

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

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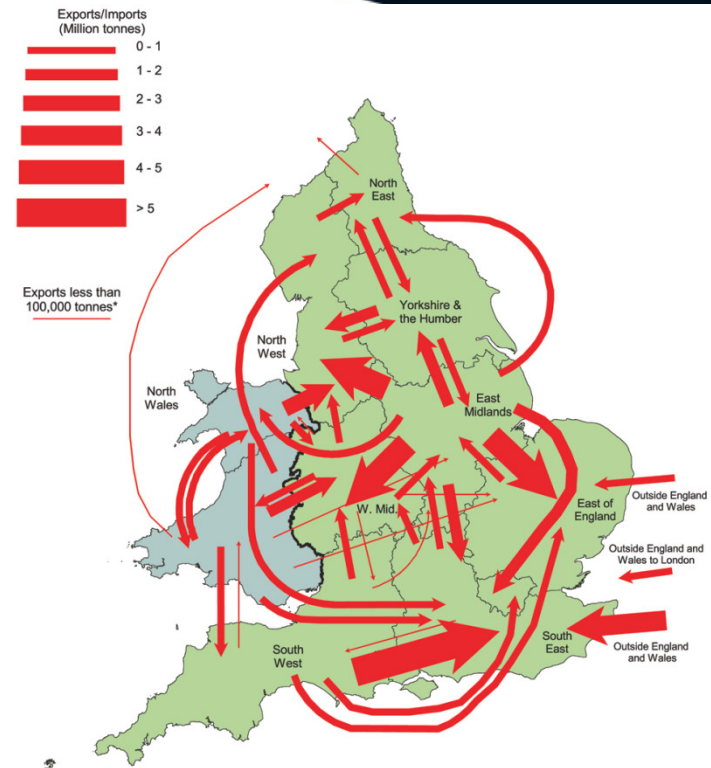
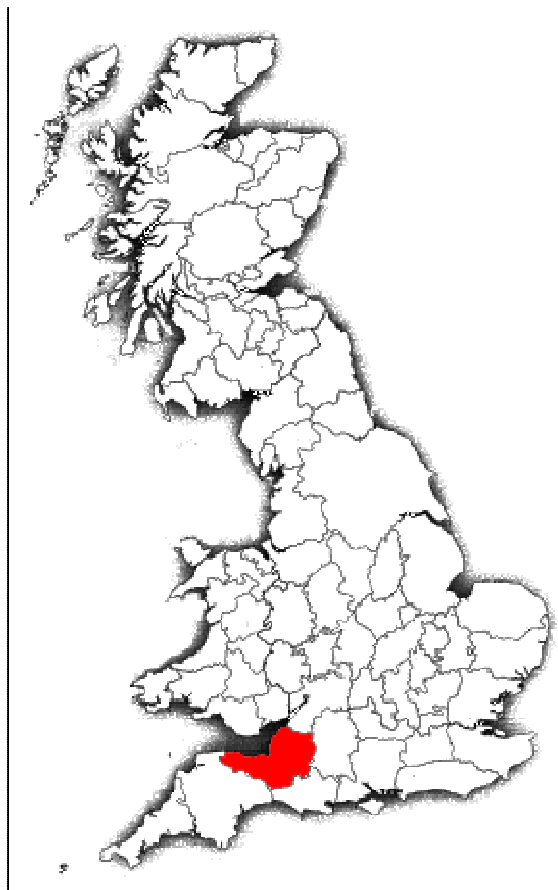


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Somerset – winter 2014



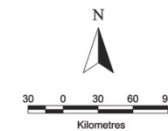
Somerset County Council



*For clarity, flows less than 25,000 tonnes are not shown.

