

Smart, Sustainable Material Selection for Winter Resurfacing

WE STAND TOGETHER TO

REINVENT
THE WAY
OUR WORLD
IS BUILT

Introduction

Michelle Baldwin, Regional Technical Product Support Manager

Working in the industry for over 5 years with experience in aggregates, asphalt and ready-mix concrete, in technical and commercial positions Tarmac and now occupying the position of Technical Product Support Manager.

Offering technical guidance and support to architects, civil engineers and highways teams at pre-construction/design stage, providing specialist knowledge on which Ultri product provides the optimum performance for their specific requirements as well as hosting CPD training sessions ensuring our customers retain the most up to date construction knowledge. This also extends to supporting our customers on key subjects such as value engineering, innovation, sustainability, and net zero, and how we can support our customers in achieving their corporate objectives with our industry leading materials.

Tarmac at a glance



Leading
materials capability



7,500
people within
our organisation



National
Contracting and
Highways Services



Materials
Offsite manufacturing
Building products
Aggregates
Readymix
Pre-cast
Cement
Asphalt
Lime

2,500
fleet vehicles

93
Quarries

30
Tarmac trains daily

45
Building products sites

51
Recycling/RAP plants

4
Marine dredgers

3
Cement plants

97
Readymix plants

10
Marine wharves

17
Contracting depots

2
Lime plants

56
Asphalt plants





Today

Challenges of winter working

Why material selection matters

Choosing the right material

Cutting carbon - introducing our online Guide to Sustainable Road Building

New materials

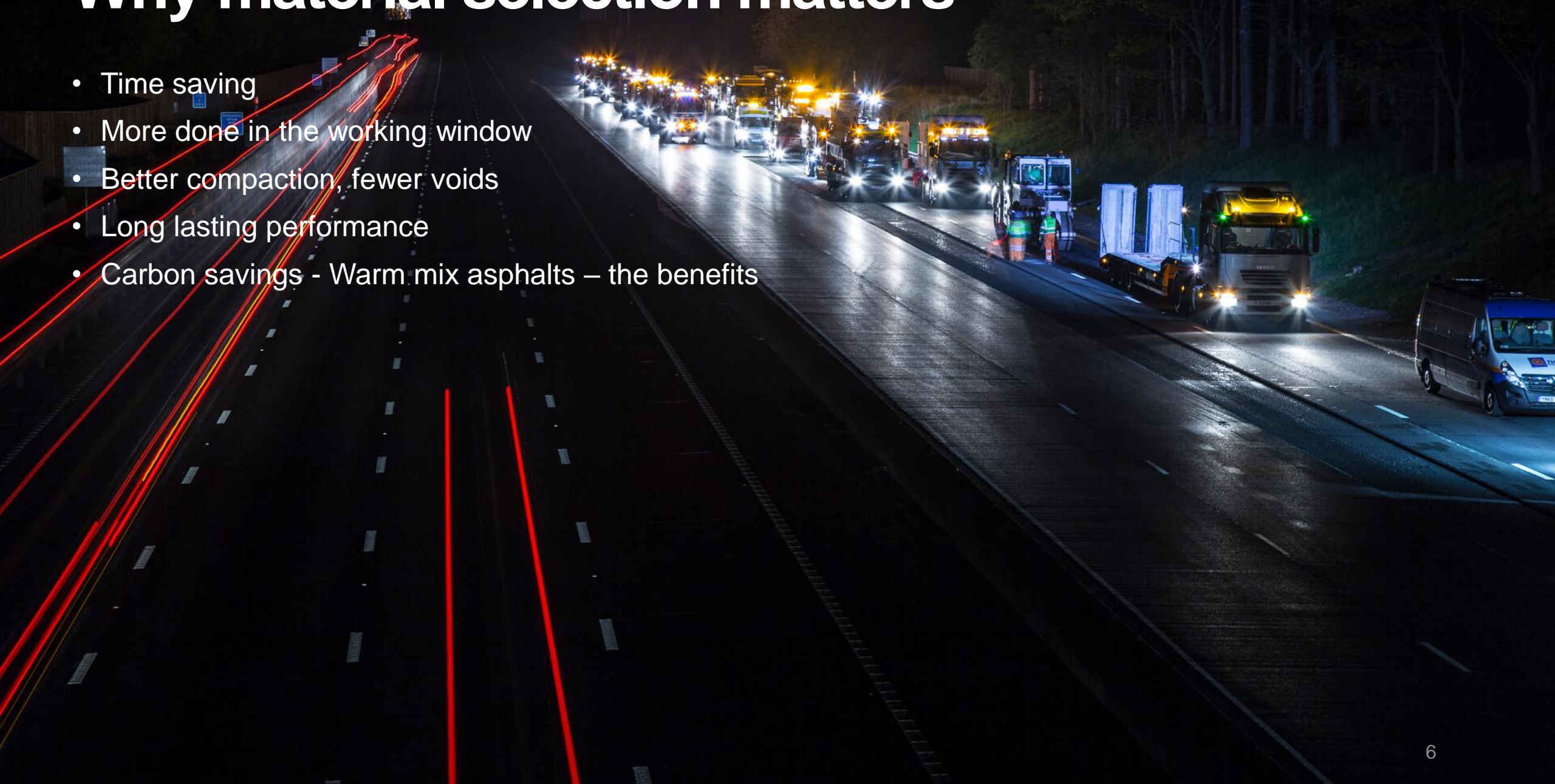
The Challenges of Winter Working

- Low ambient temperatures
- Increasing night work
- Faster cooling of materials
- Restricted laying windows
- Risk of Remedials: More Disruption, More Cost

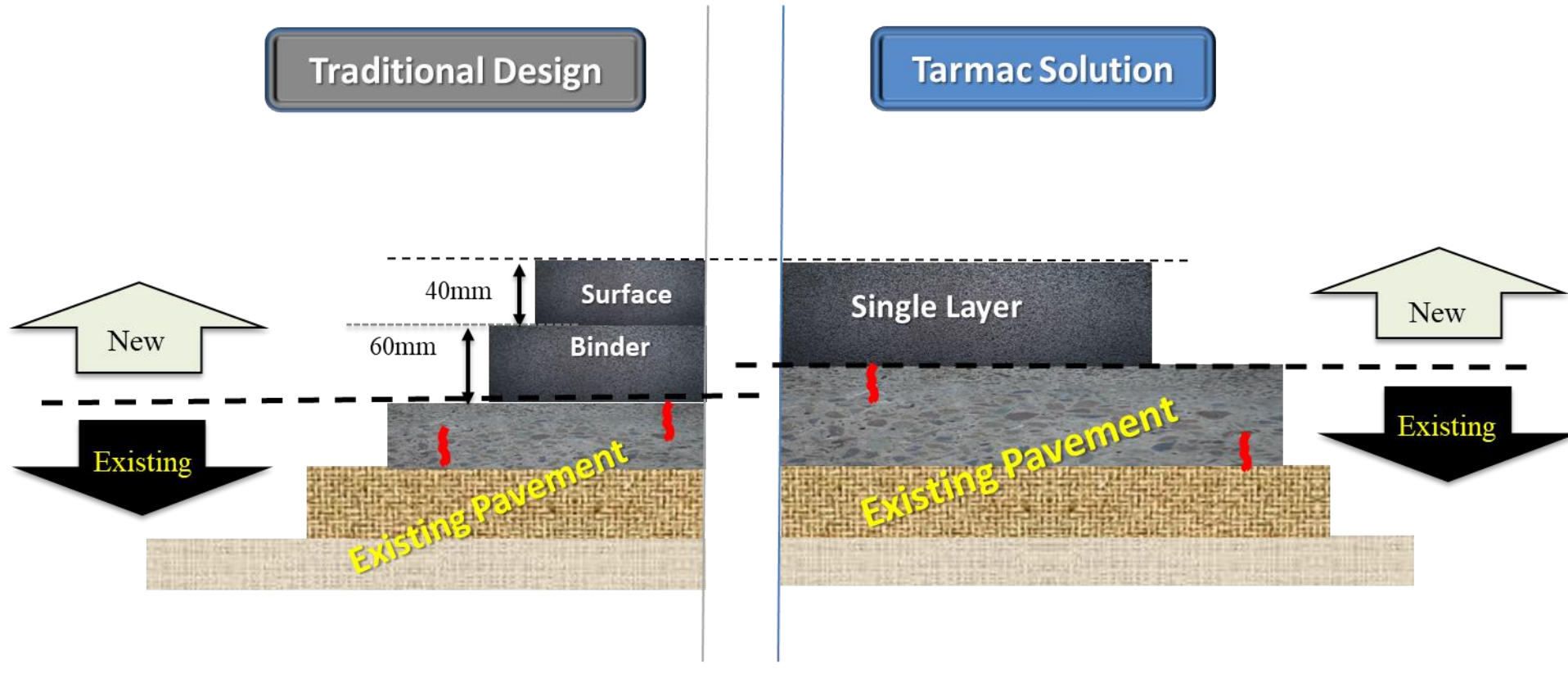


Why material selection matters

- Time saving
- More done in the working window
- Better compaction, fewer voids
- Long lasting performance
- Carbon savings - Warm mix asphalts – the benefits



Single Layer Vs Conventional



Single Layer Solutions

ULTIFASTPAVE

ULTIFASTPATH

ULTILAYER

Why these solutions?

