

asphalt now



Reporting on the asphalt industry

Issue 42 | Spring/Summer 2019



KEEPING QUIET

Asphalt innovation reduces noise pollution

ALARM SURVEY 2019

Long-term funding needed for local roads

CLEANING UP

New bitumen product helps reduce emissions
to improve air quality

MEERKATS TO MINISTERS



Since we launched the 2019 ALARM survey there have been well over 1,000 media reports on its findings, keeping the need for investment in local roads on the agenda (pages 6 and 7).

As well as coverage on TV, radio and social media and in newspapers, ALARM has even featured on a well-known comparison website and a Transport Select Committee (TSC) evidence session.

For many years we have called for a longer-term approach to funding for local roads, plus a more equitable share of the overall roads budget. So, it was reassuring to hear DfT Minister Jesse Norman include both of these in the vision he set out to the TSC, with him acknowledging that local roads have been treated as the poor relation for too long (page 3).

We're supportive of his call for at least a five-year approach to maintenance funding in the next spending round and we'll go on campaigning about the link between local road conditions and community cohesion and prosperity.

Oxfordshire County Council's investing to save approach was the focus at the Autumn meeting of the Highways APPG, while the pros and cons of TotEx budgeting sparked lively debate at the Spring session (page 8). Our continued support of the APPG helps to ensure local road issues are discussed at the highest level so that messages about funding percolate through to policy makers.

We're very aware of our sector's responsibilities and health and safety always comes first. Training initiatives to ensure best practice are covered in this issue and the A66 upgrade feature (page 11) also illustrates the link between materials, efficiency and roadworker safety.

And, news of a cutting-edge bitumen product which can help reduce emissions also highlights the part materials specification can play in minimising the environmental impact of our activities.

Rick Green
Chairman, Asphalt Industry Alliance

REPAIR GUARANTEES TO HELP GENERATE LONG-TERM SAVINGS

Utility companies may have to guarantee the quality of their road repairs for up to five years following a Government consultation.

The Department for Transport (DfT) plans to update the key statutory code of practice for street works and increase the guarantee on road openings from two to five years while also introducing new asphalt specifications to keep roads pothole-free for longer.

During the consultation on the plans, which was launched in March and closed on May 6, the DfT sought views on a new edition of the *Specification for the Reinstatement of Openings in Highways (SROH)*. This statutory code of practice sets out the performance requirements that utility companies (providers of water, gas, electricity and telecommunications

services) must meet when reinstating roads on completion of street works. The SROH was last updated in April 2010 and, since then, issues have arisen over interpretation of its requirements and many new innovations in reinstatement techniques and materials have been introduced.

The new edition aims to address these issues and bring the document up to date. It also permits the use of new materials that make it easier to comply with the code's requirements and help ensure reinstatements are right first time.

Savings that could be made as a result of these changes are estimated to be worth around £100 million over 10 years as a result of reduced reinstatement times and remedial work, leading to a reduction in congestion and, in turn, improved journey times, reliability and reduced fuel costs.



The last edition of the SROH, updated in April 2010

BOOST FROM GOVERNMENT FUNDING

The Government has allocated £201 million to local authorities in England "to help repair local roads and future-proof them against bad weather".

It includes an additional £50 million for potholes and flood resilience as well as £151 million to reward best practice examples. The funding comes from the £6.6 billion the Government is providing in the six years to 2021 to improve local roads and is enough to resurface more than 1,000 miles of road. As part of the Government's work to prevent potholes forming, the DfT is funding early stage research into new surface materials or pothole repair techniques, such as 3D printing. A digital hub will also be set up for experts to share and develop innovations.

Transport Secretary Chris Grayling said: "Every motorist knows that potholes have been a problem in the last few years. That is why the Government is continuing to step up its funding to local authorities to address this. It is now up to highways authorities to innovate and use new technologies to solve the problem."

 ...up to highways authorities to innovate and use new technologies to solve the problem."

Chris Grayling

The DfT has also awarded £22.9 million to the Live Labs project, which is funding real-world testing of new road surfaces and technologies to see which could provide long-term solutions.

The seven successful schemes include expanding the testing of plastic in roads in Cumbria; harvesting kinetic energy recovered from the carriageway in roadside battery units in Buckinghamshire; and using geothermal energy connected to water pipes laid just below the surface to keep car parks and bus stations in Central Bedfordshire from freezing over.



**Department
for Transport**

EUROBITUME MARKS GOLDEN ANNIVERSARY

■ **Eurobitume**, the European Association of bitumen producers, is celebrating its 50th anniversary.

Founded in 1969 to provide a central, unified voice for bitumen producers and marketers across Europe, the association is now widely recognised as the first point of reference for bitumen in Europe as it works to support the safe use of bitumen in road, industrial and building projects.