BGS © NERC

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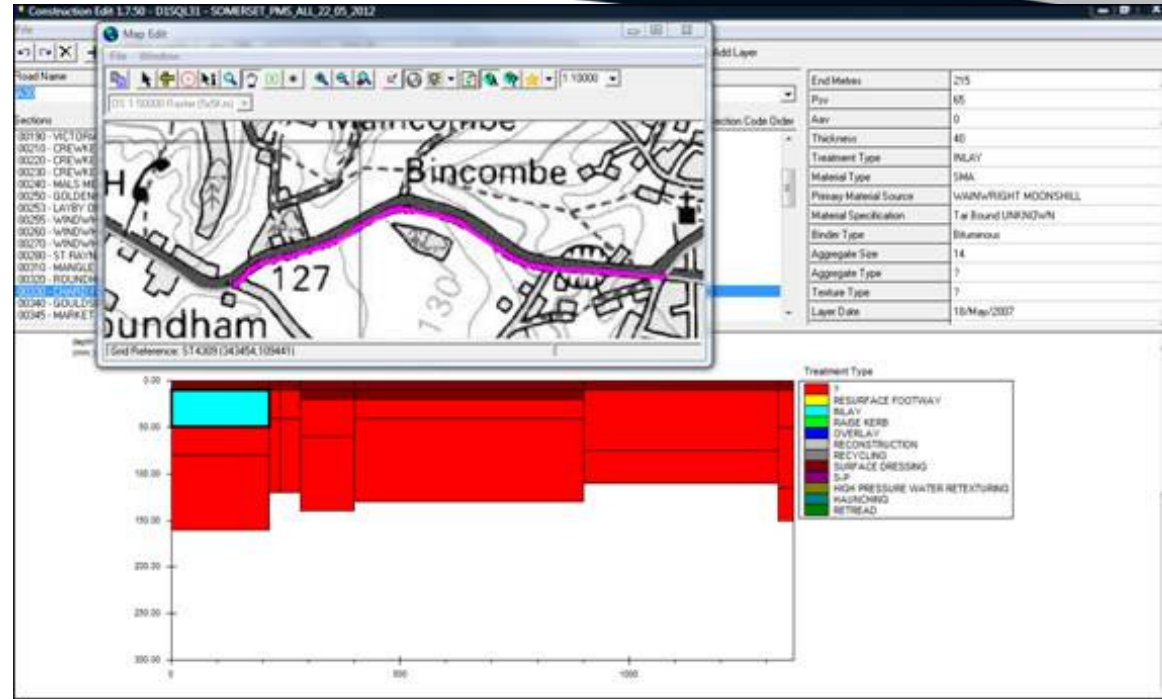


