

asphalt now



Reporting on the asphalt industry

Issue 35 | Autumn/Winter 2015

The background of the cover is a photograph of a road. On the left, a dark-colored car is blurred, suggesting it is moving quickly. The road is asphalt and curves to the right. In the distance, there are hills and a clear blue sky.

THE WAY AHEAD

Focusing on the future at
Sharing Best Practice event

INNOVATIVE MATERIALS

Helping create roads fit for the 21st century

CLOSING THE SKILLS GAP

More apprentices needed to help meet demand

FUNDING DISPARITY WILL STAY



Less than 12 months after we welcomed the government's funding pledges for road infrastructure,

we find ourselves crossing our fingers that this commitment remains unscathed as a result of the Autumn Statement and Spending Review, taking place as Asphalt Now went to press.

Whatever the outcome, it seems certain that the huge disparity of funding between the strategic road network and local roads will remain.

Two reports issued last month (page 3) have backed our calls for greater certainty of funding for local roads as this will give local authorities (and their supply chain) the confidence they need to plan for the future.

Taking a proactive approach to highways asset management was the key theme running through our Sharing Best Practice event, held at the National Motorcycle Museum in Birmingham (pages 6 and 7).

Among the speakers was Haydn Davies, HMEP Manager for the DfT, who talked about changes to the way local authority road funding is allocated, with the introduction of self-assessment. By 2018/19, over a quarter of funding available to local authority highways teams will be allocated under efficiency criteria.

The asphalt industry's challenge is to keep pace with the uplift in demand for its products and investment is continuing in new asphalt plants, skills and training.

This issue of Asphalt Now also includes a number of case studies highlighting innovation in the sector – from energy reducing sustainable materials to those with additional performance benefits – as well as news, diary dates and an update on the All Party Parliamentary Group.

As ever, if you have any comments or suggestions please get in touch at info@asphaltuk.org

Alan Mackenzie
Chairman, Asphalt Industry Alliance

EFFICIENCY IS KEY TO NEW SELF-ASSESSMENT

■ **The government** has introduced a new incentive-based element to local authority funding for highways maintenance.

The performance related strategy will take effect from April 2016 and, by the financial year 2018/9, will represent a quarter of funding available to local authority highways teams.

Setting out the case for the shift in approach, Roads Minister Andrew Jones said: "The funding system is crying out for reform. We have learnt that if you hand out money while ignoring why local roads are in a bad state, you create a system of perverse incentives and unintended consequences.

"A system in which even local authorities that have kept their roads in top condition have an incentive to let standards slip so as to win more money."

In order to secure the performance-based element of funding, local authorities in England (excluding London) and Wales have to respond to a 22-stage questionnaire

covering asset management, resilience, customer satisfaction, benchmarking and efficiency, and operational delivery.

The answers will determine which of three bands they are placed in, and therefore how much top-up funding they can expect to receive, with band 1 at the lower end, and band 3 at the highest end.

The approach is both back and forward looking and is consistent with HMEP principles. The aim is to promote continual improvement in efficiency, and demonstrating on-going progress will form a key part of the self-assessment process.

Looking ahead this means that councils still in band 1 in 2020/21 would receive no incentive funding at all.

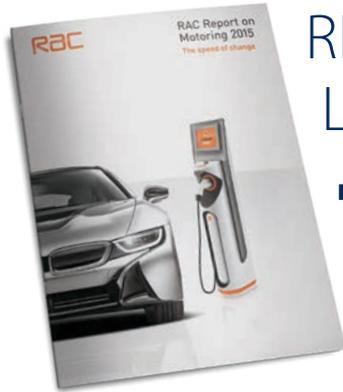
It is anticipated that the deadline for submissions for the self-assessment questionnaire will be mid-January 2016.