The five national bitumen associations that initiated and supported the creation of Eurobitume in 1969 were: ARBIT (Germany), CIB (Belgium), ESPAS (Spain), GPB (France) and RBA (UK). From within these national associations, Cepsa, Exxon Mobil, Nynas, Repsol, Shell and Total have been connected with the association for all of its 50 years and



Eurobitume still benefits from these long-established relationships with members who can share their experiences with the growing new membership.

To commemorate the milestone, Eurobitume began its Annual General Meeting in Brussels with a *50 years of Eurobitume and beyond* seminar, which was attended by more than 100 people and reflected on the organisation's challenges and successes over the past five decades. This was followed by a panel discussion entitled: *The bitumen industry in 2020 and beyond*.

Eurobitume Director General Siobhan McKelvey said: "I was overwhelmed by the support we received from everyone involved, who ensured that it was a meeting to remember, celebrate and inspire us all for the future.

"Over the course of the year, there will be further initiatives to commemorate Eurobitume's 50 years of service to its members and the wider bitumen industry."

COLLABORATION: Eurobitume President Christophe Jacquet (centre right) and Director General Siobhan McKelvey (right) receive a special award from the Asphalt Institute (AI) President Pete Grass (left) and AI Chair Kat Crowover (centre left) to mark the association's 50-year anniversary. US-based AI is celebrating its centenary in 2019 and the two associations commemorated their close collaboration on topics of common interest.

VISION FOR ENHANCED ROAD NETWORK

■ **Department for Transport (DfT) Minister of State, Jesse Norman MP**, acknowledged the need for both current and future Governments to up their game significantly when it comes to supporting the local road network at a recent evidence session of the Transport Select Committee's local roads and governance funding inquiry.

Recognising that the local road network is often treated as the poor relation in transport, impacting on safety, productivity and local communities, he set out the DfT's vision to enhance the network for all road users as well as future-proofing the asset to support the uptake of autonomous vehicles.

The Minister reiterated his call for a five-year transparent funding settlement for local roads in the next Spending Review, similar to that allocated to Highways England for the strategic road network, to allow more planned, proactive maintenance in line with asset management principles.

Jesse Norman emphasised that the DfT's focus is on maintenance and investing to save and that this is underpinning discussions with Treasury about future funding. The full session can be viewed online at: <https://bit.ly/2WjGlrI>



IN BRIEF

□ **Johanna Andréasson**, Marketing Manager for Nynas' bitumen business, has been appointed Chair of Eurobitume's PRC (Public Relations and Communications) committee.



The committee supports Eurobitume's vision of being the first reference point for bitumen in Europe, clearly communicating the various ways that the bitumen industry's products provide value to society.

□ **ADEPT** (The Association of Directors of Environment, Economy, Planning and Transport) has launched an advice note on potholes.

Potholes – a Repair Guide was commissioned by the DfT following the intense weather experienced during the winter of 2017/18, which caused more potholes to appear on Britain's roads than previously seen before, and generated increasing pressure on local highway authorities.

ADEPT President Neil Gibson said: "The increase in potholes on today's roads is the consequence of years of under investment. There needs to be a change in approach and focus on preventing potholes from the outset.

"Local authorities should adopt permanent repairs as their first position; temporary repairs should only be used when safety cannot be guaranteed or in emergency circumstances. It should be an aspiration for any local highway authority to maximise the proportion of first-time repairs to garner long-term resilience for our highways."

The guide is available to download at: <https://bit.ly/2DLAKrU>

Right: a road roller equipped with SmartBrake, the new auto-braking system from Aggregate Industries. Below: AI's Colin Holland with the award from Highways England

AUTO-BRAKING SYSTEM PROVES A WINNER AT HIGHWAYS AWARDS

■ **Aggregate Industries** has won a safety award at the first Highways England Awards, designed to recognise initiatives that have made journeys safer and smoother for users of the strategic road network.

The awards bring together Highways England's Supplier Recognition Scheme and

the Health Safety and Wellbeing Awards into a single event.

SmartBrake, the company's new vehicle auto-braking system, is designed to improve road worker safety and was the overall winner in the Chairman's Award for Excellence category.

It was commended for its potential to drive improvements in



behavioural safety culture and raise safety performance in the highways sector.

The system works by using a radar system, linked to cameras, to automatically activate a vehicle's braking system if anything is detected within a defined exclusion zone. It also captures real-life footage to educate personnel of their actions.

Paddy Murphy, Director of Contracting, Aggregate Industries UK Ltd, said: "Receiving this award is great recognition for the collaborative work that has gone into the development of SmartBrake and its roll-out across our business and supply chain.

"Road worker-plant-vehicle interface is one of the biggest risks in the industry. Over the past few years, a lot of work has been done to safely segregate people, plant and vehicles yet incidents are still happening. This is why SmartBrake is so important to us."



Eurobitume UK has held five **Safe Delivery workshops** across England and Scotland following the release of its recently revised *Guide for the Safe Delivery of Bitumen*.

