



Local Government Guidelines for Sustainable Road Construction in WA

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These documents have been prepared to enable and support local government implementation of sustainable road construction initiatives within Western Australia and support one area of focus in the State Road Funds to Local Government Agreement to increase sustainable road construction practices on local government roads through the greater use of recycled materials.

Background

The viability and range of recycled materials and sustainable practices suitable for adoption on local roads in Western Australia (WA) is not well understood. The remoteness and capacity of many local government authorities presents significant challenges.

These documents have been prepared to provide local government practitioners with the support and guidance required to be able to make decisions for the selection of suitable recycled materials and sustainable practices, in turn improving sustainability outcomes and contributing to the circular economy.

Approach

The key documents are:

- Practitioners Guideline
- Technical Report.



The Practitioners Guideline is a summarised guideline in a user-friendly format, interpretable by non-technical practitioners. The Technical Report is the full report containing all background research and supporting technical information.

The documents were developed in 5 key stages:



(1) Literature review to establish a catalogue of suitable recycled materials and practices.



(2) Desktop study to identify sources and suppliers of recycled materials in WA.



(3) Stakeholder engagement, to gain feedback from suppliers and local government practitioners.



(4) Finish Draft Documents.



(5) Final Presentation.

Findings

The key outcome of this project is the provision of a selection and implementation process for the integration of sustainable practices in road construction. The guidelines include a methodology for selecting potential sustainable options and identifying which option will best suit the project. A practitioner can use the guidelines to reference the project type and locality against a chart that will provide information on what recycled materials are applicable and which methods may be appropriate.

Each of the recycled materials and method options are supported by detailed factsheets, which provide comprehensive advice. This includes information on availability, engineering performance, and technical specifications, from which a practitioner can decide whether to adopt the material or option. These parameters provide the information required to perform a feasibility check specific to individual project works. Example scenarios are provided to guide the user through the process to aid in achieving best practice outcomes.

A review of availability identified that, as expected, many types of recycled materials for use in road construction are predominantly situated or accessible within metropolitan and surrounding regional areas.

However, increasing the uptake of recycled materials and sustainable practices in road construction is anticipated to aid in improving availability.

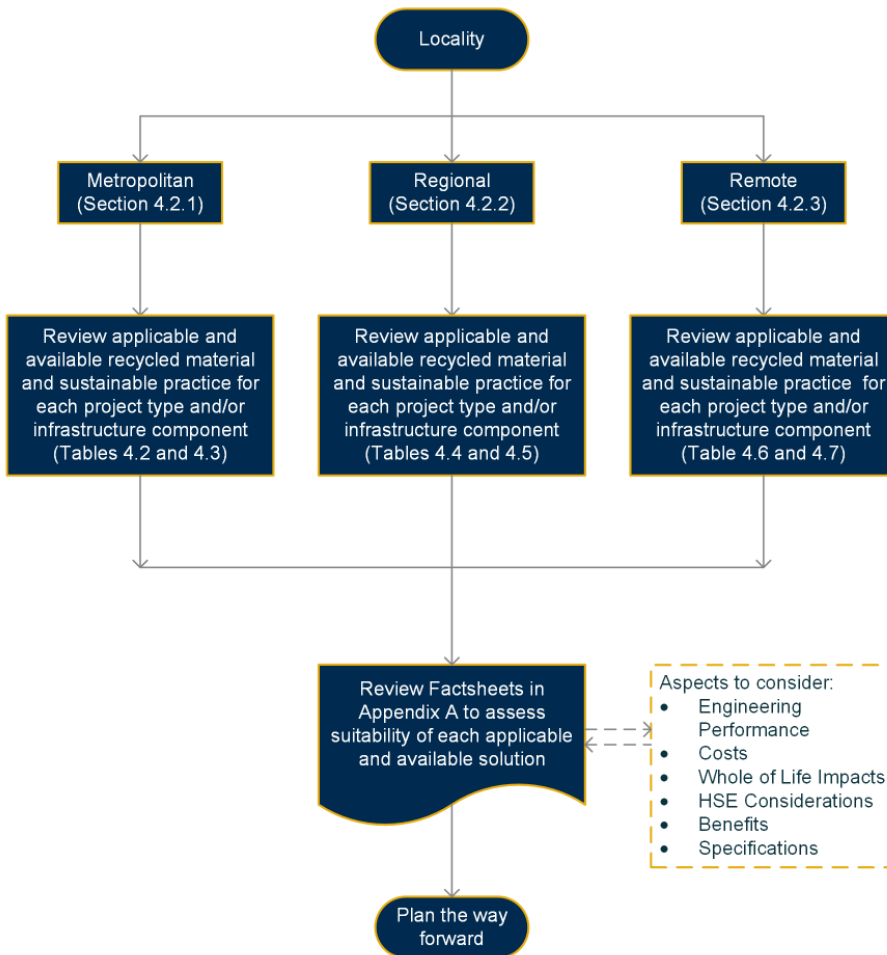
To support the implementation of these guidelines, it is recommended that local government practitioners undertake a review of the recycled materials and equipment available in their local area.

Next stage

Sustainability innovation within the road construction space is constantly evolving to address the changes in international goals, government policy, strategic plans and societal expectations. These guidelines provide information on the current status (known at the time this research was undertaken) of the use of recycled materials and sustainable road construction practices.

Future reviews and revisions of these guidelines may be required to align with emerging technologies and emerging recycled materials.

Implementation Flow Chart



How does this research change the way we think?

Improving the sustainability of a road construction project can take many forms. For the purposes of these guidelines, the focus has been on waste, energy reduction and the circular economy. This focus aligns with current local, national and international policies and strategic plans.

The use of recycled materials in road construction will aid in transforming the circular economy within WA. This can be supplemented by sustainable road construction practices which primarily focus on improving insitu materials or the technologies currently used. Twelve recycled materials and eight sustainable practices have been reviewed and presented within these guidelines. Many of these recycled materials and sustainable practices can be utilised now under current MRWA and WALGA specifications.