

Cumbria County Council

Plastic-in-Roads

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AGENDA

- How we got here
- Context
- What we've done
- What we found
- What's next
- The future



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How We Got Here



- Its all about connections
- DfT, ADEPT & UKRLG
- Waste management authorities are under pressure to 'explain' disposal of Waste Plastic
- Local waste for local roads?
- 100% "End of Waste" material?

Context – What is it?

- 100% waste plastic
 - Industrial and domestic sources
 - Otherwise destined for landfill
- Selected, processed and blended
- Pellets, flakes or shreddings
- Three finished products
 - MR 6. Stiff and hard, but not crack susceptible
 - MR 8. Economic extension with minor enhancement
 - MR 10. Stiff and flexible, but not rut susceptible



What We've Done

- Adopted a measured approach to mitigate risk
- Seek to build information to be shared with peers
- Identified 5 sites across North and West Cumbria – more sites are in the pipeline
- Selected different mixes to suit local conditions
- Working with our supply chain



What We Found

- Variety of Issues
 - Communication
 - Site Selection & Options
 - Batching
 - Workmanship
 - Weather
 - Material Temperature
 - Compaction and Voids



What's Next

ADEPT & DfT LiveLabs Project

- Capture research to date – what gaps exist
- Identify additional site trials and laboratory research
- Proving it technically, does the material work longer term?
- ‘Side-by-Side’ trial sites
- Scalability – specific locations rather than straight line beds, resilience/extreme locations, footways, cycleways

What's Next...

- LiveLabs project to "prove":
 - Does this provide Sustainable re-use of waste plastic?
 - Is it a wholly Economical Solution?
 - Its Durability and Stiffness (thinner pavement designs?)
 - Its Resistance to Deformation (less shoving / rutting)
 - Fracture Resistance (less fatigue cracking)
 - Water Resistance (reduce affects of 'stripping')
 - Is it Safe to use
 - Batching & Installation
 - No leachate
 - No extra fumes (above bitumen)

Outcomes

Cumbria's Expectations from the LiveLabs project are:

- To provide an evidence based assessment of the use of End of Waste plastics as part of the industry's toolkit for use at both local and national level.
- Opportunity to improve outcomes for waste management
- Potential to increase the time between maintenance life cycle interventions
- Assess the use of the additive for patch reinstatements.

Thank you



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