The half-day workshops, attended by those responsible for the safe delivery and use of bitumen, focused on key safety issues captured through incident reporting by bitumen delivery drivers and at customer sites.



"Bitumen delivery drivers accredited through our driver passport scheme have been reporting all safety incidents encountered at customer sites for over 10 years," said David Giles, left, General Manager, Eurobitume UK. "This has enabled our Safe Delivery Team to identify recurring issues and develop training to address them."

The most commonly occurring safety issues identified by Eurobitume, and included as topics in the training workshops, are blockages in pipework and faulty content gauges and high-level alarms.

"Eurobitume's safety initiatives and workshops have helped significantly reduce the number of safety incidents which occur during the delivery of bitumen," added David.

"We are delighted to be working closely with the Mineral Products Association with the ongoing development and promotion of initiatives such as the bitumen driver passport scheme and Safe Delivery Guide to improve the safe handling of bitumen at customer sites."

IN BRIEF

□ **The Mineral Products Association (MPA)** has published *Contract Surfacing Operational Guidance* aimed at helping to deliver its members' Zero Harm commitments for their asphalt-laying operations.

The principles and detail in the guidance are recommended for adoption by road owners, operators, main contractors and surfacing teams seeking to make highways construction and maintenance sites safer.

The publication aims to encourage contractors to reconsider current practices and gives examples of how to address the challenges faced when dealing with the movement of plant, people and materials as well as the risks associated with passing traffic.

The guidance can be downloaded at: <https://bit.ly/2V1aXSh>

□ **The UK Roads Liaison Group Asset Management Board** has released its *Asset Management Competence Framework* for those working in highway asset management.

The Framework aims to provide a consistent approach to managing skills and training requirements and is aligned with the latest Code of Practice, *Well-Managed Highway Infrastructure*, and the international standard ISO 55000.

For more information go to: <https://bit.ly/2WdY3Sx>

□ **Louise Pattison**

is one of the first expectant mothers to try out Tarmac's new specialist high visibility maternity protective clothing.

The move complements the company's existing range of specialist PPE and supports its aim of creating an inclusive workforce.



SKID-RESISTANT SOLUTION FOR BUSY YORKSHIRE ROAD



Ultigrip has been used on different sites across the county including the Woodhead Pass in the Peak District

A SKID-RESISTANT asphalt which delivers improved safety and provides whole-life cost savings has been used to resurface a busy road on the A64 in Yorkshire.

Ultigrip, developed by Tarmac, was chosen for the junction with the A1237 near York, which had been highlighted by Highways England as being in urgent need of improvement following an increase in the number of recorded incidents.

The brief was to find a solution that would replace the worn high-friction surface with a more durable asphalt, while delivering improved whole-life performance, boosting safety and minimising unplanned delays.

Tarmac worked in collaboration with principal contractor AOne+ to lay 250 tonnes of Ultigrip on the slip road. Although the upfront costs were greater than a conventional solution, AOne+ quantified the whole-life savings to be £370,000 due to reduced maintenance, with 28 days of closures and 2,800 hours of labour saved over its serviceable life.

David Hardy, National Product Support Manager at Tarmac, said: "Providing safe and secure roads is the number one priority for highways authorities. It's especially crucial that high-risk locations such as slip roads, roundabouts, tight bends and approaches

to pedestrian crossings are surfaced with the most appropriate materials available.

"Ultigrip is different to traditional high-friction surfaces as its skid resistant properties are not added at the end of the surfacing process but intrinsic to the mix. A calcined bauxite aggregate and a durable clear binder are used that, when combined, offer a durable, textured finish which reduces the dangers of skidding. It also lasts up to four times longer than alternative options and can be laid in a single pass meaning operatives spend less time overall on site, improving safety and reducing labour costs in both the short and long-term."

MENTAL HEALTH CHARITY BENEFITS FROM TRIO'S REWARD

■ **Three Hanson Contracting** team members honoured for their efforts in saving a homeless man's life while working on the M62 have donated their reward to industry mental health charity Mates in Mind.

Workshop Foreman Trevor Robinson, Supervisor Steve Jackson and Derek Hayley from the surfacing team were each awarded £100 for their courageous and timely action in preventing the man from jumping off a bridge and on to the carriageway.

The trio were working at night on the slip road at junction 11, near Warrington, when a motorist alerted them with concerns for someone they had seen on a bridge.

"The man had climbed over the barrier and was standing on the ledge holding on," explained Trevor, who approached him on the bridge while Steve spoke to him from below. "I kept talking, but when he took his hands off the barrier, I knew he was going to



AIA Chairman and Hanson Contracting Managing Director Rick Green (left) and regional operations manager Steve Langston (right) commend Derek, Trevor and Steve on their heroic efforts

jump so I grabbed him and pulled him back over on to the footpath. I gave him a good hug and we just sat down and talked, before Derek arrived to check we were okay."

