Kangaroo Island, Pavement Rehabilitation:

A case study of what can be achieved using pavement recycling technologies

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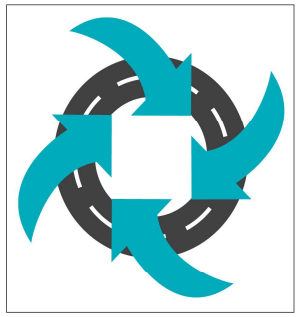
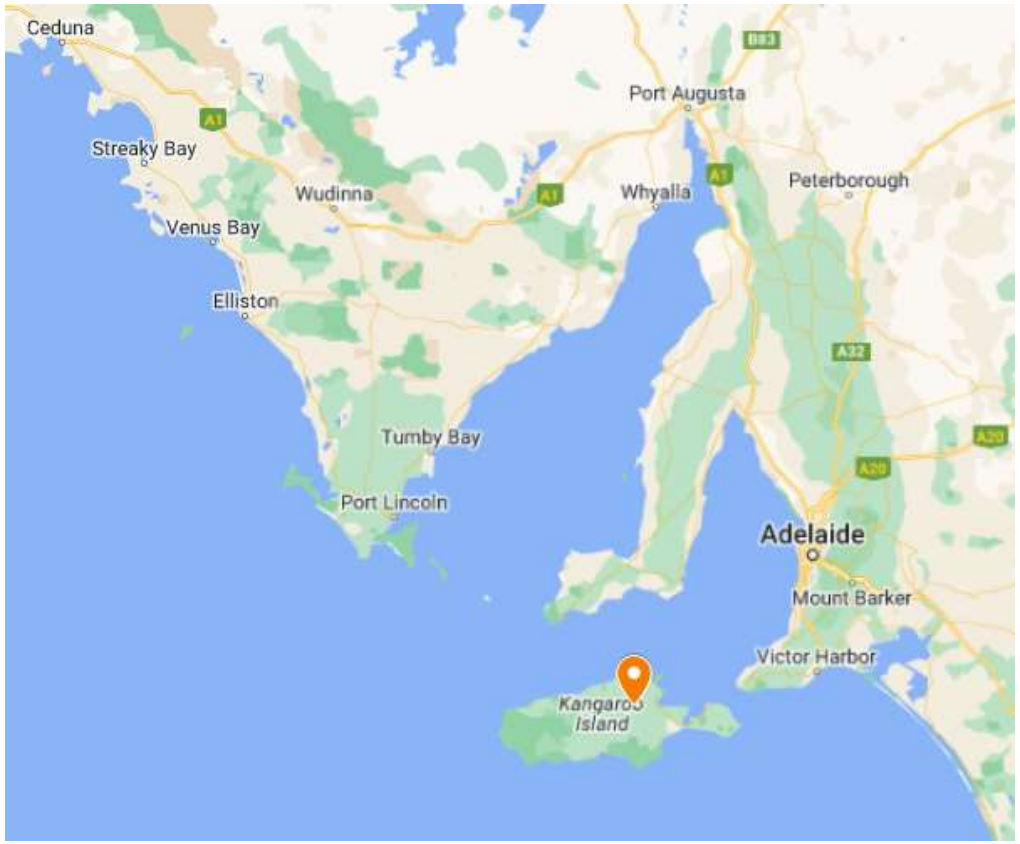
Downer

