SUSTAINABLE MATERIALS

CIHT
YOUNG PROFESSIONALS CONFERENCE 2019

James Stokes
First step for sustainability – increasing durability
Resilient asset management strategy

- Minor Interventions e.g. surface treatments or resurfacing
- Major Intervention required here e.g. full reconstruction
  - CORRECTLY timed interventions
  - LOWER Whole Life Costs
  - Pavement surface maintained
  - Reduced reactive maintenance
  - High public satisfaction
Durability = Sustainability
03 SUSTAINABILITY – RECYCLING

- Recofoam®
  - Cold Recycled Bound Material – alternative to base and binder
  - Up to 90% RAP
  - Foam bitumen technology
  - 50% reduction in CO₂e emissions
3 SUSTAINABILITY – RECYCLING

- **Recofoam®**
  - Encapsulation of Asphalt Waste Containing Coal Tar
  - Conventional solution
    - Remove & transport AWCCT to specialist landfill
    - Replace with 3x asphalt layers
  - Agreed solution
    - 2x RECOFOAM® layers | 1x asphalt surface course
    - Savings: 79% costs | 48% CO2e
FUTURE - THE 100% RECYCLED ROAD

Our roads are 100% recyclable

- Recycling is not a cheaper option, it is a sustainable option!
- The performance of materials containing recycled aggregates should not be inferior
- Do not be mislead into placing other waste products into your network – it will only cause you issues in the long term!
August 2018: Ademe Project
- Base course: 100% RAP
- Binder course: 95% RAP
- Surface course: 70% RAP
04 FUTURE - THE 100% RECYCLED ROAD

- The homogeneity between new & recovered binder
- Binder properties at low temperature & after aging
- Rejuvenator properties & long term performance
05 SUSTAINABILITY – WARM MIX ASPHALT

- Tempera®

30 – 50°C temperature reduction
05  SUSTAINABILITY – WARM MIX ASPHALT

- 20 - 30% reduction in CO₂ emissions from production
- Reduced fumes
- Improved working environment

EAPA – Warm Mix Asphalt
05 SUSTAINABILITY – WARM MIX ASPHALT

- Improved durability
Road noise: health impact

- 12m people affected by road noise pollution in UK
- Prolonged exposure affects:
  - Child development
  - Stress
  - High Blood Pressure
  - Heart Disease
SUSTAINABILITY AND NOISE

- Ultraphone®
  - 0/6 Gap graded
  - Enhanced skid resistance
  - 5.7 dBA noise reduction
  - Equivalent to 75% reduction in traffic

“It’s been a life changing experience”

“The new surface is fantastic! We hardly know the main road is there anymore.”
SUSTAINABILITY AND NOISE
THANK YOU

www.jluk.co.uk