Like other partners across the construction sector, Hanson has been

working closely with Mates in Mind to break the stigma associated with mental health issues and offer awareness training and support to its employees.

For more information on Mates in Mind go to: www.matesinmind.org

ENCOURAGING SIGNS BUT STILL A LONG WAY TO GO, CONCLUDES ALARM

Findings from the AIA's latest road maintenance survey highlight small but positive signs that an overall increase in highway maintenance budgets is helping stem declining local road conditions.

THIS YEAR'S Annual Local Authority Road Maintenance (ALARM) survey reports an overall increase in local authority highway maintenance budgets for the second successive year and points to some small signs that this is helping to stem the decline in local road conditions.

The independent survey, carried out by the Asphalt Industry Alliance (AIA), is now in its 24th year. It aims to take a snapshot of the general condition of the local road network in England and Wales, based on information provided directly by those responsible for its maintenance. The data received from local authorities provides a means of tracking any improvement or deterioration and the qualitative feedback received provides context. "It is encouraging that those in control of the purse strings have acknowledged that long-term underinvestment has taken its toll on the network, leading to a rising bill to put it right," said AIA Chairman Rick Green. "More importantly, they have recognised the value that additional expenditure on roads can

deliver. It is, of course, a long journey from slowing decline to improving the overall condition and resilience of the network and this additional investment could go to waste if it is not continued. So, our message is: don't stop now."

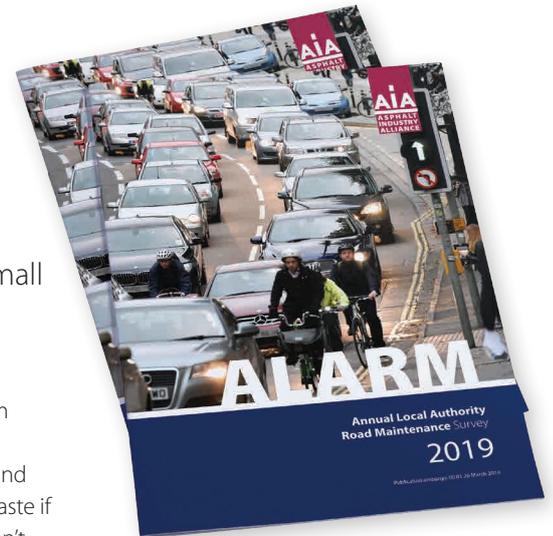
The findings of the ALARM 2019 survey indicate that average overall highway maintenance budgets have increased



“...a long journey from slowing decline to improving the overall condition...”

**Rick Green, Chairman
Asphalt Industry Alliance**

by almost 20 per cent, from £20.6 million reported in ALARM 2018, to £24.5 million. For councils in England and London, this included a share of £420 million additional funding allocated in the November 2018 Budget. However, this average masks a big discrepancy between the haves and the have nots, with some local authorities



receiving highway maintenance pots equivalent to more than £90,000 per mile of their individual networks, while many continue to struggle with reduced budgets, with several having less than £9,000 per mile to maintain their local roads.

In England (excluding London), the findings show a slight improvement in road conditions with the percentage of the network in a good state of repair up by 2 per cent; the equivalent of an extra 3,500 miles of local roads reaching target condition. Welsh authorities also seem to have been able to stem the decline and report improvements in both the condition and structure of local roads, despite cuts to their overall highway maintenance budgets.

The picture in the capital is not as rosy with road condition continuing to deteriorate and one in four roads in London now reportedly classed as structurally poor – with less than five years' life remaining.

"The focus on primary routes continues and achieving target conditions on all categories of road still remains out of reach," said Rick. "To put this in context, if local authorities had enough funds to meet their own targets across all road types it would give us more than 20,000 miles of improved local roads."

Addressing the shortfall

The shortfall in annual highway maintenance budgets has also grown and the gap between what local authority highway teams report they receive and the amount they need to halt further decline of the carriageway is £657 million (£556 million in ALARM 2018): an average of £3.9 million per authority. In addition, the survey findings indicate it would now take 10 years and cost £9.79 billion – or

Budget shortfall

Average annual carriageway maintenance budget received and average shortfall, £m (2017/18 in brackets)



A ONE-TIME CATCH UP
WOULD TAKE **10** YEARS
TO COMPLETE AND COST

£9.79bn



£58.2 million per authority – to address this shortfall and carry out a one-time catch-up to bring the network up to a steady state.

Rick added: "There has been more money, but it's clear from the 29% increase in the number of potholes filled in England and London that much of this has been used for patch and mend, which does not provide value for money and does nothing to improve the underlying structure and resilience of our roads.

"Last year we called for an additional £1.5 billion of funding (directed from funds raised via fuel duty and vehicle excise duty) to be made available for local roads each year for the next 10 years and we stand by this.

