- 3.8 km of Kwinana Freeway and Marmion Avenue used for crumb rubber trials.
- Crumb rubber open graded asphalt used on almost one third of freeway resurfacing projects in 2020.
- The equivalent of over 4,000 car tyres recycled, instead of going into landfill.