Nelson Maintenance Division

Waste AC Pavement Rehab

Prepared by Brendon Walker
Presented by Gavin Stoble
Waste Asphalt Pavement Strengthening Research and Development

- Rehabilitation of pavement by blending with Waste Asphalt and stabilising agents
- Production of a cheaper form of bitumen bound pavement
- Ultimate outcome is to produce a harder wearing pavement to reduce grading cycles and maintenance metal application
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- Location - Pigeon Valley Rd 8.74 – 10.735 (Dovedale Hill), south west of Nelson

- Current Maintenance cycles
  - 6 - 8 grades per annum
  - Between 100m³ & 150m³ maintenance aggregate placed annually per km

- Desired Reduction
  - 1 Grade every 3 months
  - <50m³ maintenance metal per annum per km
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Methodology
- Cart and place waste asphalt at varying thicknesses
- Make trafficable
- Mill to a depth of 200mm
- Shape and compact
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- Site Split
  - First 1/3 - cement stabilised only
  - 1/3 of site with waste AC at varying thicknesses and cement stabilised
  - 1/3 of site waste AC only at varying thicknesses
  - AC thickness varied from 50 – 150mm
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Research and Development

Finished Pavement
April 2008
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Results

- Heavy rain caused some soft areas initially where sensitive fines had been brought up from the subgrade.
- Cement only areas showed poor results and reverted to normal gravel road within few months of work.
- 50mm AC areas showed mixed results with some corrugations and signs of degradation.
- 100 & 150mm AC areas showed excellent results and show very few signs of wear.
- Triaxial test results show the waste AC and existing pavement blend had twice the tensile strength of all other blends. The best blend was 50% waste AC and 50% existing pavement aggregates.
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Results

• The road has not been graded in 14 months and looking good.
• Held up well through winter with good sound surface.
• Performed well through the summer with no corrugation or fines loss. Reduced dust.
• National Rally Series went through site with minimal effects.
• TDC keen to do more of this treatment to problem gravel roads
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Special thanks to Tasman District Council and MWH

Prepared by Brendon Walker
Presented by Gavin Stobie