- Single layer replaces base and binder course
- Less plane out/ material haulage
- Deeper layer for better heat retention
- Binder modifiers for improved compaction and finish
- Better finish, long lasting performance

ULTIFASTPAVE

Is a fast, single-layer surfacing solution for car parks, urban roads and rural roads.



ULTIFASTPAVE

For rural, residential roads and car parks

What is it?

- 10 & 14mm asphalt surface course, laid in a single layer up to 75mm thick
- Provides the structural capacity of a base/ binder and the scuff resistance of a low texture durable surface course.

Why is it better for the client?

- Reduced construction time from single layer surfacing. Single pass application means significant reductions in project delivery times compared to conventional dual layer resurfacing, less disruption to residents and reduced laying costs.
- Improved workability and better heat retention and an extended compaction window allowing larger areas to be worked on at any one time.
- Higher stiffness than conventional construction
- Improved durability due to low voids and high binder content
- Weather resistance - avoids traditional thin layers that can be susceptible to freeze-thaw and water ingress.
- Lower overall material use reducing costs and carbon emissions. Base/Binder and Surface Course at a depth of 100mm. Fastpave laid at 75mm. Saving both material, money and Co2 emissions.

Case Study Example

Wakefield Council

- Alternative to HRA 55%
- Ultifastpave installed at 40-75mm
- Reduced need for binder course
- Less materials segregation around iron works



Case Study Example

Worcestershire CC

- Pre SD Patching
- Ultifastpave installed at 50-75mm
- Reduced need for binder course & surface course
- One lift operation



***ULTI**FASTPATH*

Fast, durable single layer asphalt
surfacing for footpaths



ULTIFASTPATH

For footways,
replacement for
slabs, paths and
cycleways

What is it?

- 6mm and 10mm asphalt surface course, laid in a single layer between 50mm and 70mm thick
- Can be laid directly on to sub-base
- Modified binder with selected fines

Why is it better?

- Reduced construction time
- Durable. Construction that resists scuffing and deformation from pavement parked cars.
- Highly workable product that gives both a tighter finish and dense compaction
- Higher stiffness than conventional construction
- Avoids traditional thin layers that can be susceptible to freeze-thaw and water ingress
- Reduced carbon footprint. Lower temperature of the mixed material reduces the energy consumption and improves site safety.

Ultimate resurfacing solutions for pavement cracking and deformation

Product and applications

- Failing road network – reflective cracking
- Evolved network not designed for current loadings
- Limited budget – e.g. deep reconstruction is too expensive
- Avoidance of public disruption
- Constrained construction periods
- Whole life cost benefits
- Long-term durability
- Cost / longevity / full life costing evaluation

“ We have achieved a high quality road pavement, which will provide long-term value for money. In addition the works have been delivered on programme and on budget, with extensive liaison and coordination during the design and construction phases.”

*Rakesh Vaghela - Westminster City Council
Assistant Service Manager for Highways*

Sustainability

Sustainability is about securing long-term success for our business, our customers and communities by continually improving environmental, social and economic performance throughout the whole lifecycle of our products, services and solutions.

Our approach to sustainability is founded on whole life thinking and pushing the boundaries to develop innovative solutions, which help our customers create sustainable buildings and infrastructure.

Let's *Act* together.

**38% reduction
in CO₂**
since 1990

**Reduce our
absolute carbon
emissions by 25%**
by 2030

**100% clean
energy**
since 2018

Net zero
by 2050



New Materials for Lower Carbon Construction

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Online guide to building and maintaining roads in a more sustainable way

- Information on lower carbon materials
- Advice on reducing waste and using more recycled content
- Guidance on building roads that last longer
- Get inspired by watching videos on best practice
- Discover a wide range of case studies and videos on more sustainable schemes.

Google search: 'Sustainable Roads'



Help and Support

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Q & A

Any questions?

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TARMAC

A CRH COMPANY