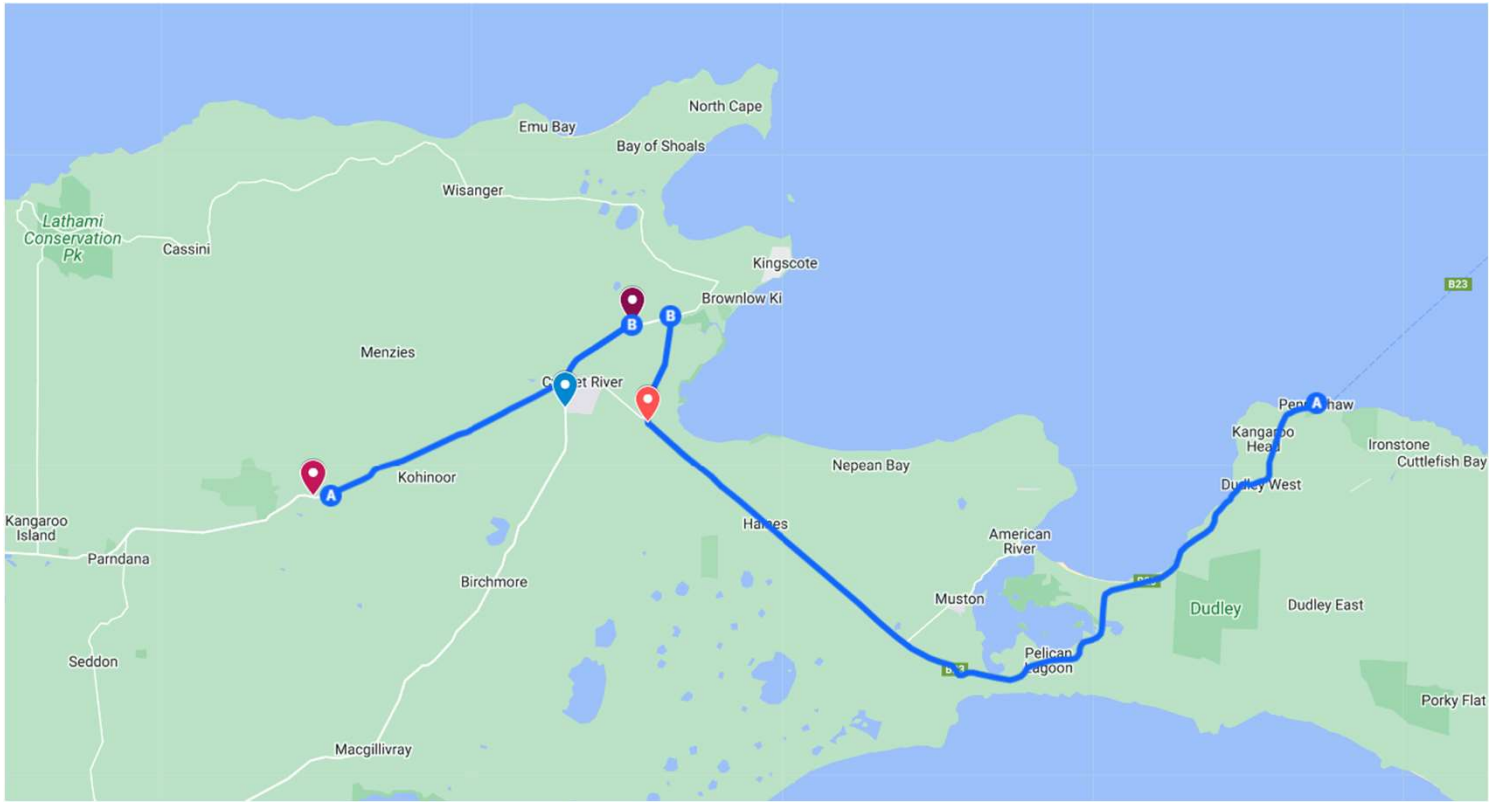


AustStab
Pavement Recycling and Stabilisation Association

Project Locality



Project Overview



Pre – Construction

Pavement Scope

Pavement Type	Treatment Completed
Type 1	Reseal Only • 14/7mm C170 Two Coat Seal
Type 2	Shoulder Widening • Top up with PM2/20 • Mix and Moisture condition to 150mm • Eco Prime • 14/7mm C170 Two Coat Seal
Type 3	Rehab – Stabilised Base Course • 20mm top up with PM1/20 • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal
Type 4	Rehab – Stabilised Base Course + Overlay • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 150mm PM1/20 Overlay • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal

Use of KMA

Safety Initiatives

- Level 7 Strada, implemented on a roller. This system has avoidance guidance system and alerts the operator when somebody is within the exclusion zone.
- IICAS – Intelligent Integrated Collision Avoidance System implemented on a roller. This system has the capability to stop the machine if someone comes within the exclusion zone.