Objective



- 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

Construction data



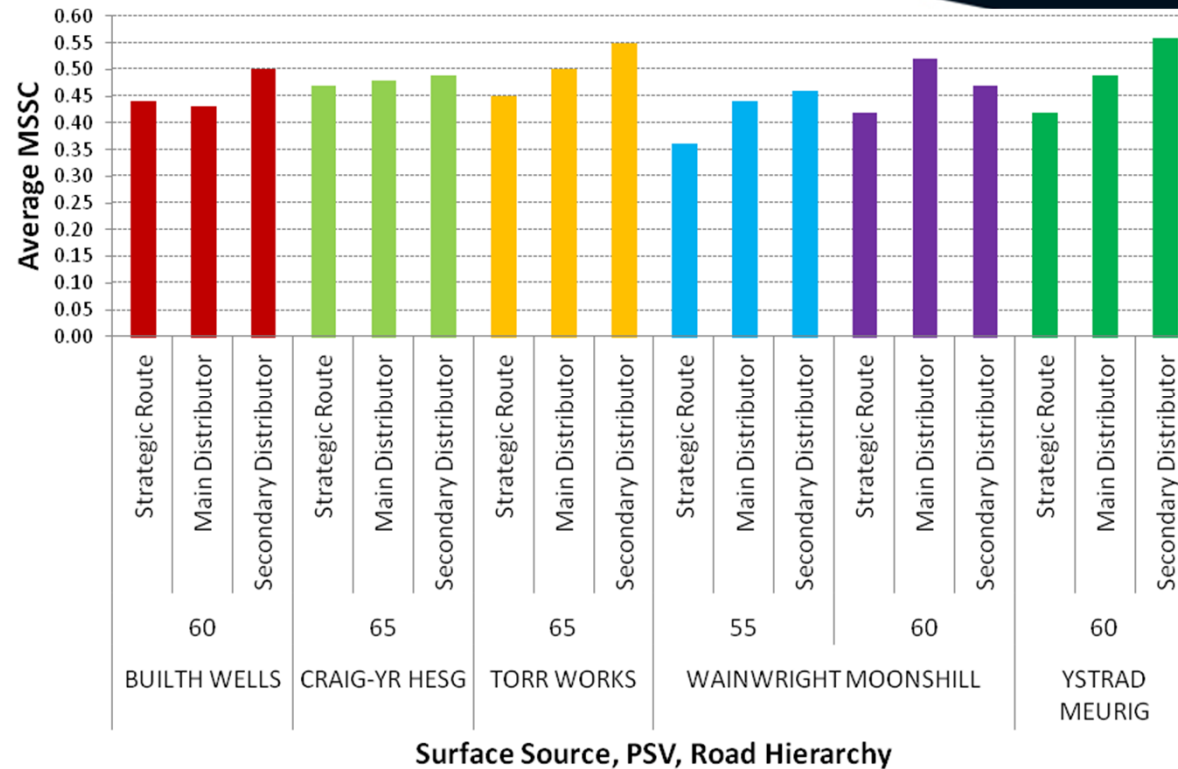
- Surface date/ material type/ PSV/ source
- Records improved through analysis period

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

Hierarchy



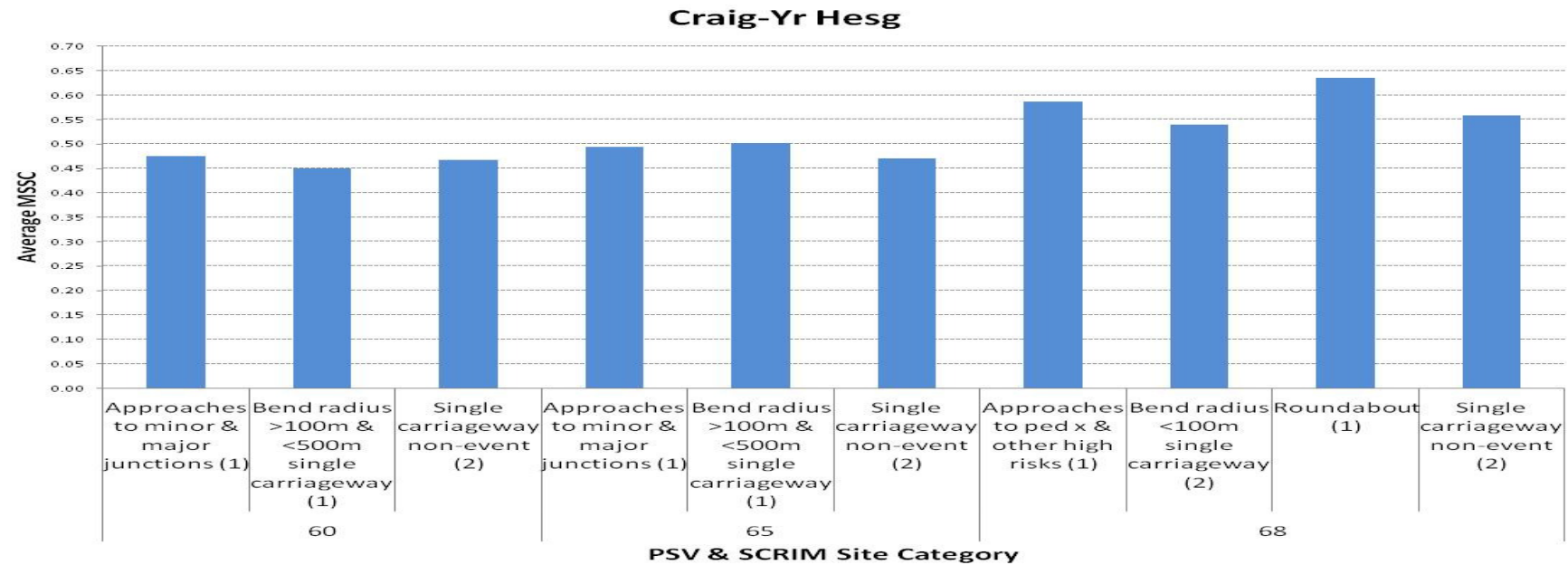
- Better SCRIM performance on lower hierarchy