"It would provide enough funding to address the reported shortfall, which is the amount needed as an absolute minimum just to meet current target conditions and halt further deterioration, with the rest allowing local authorities to tackle the backlog. The findings from this year's ALARM



survey support the need for this long-term approach to allow local authorities to maximise the effectiveness of their asset management plans and deliver enhanced

mobility, connectivity and productivity."

■ The full 2019 ALARM survey is available to download at www.asphaltuk.org

AVERAGE HIGHWAY MAINTENANCE BUDGETS



**MORE POTHLES FILLED
EQUIVALENT TO 1
EVERY 17 SECONDS**

NORTHERN IRELAND

Comptroller and Auditor General Kieran Donnelly has outlined a similar picture in Northern Ireland, with the country's road maintenance backlog hitting £1.2 billion.

The *Structural Maintenance for the Road Network* report found that the overall level of funding has improved, but it is still less than required to maintain network condition to a satisfactory, steady state with the annual average shortfall now £50 million.

"While major roads such as motorways are in better condition than previously thought, minor roads, including much of the rural network, continue to deteriorate," said Kieran Donnelly.

"It is clear from this report that short-term, inadequate funding of road maintenance expenditure is causing the serious deterioration of a key public asset. The securing of a long-term funding option needs to be a priority."

DIARY DATES

Some dates for your diary:

5-6 June	53rd Annual IAT National Conference: Confidence Through Quality, Dalmahoy, Edinburgh www.iatconference.co.uk
20 June	Institute of Highway Engineers (IHE) Getting it Right: Using Best Practice on UK Roads, Radisson Blu, Glasgow https://bit.ly/2vCNCwd
3 July	The Next Steps Towards Tackling Potholes and Improving Road Surfaces, Westminster, London https://bit.ly/2UWRh2e
3-4 July	New Civil Engineer (NCE) Future of Roads conference, Inmarsat, London https://roads.newcivilengineer.com/resources/nce-future-roads
1-6 Sept	MPA & Newcastle University: 46th Annual Asphalt Materials and Pavements Course, Newcastle https://bit.ly/2wAWtln
2 Oct	AIA Sharing Best Practice event 2019, National Motorcycle Museum, Birmingham www.asphaltuk.org
6-7 Nov	Highways UK 2019, The NEC, Birmingham www.highways-uk.com
12-14 May 2020	7th Eurasphalt & Eurobitume Congress, Madrid, Spain https://www.eecongress2020.org/



HIGHWAYS GROUP HEARS HOW REPAIR BUDGET HANDLING COULD IMPROVE ROAD CONDITIONS

The **All Party Parliamentary Group (APPG)** on Highways aims to promote the safety, environmental, economic and social case for a properly maintained sustainable local road network. With the one-time catch up cost to bring local roads up to scratch now at £9.79 billion, (see previous page) the group's two most recent meetings looked at ways in which new approaches to highway maintenance budgets could help improve local road conditions.

Oxfordshire County Council Invests to Save

At the **November 2018** meeting, APPG Chairman Sir Christopher Chope MP welcomed Oxfordshire County Council (OCC) representatives Councillor Yvonne Constance, Cabinet Member for the Environment (including Transport), and Paul Fermer, Assistant Director – Infrastructure Operations, to speak about the council's forward-thinking approach to investing in roads maintenance.

With a cut in OCC's roads budget of 50 per cent since 2011, coupled with rising levels of residents' dissatisfaction, Cllr Constance set out how the forecasted increase in Council Tax that will be generated as result of the planned development of 100,000 new homes has been brought forward to be spent on roads – to improve conditions and save money in the long-term.

Cllr Constance and Paul Fermer explained that the council had decided that a managed

 **...plan seeks to unlock funding to allow serious money for serious work."**

Cllr Yvonne Constance
Cabinet Member for the Environment,
Oxfordshire County Council

decline approach to road maintenance – imposed by budget constraints – was at odds with Oxfordshire's ambitious growth plans and its aim to improve transport links within the county.

Supported by its officer team, OCC's cabinet agreed to invest in its infrastructure over the next four years to 2022 by borrowing £120 million: £80 million for highways and £40 million for property (including schools). The internal borrowing from OCC reserves is predicated on the 'growth dividend' derived from the increasing numbers of residents paying Council Tax, estimated to bring in £5.2 million per annum in the same period. The future draw-down of



**Councillor
Yvonne
Constance**

funds will be reviewed annually and will be dependent on the increase in Council Tax to service the borrowing.

The council has allocated £10 million each year from its growth dividend to allow contractor Skanska to implement a planned preventative approach to local road maintenance. "We recognised that we would not be able to attract businesses, especially SMEs, without properly maintained roads," said Cllr Constance.

"This plan seeks to unlock funding to allow serious money for serious work. It gives us a logical and sustainable way out of the current situation – the benefits of which we hope people will begin to see on our roads sooner rather than later."