The machine control will be active in the direction of travel only and will extend beyond 1m beyond the width of the roller on either side

Project Challenges

- Logistics Management
- SA Water Works
- Weather Implications

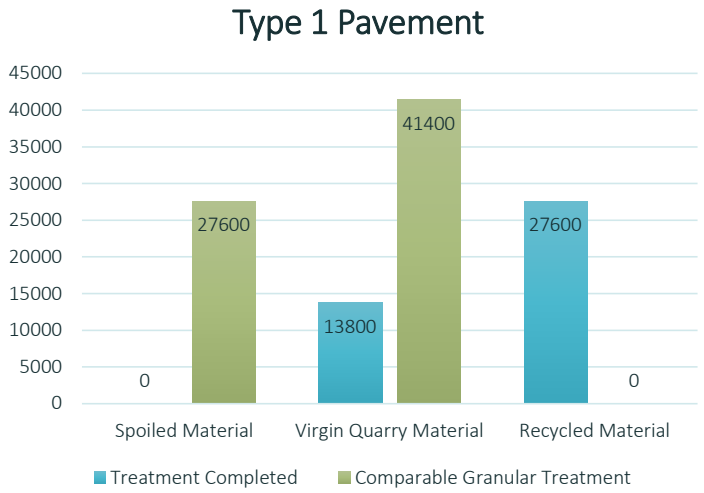
During Construction

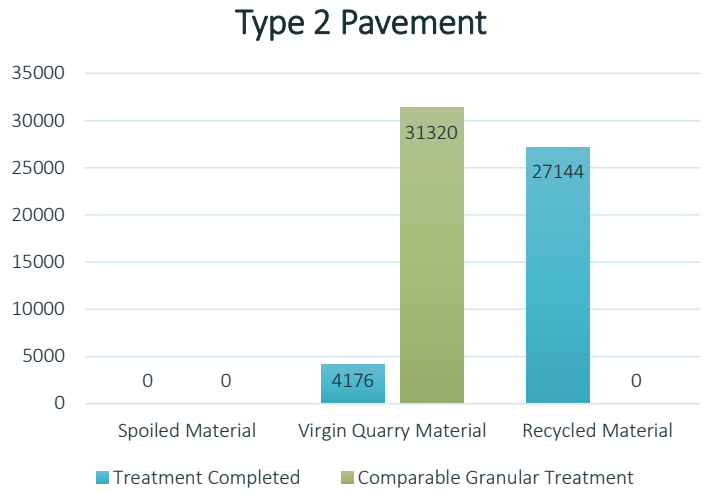
Completed Project

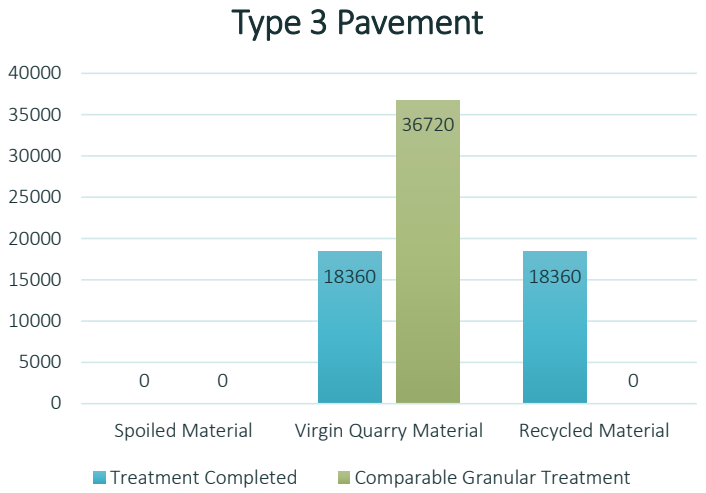
Treatment Comparison

Pavement Type	Treatment Completed	Comparable Granular Treatment
Type 1 115,000m^2	<u>Shoulder Widening</u> • Top up with PM2/20 • Mix and Moisture condition to 150mm • Eco Prime • 14/7mm C170 Two Coat Seal	<u>Shoulder Widening</u> • Box out and dispose of 150mm existing material • Lay 150mm PM2/20 • Eco Prime • 14/7mm C170 Two Coat Seal