DIARY DATES

Some 2016 dates for your diary:

- | | |
|------------------|---|
| 10 Feb | Smarter Roads, East Midlands Region Symposium, Nottingham Trent University, Nottingham
www.ciht.org.uk/en/events |
| 11 Feb | 'Implementing the Road Investment Strategy: planning, oversight and priorities' – Westminster Energy, Environment & Transport Forum seminar, London
www.westminsterforumprojects.co.uk/forums |
| 24-25 Feb | 15th annual Asphalt, Pavement Engineering and Infrastructure conference, Liverpool John Moores University in association with RSTA, Liverpool
www.ljmu.ac.uk/about-us/faculties |
| 2 March | 'Managing Transport in an Uncertain World: The Future for People, Places and Infrastructure' – CIHT's third national conference, Park Plaza, Victoria, London
www.ciht.org.uk/en/events |
| 1-3 June | Eurasphalt and Eurobitume Congress, Prague: 'Investing in our greatest asset'
www.eurobitume.eu/events/ee-congress-2016-destination-prague |
| 8-9 June | 50th anniversary IAT National Conference, Luton Hoo, Bedfordshire
www.instituteofasphalt.org |
| 4-9 Sept | 43rd Annual Residential Course in Asphalt Materials and Pavements, Newcastle
www.ncl.ac.uk |



REPORTS CALL FOR LONG TERM CERTAINTY

■ **Two recent reports** have backed the Asphalt Industry Alliance's calls for greater certainty of funding for local roads.

In this year's RAC Report on Motoring 2015 (www.rac.co.uk), the poor condition of local roads is the issue of greatest concern, while a second publication by pteg (Passenger Transport Executive Group), reveals a growing gap between spending on road maintenance on national roads when compared with local roads.

Ten per cent of drivers in the RAC report listed the state of local roads as their number one concern. It says: "Over the past few years, the RAC and other industry bodies have repeatedly warned that not enough money is being spent on the maintenance and improvement of local roads. It comes as little surprise, then, that half of motorists (50%) say the condition of roads in their area has deteriorated over the course of the past year."

The pteg document 'A Bumpy Ride' (www.pteg.net) calls on government to create greater long term certainty and stability in relation to highways maintenance funding and support an accelerated maintenance programme. It also recommends giving local authorities greater flexibility over how available funding is spent.

In a separate report carried out with 100 highways authorities in England and Scotland, a 6.9 per cent improvement in the public's satisfaction with road condition has been reported.

However, the eighth annual National Highways & Transport (NHT) public satisfaction survey still shows that only 39.4 per cent are satisfied with the condition of their roads locally – reflecting the trend identified in the RAC's report.

Overall the NHT survey paints an improving picture (albeit from a low starting point) with 20 of the 26 key benchmark indicators used to assess performance showing improvement when results are compared across the 64 local authorities that took part in both 2014 and 2015. The results are available at www.nhtsurvey.org

ESSEX BITUMEN FACILITY WILL SUPPORT ROADS INVESTMENT

■ **Total UK Ltd** has signed a long-term agreement with Royal Vopak, the world's largest independent tank storage services provider, to construct new bitumen import and delivery facilities near London.

The bitumen will be supplied by sea to the new facility, which is planned to open in mid-2016, from Total's extensive network of bitumen plants. It will be built and operated by Vopak Terminal London, taking advantage of the existing land and jetty facilities at its major oil products terminal in Grays on the River Thames in Essex.

"The decision to develop a new supply

point comes at an important time when the UK government has announced plans for the biggest investment in road infrastructure since the 1970s," said Rick Ashton, Total Bitumen Market Development Manager.

"Several bitumen facilities have closed over the last few years as demand fell and imports will help to fill the gap as the market improves. This agreement demonstrates our commitment to continued investment and supply chain security and supporting the country's road infrastructure plans in the coming years."

PERMISSION FOR QUARRY EXPANSION

■ **A quarry** near Kincaig in the Scottish Highlands has been granted permission to triple its production for the next two years to supply materials for the A9 dual carriageway upgrade between Inverness and Perth.

The approval will see Breedon Aggregates install a mobile asphalt plant at its Meadowside quarry and raise extraction at the site from 50,000 to 150,000 tonnes per annum.

NEW CHAIR FOR MPA



■ **Simon Vivian**, Group Chief Executive Officer of Breedon Aggregates, has been appointed as chairman of the Mineral Products Association (MPA) for the next two years. He succeeds Bill Brett, of the Brett Group.