The case for TotEx

John Lamb, President of the Local Government Technical Advisers Group (LGTAG), spoke at the **March 2019** session, setting out the benefits of switching to a total expenditure, or TotEx, approach.

He explained to the group that permitting local authorities to allocate road maintenance funding where it is most

needed would lead to improvements in the local road network and ensure all funds are spent efficiently.

Current accounting procedure means that highway maintenance budgets are split into 'revenue expenditure', which is mostly funded by local authority sources, and 'capital spending', which is mostly supported by central Government, primarily through the DfT.

John advocated that combining these funding streams and allocating them in a planned way via TotEx would be more cost-effective and iron out the existing peaks and troughs in highway maintenance activity.

Describing TotEx as the step needed to ensure a 'right first time' approach to repairs, John advocated that it would allow local authorities' highway maintenance teams to manage their networks on a long-term basis as opposed to a series of short-term fixes.

To underscore the point John contrasted two cities: "There is one where the backlog in maintenance continues to rise due to a 'rule' that forces expenditure of less than a £1,000 to be automatically deemed revenue, thereby preventing low-cost permanent solutions using available DfT capital funding," said John.

"The other city has taken a holistic approach to budgets which has led to an overall improvement in conditions allowing a switch to a cost-effective preventative maintenance programme."

He also contrasted local roads to railways, where, when something fails, it is fixed, without the need for such stringent capital and revenue splits.

Concluding, John said: "Throwing more money into failing systems is a waste. TotEx is the start of a new approach, but it must also be coupled with a longer-term settlement. A move to TotEx cannot simply be about charging staff time to capital to free up council revenue pressures elsewhere."

Full minutes from each meeting are available on the APPG on Highways' website: www.highwaysmaintenance.org

ENHANCED SURFACE COURSE

SPEED AND EFFICIENCY AT SEFTON

A DURABLE, high-performance asphalt has been used by Sefton Council to complete resurfacing works near the Port of Liverpool.

High volumes of heavy goods vehicles (HGVs) on the route had caused substantial deterioration of the existing carriageway's hot-rolled asphalt surface.

As a result, the council proposed renovating the area around the Seaforth end of the docks and the carriageway from the port exit to the roundabout under the A565 flyover. This included identifying two running lanes into the port entrance for resurfacing and adding a newly constructed third lane to accommodate traffic to Crosby.

Working for contractor Dowhigh, Aggregate Industries supplied more than 1,000 tonnes of its **SuperCurve** 10mm polymer modified asphalt, which is designed to provide an enhanced surface course for higher stressed areas. The project team faced tight

time scales set by Sefton Council, Highways England and the Port of Liverpool to ensure the main road was operational as quickly as possible and overnight road closures and traffic diversions were agreed.

The surfacing team from Dowhigh laid the material using two pavers working in echelon to minimise the longitudinal and cross joints where HGVs would travel into the port. In addition, the carbon footprint of the project was significantly reduced due to the proximity of Aggregate Industries' asphalt plant in Bootle – only a seven-mile round trip – with excavated materials also transported to Dowhigh's recycling depot for reuse, a four-mile round trip.

Peter Allard, Director at Dowhigh, said: "We were keen to use a material offering enhanced strength and longevity, and SuperCurve didn't disappoint. I'd like to thank Aggregate Industries for delivering a first-class service throughout, including fast and efficient surfacing as well as taking care of recycling the materials used in the project."



ROAD REMODELLING FOLLOWING TOLL BOOTH REMOVAL

DRIVERS CAN now cross from England into Wales free of charge following the removal of tolls on the M4 Prince of Wales Bridge and M48 Severn Bridge in a move by the UK Government aimed at boosting the Welsh economy.

The booth removal contract for Highways England is entering its final stages. During March, Hanson laid more than 10,000 tonnes of base, binder and surface course asphalt to complete the remodelling of the westbound side of the M4 Prince of Wales Bridge. As well as resurfacing the toll booth area, the work included 950 metres of carriageway and a new emergency access road.

The team has now started a similar job

on the M48 Severn Bridge; resurfacing the toll booth plaza as well as 1.5 kilometres of carriageway on both sides of the bridge.

Hannah Milliner, Severn Bridges General Manager at Highways England said: "Hanson has played an important part in making toll removal a success. We are currently reaching the final stages of the scheme and drivers will soon be able to benefit from free-flowing motorways." The project has been shortlisted as a finalist in both the Project of Year – Civil Engineering and Integration and Collaborative Working categories of the 2019 Constructing Excellence South West Built Environment Awards.



Resurfacing work on the M4 Prince of Wales Bridge



ULTRA-LOW NOISE ASPHALT

CAMBRIDGESHIRE SCHEME DESIGNED TO CURB NOISE

SECTION 1 of Highways England's A14 Cambridge to Huntingdon improvement scheme will see 13 miles of the road upgraded to three lanes in each direction and is expected to cut journey times by up to 20 minutes.