Type 2 87,000m^2	<u>Full Width Rehabilitation</u> • 20mm top up with PM1/20 • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal	<u>Full Width Rehabilitation</u> • 150mm PM1/20 Overlay • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal
Type 3 51,000m^2	<u>Full Width Rehabilitation</u> • 2% 50:50 Cement & Lime Stabilisation @ 150mm • 150mm PM1/20 Overlay • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal	<u>Full Width Rehabilitation</u> • 150mm PM2/20 Overlay • 150mm PM1/20 Overlay • 7mm Emulsion Primer Seal • 14/7mm C170 Two Coat Seal

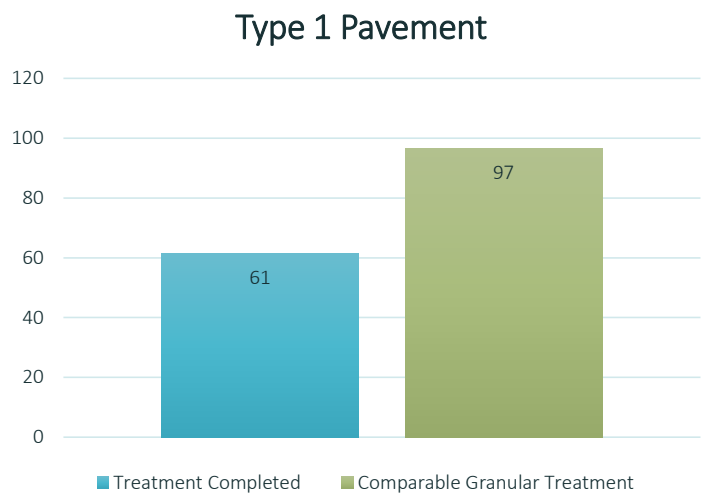
Material Use Comparison (T)