Nigel Jackson, MPA Chief Executive, said: "We are delighted to have Simon as our new Chairman. His wide industry knowledge and experience will be invaluable as we look to set the agenda for the industry for the next 10 years and respond to the challenges ahead."

HANSON CHIEF STEPS DOWN



■ **Hanson UK** Chief Executive Officer Patrick O'Shea is stepping down next month (December) after eight years at the head of the construction materials business. His successor will be Daniel Cooper, who is currently northern regional general manager for Hanson Australia.

ASPHALT PLANT FOR SOUTH EAST

■ **Tarmac** has opened a new asphalt plant at Harper Lane, near Radlett in Hertfordshire, to supply infrastructure projects across the South East, including improvements to the M25 and A27. It produces lower-temperature asphalts as well as material containing up to 55 per cent recycled content.

COSTS AND EMISSIONS CUT BY SWITCH TO LNG



■ **Aggregate Industries'** Colemans Quarry in Somerset has become the first asphalt plant in the UK to switch to liquefied natural gas (LNG), cutting costs and carbon emissions.

The plant uses large quantities of gas to heat and dry aggregates for the production of 250,000 tonnes of asphalt each year. And, as it can operate 24 hours a day, 7 days a week, maintaining a reliable fuel supply is vital to meet production targets and customer demand.

"We made the switch to LNG because

it is a cleaner source of energy," said plant manager Simon Evans. "The site is not connected to the mains gas grid and we were previously using kerosene but LNG is more cost-effective. It also produces a lot less CO₂, which is very important for us as a company."

The move has substantially cut fuel bills at the site as well as reducing the amount of CO₂ emitted per tonne of asphalt produced by 17 per cent, cutting Aggregate Industries' annual emissions by 1,800 tonnes.

TWENTY-FIRST ALARM SURVEY IS AN ONLINE QUESTIONNAIRE

■ **The 2016** Annual Local Authority Road Maintenance (ALARM) survey is being produced as an online questionnaire to make it quicker and easier for highways engineers to complete.

It will be the 21st time the survey has been conducted and it is widely recognised as an accurate and insightful analysis of road maintenance and funding issues.

Alan Mackenzie, Chairman of the Asphalt Industry Alliance, said: "We understand the time pressures local authority engineers are under so we wanted to make the survey as quick as possible to complete.

"The online system will allow contributors to create a unique log-in which means they can more easily forward it and ask colleagues in other departments to fill in specific sections or save it as a work in progress.

"It is important that as many authorities as possible take part so we can build up a reliable and comprehensive picture of the condition of our local roads."

The link to the 2016 ALARM survey will be distributed in the New Year. Hard copies, including a Welsh language version, will be available on request.

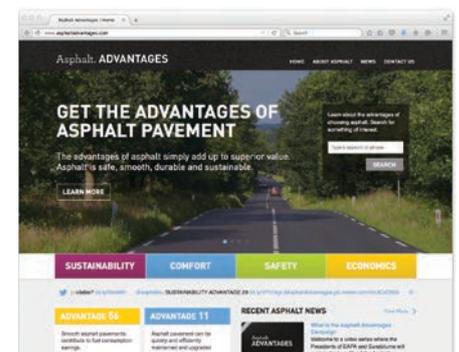
DORSET SCHEME FIRST TO USE BIM

■ **A £22 million** road scheme in Dorset is the first local authority project of its type to be managed through level two Building Information Modelling (BIM).

The nine-month programme to rebuild a 5.2 mile stretch of the A338 Bournemouth spur road is being carried out by Hanson Contracting through its 12-year collaboration with Dorset County Council.

The work will include recycling about 90,000 tonnes of road material back into the operation and is due to be completed by May 2016.

WEBSITE SETS OUT BENEFITS



■ **If you are** looking for comprehensive information about asphalt, its uses and benefits, log on to www.asphaltadvantages.com

Asphalt Advantages is an online platform, jointly developed by Eurobitume and the European Asphalt Pavement Association (EAPA), and provides useful information and evidence of the benefits of asphalt in road maintenance and construction.

The website includes communication tools to encourage dialogue and share opinion and the information is clearly presented within four main sections: comfort, economics, safety and sustainability.