The works at Brampton Hut motorway services specified minimum sound level reduction requirements of -7.5db(A) compared to traditional Hot Rolled Asphalt (HRA), designed to curb noise pollution generated by the new road across built-up areas.

To meet these noise restrictions, Aggregate Industries' 10mm SuperThin HAPAS-approved ultra-low noise asphalt is being

used which, at -7.8db(A), greatly exceeds the typical sound reduction requirement of -3.5db(A).

The company is expected to lay approximately 30,000 tonnes of SuperThin across the A14 contract, which is due to be completed at the end of 2020.

Paddy Murphy, Director of Contracting at Aggregate Industries, said: "One of our key aims is to help reduce the impact of operations on the local community and the network and we're doing this by ensuring our asphalt solutions help reduce excessive noise pollution to those living in the built-up areas of the scheme."

NEW BITUMEN PRODUCT IMPROVES AIR QUALITY

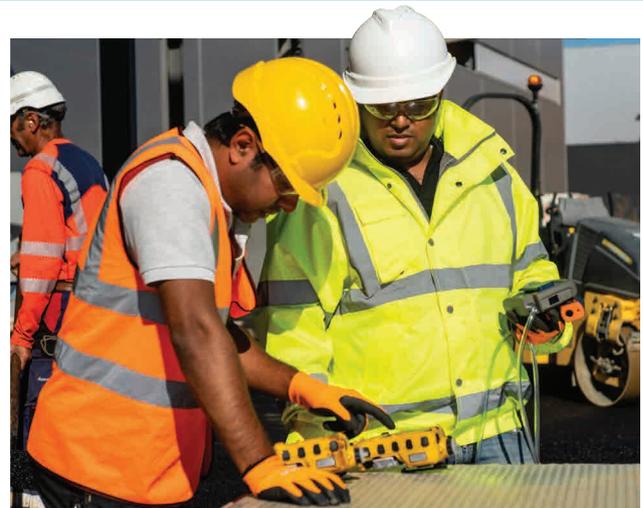
A NEW bitumen product has been launched that can help reduce the impact of asphalt production and paving on local air quality.

Shell Bitumen **FreshAir** has been shown to help reduce emissions from production and paving by an average of 40 per cent.

The bitumen acts directly with chemical compounds affecting air quality, as well as odour-releasing molecules, helping to cut specific gases and particulates or minimise their release into the air during production and paving. The launch follows extensive testing and external monitoring through trials in the UK, France, the Netherlands and Thailand.

"Road infrastructure is essential to modern living but urbanisation and denser transport and industrial activity have resulted in worsening levels of local air quality," said Jason Wong, Vice President of Shell Global Bitumen and Sulphur.

"The need for cleaner construction and transport infrastructure requires every industry to do its part in



Testing Shell Bitumen FreshAir in Thailand

developing cleaner ways of working." Every kilometre of asphalt laid each year using Shell Bitumen FreshAir is estimated to have a similar beneficial impact on particulate matter (PM10) as planting an average of 16 trees and on the reduction of nitrogen dioxide (NO₂) as removing 40 cars from the roads.

WARM MIX ASPHALT

ENGINEERING BENEFITS AND ENERGY REDUCTION ON A66

WARM MIX asphalt has been laid on the A66 Eden Valley Scheme between Penrith and Kirkby Stephen in North Cumbria in order to meet the tight timescales and exacting requirements of the project.

The A66 is a strategic link between the North West and the North East and, as such, Highways England required the works to be completed with as little disruption as possible while providing a newly constructed carriageway to modern standards of ride quality with minimal vibration and noise for residents along the route.

Warm mix produces environmental gains from energy reduction but also offers engineering benefits including improved

Conventional bond coats can be picked up on the wheels of construction traffic on site, leaving a bare surface.."

Rick Ashton

Marketing Development Manager, Total

workability and compaction and the speed with which the newly surfaced road can be opened to traffic.

Tarmac completed the work under full road closures over four weekends, laying around 10,000 tonnes of asphalt using a Total Styrelf® eXtreme 100 polymer modified bitumen (PMB) for durability and the bitumen supplier's ECO² technology to produce the asphalt for the binder and surface courses at a reduced temperature.

"Pre-blended warm mix PMB removes the need for additives in the mixing process at

the asphalt plant while enabling a reduction in energy consumption and emissions, helping support the industry's sustainability commitments," said Rick Ashton, Total's Market Development Manager.

"Another benefit derived from using Azalt ECO² on the scheme was a lack of steam generation during the paving operations. This improved visibility and is a real safety enhancement for the workforce, particularly in damp or humid conditions."

Bond coat benefits

In order to achieve optimum durability of the base, binder course and surface layers, they must be properly bonded together to stop water ingress and possible damage to the road.