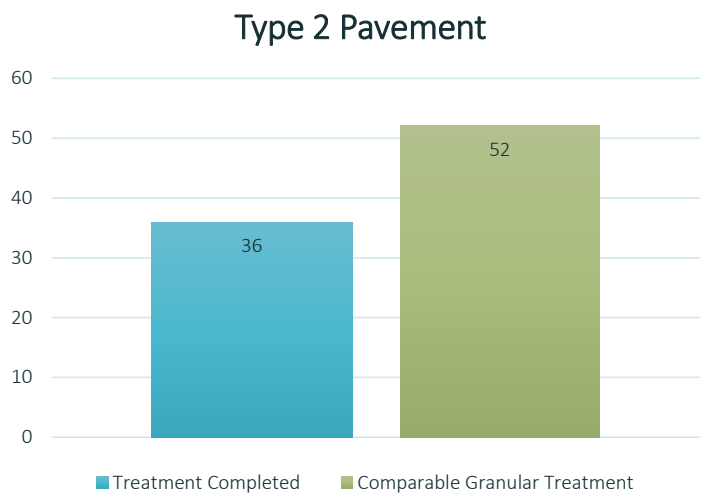


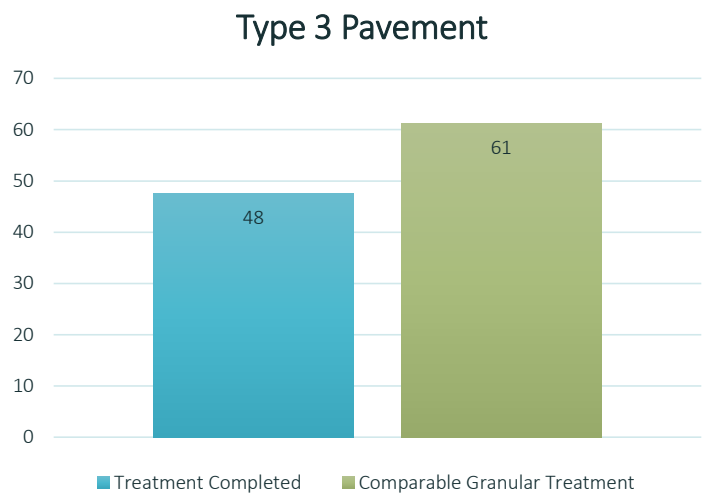




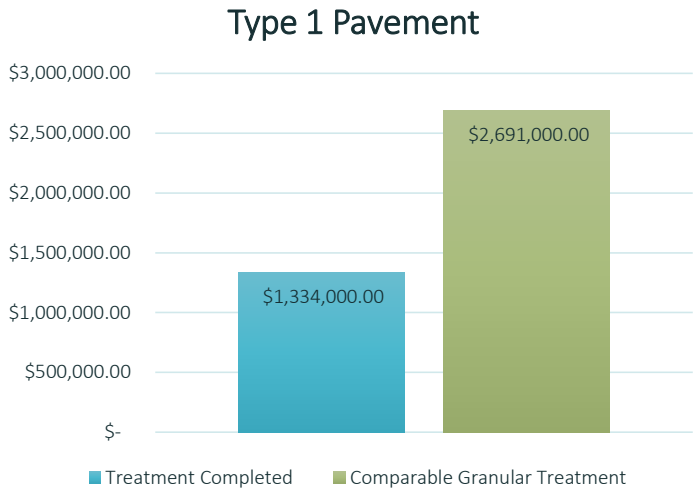
Program Comparison (Days)

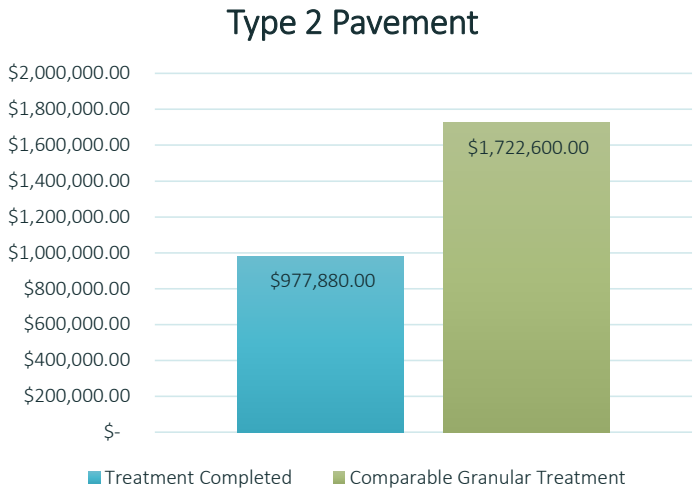


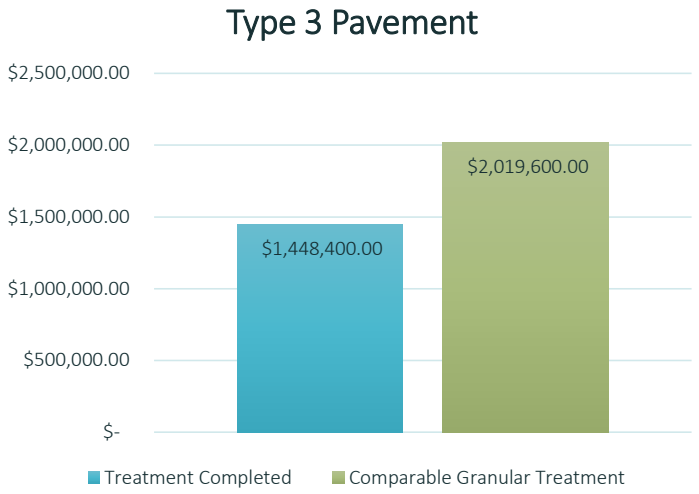




Cost Comparison ($)







Carbon Footprint (kg CO_2/m^2)