An assessment of the performance of different aggregates in delivering skid resistance

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Somerset – winter 2014
• Somerset CC have extensive construction data
• Skid strategy has been in place for many years
• Key questions
  – Is there evidence to inform the selection of aggregate and material policy?
  – How reliable is PSV as a measure of skid performance
  – How do different materials/ traffic etc influence skid resistance
• Data used – construction from 2002 – 2008, SCRIM data from 2010/11
• Surface date/ material type/ PSV/ source
• Records improved through analysis period
Variables

- 9 principal sources
  - 3 local batching plants
  - 6 sources of ‘imported’ high PSV aggregate
- Material types
  - SMA/ Surface dressing/ Hot Rolled Asphalt (+ chips)/ others
- Road Hierarchy
- Site category
• Better SCRIM performance on lower hierarchy
Material type

- No strong patterns
• Significant differences
• Some may be due to HFS not being identified as separate material
Two materials – batching plant

- 60 PSV may include blending
- 60- PSV gives ‘good confidence’ of meeting 0.45 IL
- 65 PSV may indicate limits on ‘blending’
Two material – High PSV

- Recognised as 68P PSV
- Lower stated PSV may involve blending – not getting benefit of high PSV?
- 68 PSV meeting 0.50 with ‘high’ confidence
Discussion

- Different aggregate with same PSV can give different skidding resistance
- Materials guidance updated to reflect outcome
- Contractual and operational difficulties in implementing
- Scope to further improve construction records
- Need to understand how batching plants use ‘premium’ aggregates
- Blending high PSV with lower appears to ‘drag down’ performance
- Standard deviation as much as 2 IL bands
- What is an acceptable ‘failure rate’ in specifying materials?