"Conventional bond coats can be picked up on the wheels of construction traffic on site, leaving a bare surface to receive the new asphalt," explains Rick. "This can expose the carriageway to a future risk of damage if the surface layer can delaminate from the binder course. This potential issue was overcome on the A66 by using Total Emulsif NBC50 bond coat, which has non-stick properties until its adhesive bonding properties are activated by the warm or hot asphalt.

"Its success was evident by the lack of black contamination lines sometimes seen on surrounding roads as delivery vehicles leave the site."

Using warm mix asphalts on the A66 project allowed Tarmac to reduce carbon emissions by around 25 per cent compared with hot mix equivalents and allowed the team to maximise output to around 1,000 tonnes per shift and release the site back to road users sooner.

IN BRIEF

Hanson has received an extension to the scope of its BBA HAPAS* Thin Surface Course certification to include its ERA 140 warm-mix asphalt.

This means the company can now offer customers BBA HAPAS certificated thin surface course products to comply with SHW Clause 942 in a warm-mix option, which provides environmental, performance and safety benefits.

Adrian Hadley, Head of Technical (Asphalt and Aggregate) at Hanson, said: "ERA 140 incorporates a specialist bitumen or additives, which allows asphalt to be produced at reduced temperatures. This leads to a fall in CO₂ emissions and can result in enhanced durability and faster completion of resurfacing work.

"The extension to our scope is the result of an intensive period of in-house testing, which has subsequently been monitored and assessed by the BBA. It demonstrates that producing our thin surface brands, such as Tuffgrip and Durafalt, using ERA 140 technology has no negative impact on their performance or workability."

Hanson was approached by Highways England to carry out an extensive warm-mix asphalt trial on a five-kilometre section of the M4 in the south west, which was witnessed by the BBA as part of the process.

* British Board of Agrément Highway Authority Product Approval Scheme





A resurfacing scheme has helped to safeguard the future of a busy high street. Traders and residents in Heathfield, East Sussex, saw a new, durable road surface delivered ahead of schedule, with minimal disruption from road closures during the process.

MINIMUM DISRUPTION IN HIGH STREET SCHEME

HIGH STREETS remain at the centre of local life in towns and villages across the country. Providing and maintaining key routes to a high standard is vital to ensuring that residents can access amenities, shops can trade and these streets can continue to define local character.

These aims were at the heart of a recent £500,000 project delivered at Heathfield high street in East Sussex, where FM Conway holds a highways surfacing partnership with Costain/Jacobs and East Sussex County Council. As part of that wider programme, FM Conway was briefed to renew 3,600m² of road surface along the high street.

Minimising disruption for local shops and traders was crucial to the scheme's success. FM Conway's Senior Operational Manager, Richard Coughlin, comments: "The programme required periods of road closures so careful phasing was vital to reduce the impact on Heathfield's shops.

"The material mix we specified was also chosen to maximise durability – driving whole life cost efficiencies for East Sussex County Council and reducing public disruption by ensuring that repairs wouldn't be required again for many years."

The week-long scheme was staggered across three phases along the high street,

with Costain/Jacobs co-ordinating the project and liaising with local businesses. Each aspect of works, from initial carriageway reconstruction through to road markings, occurred continuously where possible to drive productivity. FM Conway marshals were on hand throughout to guide the public and keep them safe.

Resistance to reflective cracking

Once the carriageway reconstruction works overseen by Costain were complete, FM Conway planed the road surface to a depth of 65mm, transporting all arisings to one of its depots for recycling. It then laid a 6mm SMA Surf, followed by a CG100 geotextile membrane to ensure good adhesion with the surface course and to maximise the road's resistance to reflective cracking, where pressure on one road layer spreads to another.

After this, a 10mm Surepave Polymer Modified Bitumen (PMB) surface course was laid to a depth of 45mm. SurePol TS (Polymer Modified Binder) was added so that the road can flex and therefore last longer.

"The programme was continuously reviewed to drive efficiencies," said Richard. "For example, we re-allocated the stretch of works outside the Co-Operative store to one



...a blueprint for how we should manage similar schemes in future."

Mike Egleton, Service Director, East Sussex Highways

night shift to avoid any impact on daytime trading.

"The carriageway reconstruction stage of the final phase was also completed quicker than anticipated so, by revising our resurfacing programme, we were able to finish the overall scheme two days early."

Mike Egleton, Service Director for East Sussex Highways, said: "This was a high-profile scheme that required thorough planning, excellent communication and close co-operation by all project partners. A fantastic team effort ensured that we kept residents and businesses' needs in mind at all times, delivering the project ahead of schedule and safeguarding the high street's future. It is a blueprint for how we should manage similar schemes in future."



Throughout the scheme businesses remained open, minimising disruption

Asphalt Now is published by the AIA, a partnership between the Mineral Products Association and Eurobitume UK. The generic term 'asphalt' used in this magazine refers to the range of asphalts and coated macadam available in the UK. Views expressed in Asphalt Now are not necessarily those of the Mineral Products Association or Eurobitume UK.

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