

# Stretching the road dollar with granular stabilisation

by

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## Road stabilisation



Mix binder, water &  
material

Compact

# Binders

Lime – quicklime

Cement – GP or GB cement

Slow setting binders – slag/lime/cement etc

Bitumen – Foamed or emulsion

Chemicals - DPPs

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# Granular stabilisation

Add from stockpile



MIX overlay and existing material

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# Why use granular stabilisation?

- ❑ Improve a poor material grading
- ❑ Reduce overall PI
- ❑ Insufficient pavement depth due to an increase in traffic
- ❑ Mixing by stabiliser ensures thorough uniformity with depth of material and moisture content

**It's cheap!**

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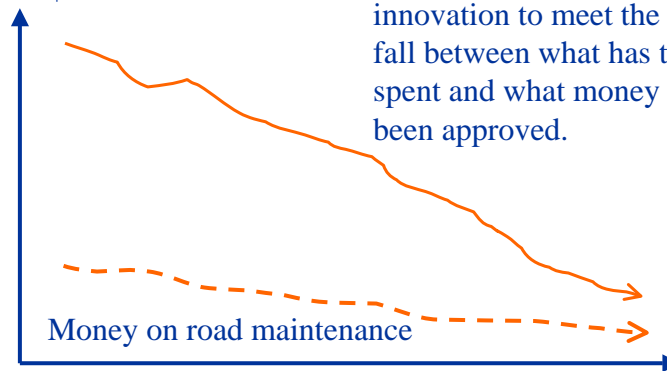
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# Road funding V Asset funding

Road Asset  
Value \$



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# Design & construction process

- ❑ Sample material below surface
- ❑ Access grading & PI
- ❑ Adjust grading to meet specification by overlaying with new material
- ❑ Mix with appropriate moisture content (usually lower than OMC)
- ❑ Compact full depth

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# Particle size distribution



Over time large stones accumulate at surface and there is no fines

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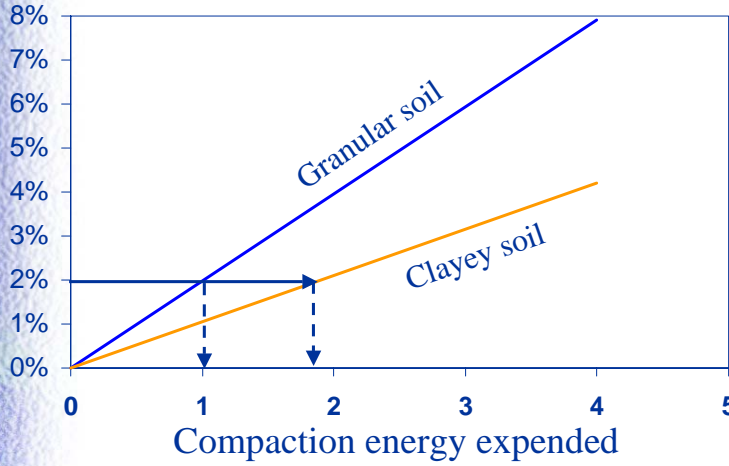
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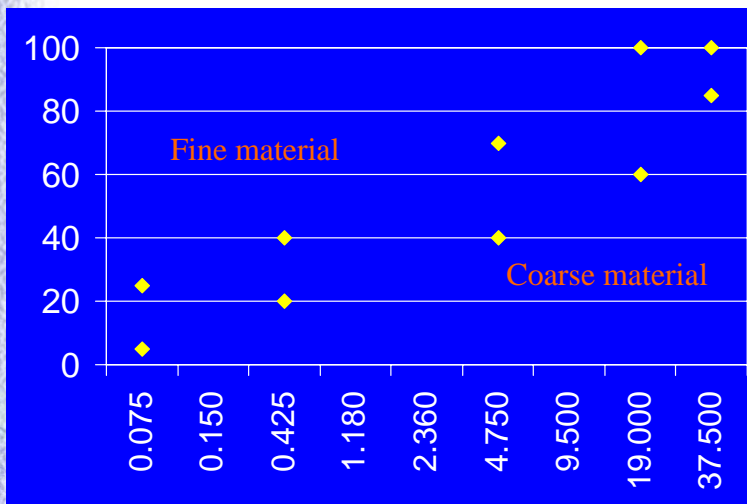
# Particle size distribution

Increase in density



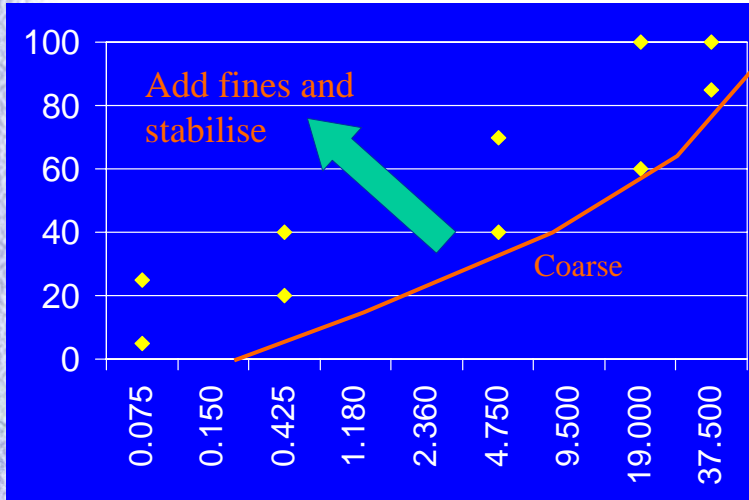
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# Particle size distribution



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# Particle size distribution



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# Equipment required

- Tipper trucks for new granular material
- Graders for spreading & trimming
- Stabiliser / reclaimer
- Water cart
- Vibrator & smooth drum rollers

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# Equipment required



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# Equipment required



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# Typical applications

- Unsealed rural roads
- Forestry roads
- Shoulder improvements for unsealed and seal roads

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# Costs

- Granular overlay - \$15 to \$30 per tonne delivered to site
- Mixing \$0.50 to \$1.50/m<sup>2</sup>
- Compacting, water & trimming to shape \$0.50 to \$1.50/m<sup>2</sup>
- Need to compare against grading and shaping 4 to 6 times a year

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# Granular stabilisation



Where to get more information:  
[www.auststab.com.au/granular/](http://www.auststab.com.au/granular/)