Material type



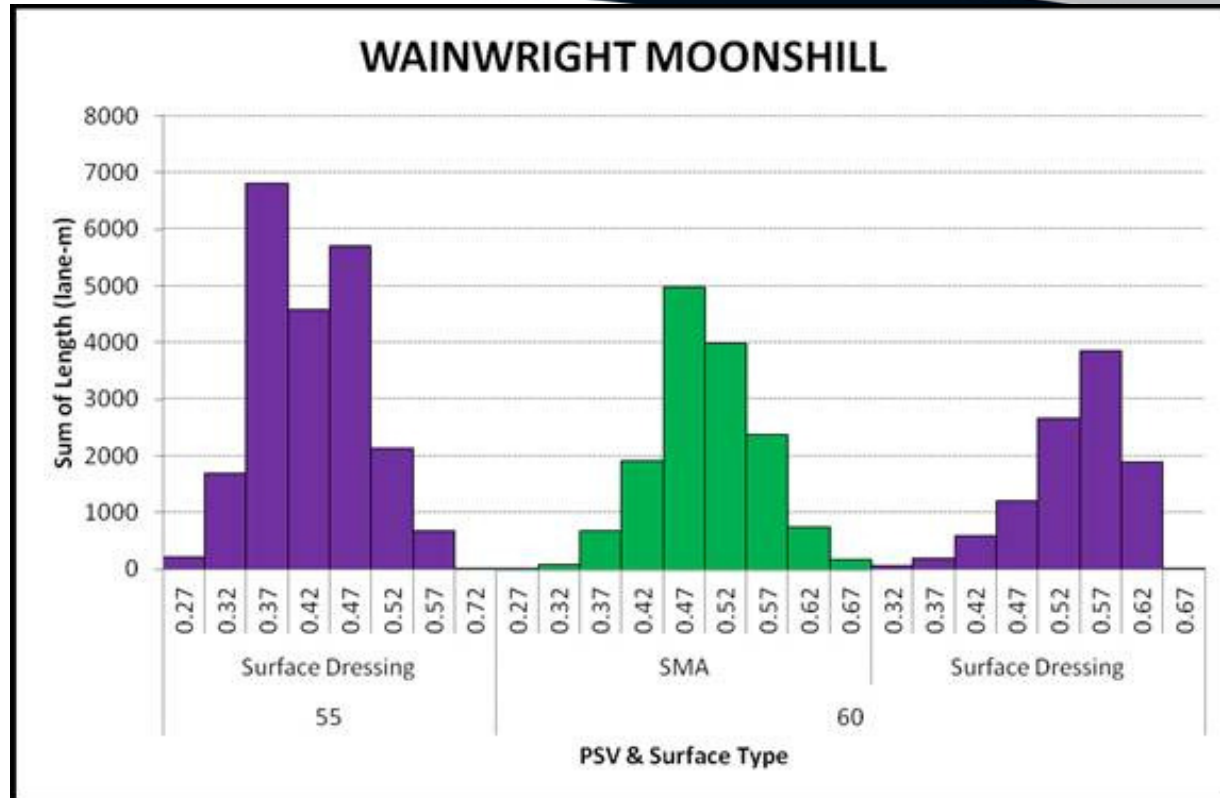
- No strong patterns

Site Category



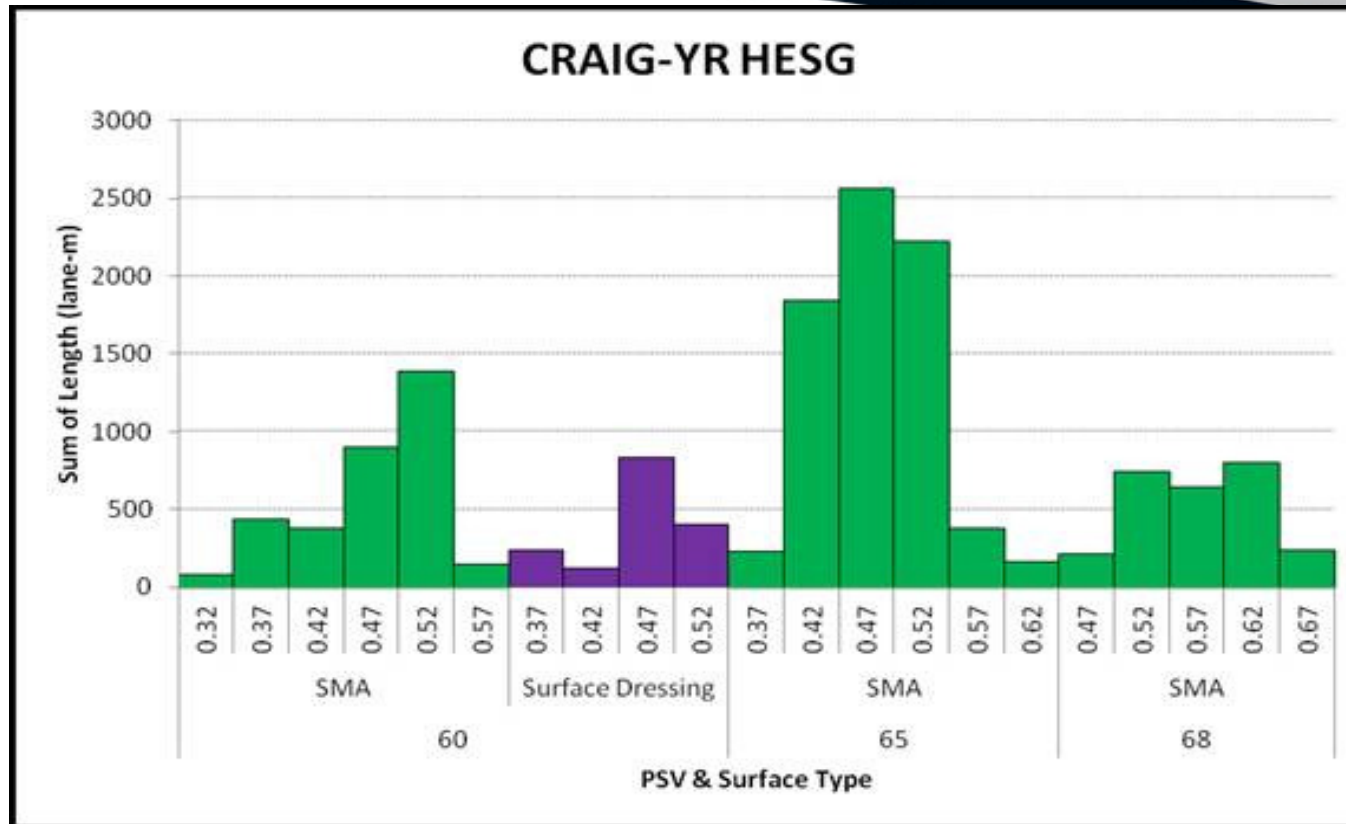
- Significant differences
- Some may be due to HFS not being identified as separate material

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?