MOBILE PLANT FOR NORTH EAST

■ **In a first** for Highways England, Colas has installed a fixed-base mobile asphalt plant specifically for use in Area 14. It is being used to produce up to 300 tonnes of material per hour for resurfacing and construction work in Northumberland, Tyne & Wear, Durham and North Yorkshire.



ROADS INVESTMENT IS FOCUS OF EUROPEAN CONGRESS

■ **Plans for the sixth** Eurasphalt and Eurobitume Congress (E&E) are taking shape, with registration opening next month (December).

The event, which is being held in Prague from 1-3 June 2016, is organised jointly by the European bitumen industry association, Eurobitume, and the European Asphalt Pavement Association (EAPA).

The organising committee has set out to meet the expectations of previous participants while also reaching out to a wider audience. As a result, the event will remain primarily focused on asphalt and bitumen technology, but will include parallel sessions on less technical subjects.

The theme is 'Investing in our Greatest Asset – Roads' and the 2016 event hopes to attract a higher level of involvement from people with an interest in best practice in road maintenance solutions offered by the asphalt and bitumen industry, including highway authorities and major contractors.

Egbert Beuving, EAPA secretary general, explains the reason for choosing the 2016 theme: "Our road networks are the greatest assets we have, the most important part of public infrastructure.

"We have to invest in all aspects of the industry, in new technologies and development and exchange of expertise, as well as in the upkeep and improvement of the asset itself."

New subjects to be covered in depth at E&E 2016 include asset management, funding issues and solutions; highlighting how governments, local authorities and road agencies can use available money most effectively when planning road maintenance.

"A lack of proper funding is the principal problem facing road maintenance industries across Europe and beyond," says Aimé Xhonneux, director general of Eurobitume.

"In order to tackle this problem, we have to make key decision makers aware that if roads are not repaired now, it will cost a lot more to fix them later. We aim to speak to all the stakeholders involved in road maintenance to get our key messages across and work with them towards the common goal of securing the future condition of our greatest assets – our roads."

The full programme for E&E 2016 will be published in spring 2016. For more information visit: www.eecongress2016.org



RESOURCES FROM HMEP



■ **The Highways** Maintenance Efficiency Programme (HMEP) has developed an enhanced suite of resources to help the highways sector procure services to maintain local roads more efficiently.

Clients and providers have worked together to develop the updated procurement documents, which can be downloaded at www.highwayefficiency.org.uk

They have been designed to reduce the amount of time, resource and cost, while benchmarking current contract performance to inform future delivery.

In addition to the Standard Form of Contract, the updated suite includes a price list of around 2,000 frequently used items procured by local highway authorities and a standard Method of Measurement that provides new definitions, units and rules where none previously existed.

RECORD TURNOUT FOR COURSE

■ **The Annual** Asphalt Materials and Pavements course, run by the Mineral Products Association (MPA) and Newcastle University, has been held for the 42nd consecutive year.

The six-day course attracted another recent-years' record turn-out of 101, with delegates coming mainly from the UK, including a significant portion from MPA members, but also from Highways England, other regional clients and developers, as well as from overseas, including Malaysia and Kuwait.

Feedback at the end of the week was very positive and a detailed assessment of delegate feedback forms will enable planning for the 2016 course, which will be held from September 4-9. Details can be found at: www.ncl.ac.uk/cegs.cpd/cpd/asphalt.php

KNOWLEDGE AND BEST PRACTICE SHARED AT ANNUAL AIA EVENT

DELEGATES FROM almost 40 local authorities across England and Wales attended the AIA's 2015 Sharing Best Practice event, which was held at the National Motorcycle Museum, Birmingham, earlier this month (November 3).

Chaired by Peter Plisner, Transport Correspondent for BBC Midlands Today, it was the fifth time the AIA has organised the interactive day.

"Our Sharing Best Practice event has become an important platform for local authority highways engineers to share knowledge and experience," said AIA Chairman Alan Mackenzie, right.



Collaboration

"The aims of the day are to provide a line-up of thought-provoking speakers and topics to stimulate discussion and encourage collaboration."

The theme for the event was Focus on the Future and, in response to feedback received from previous events, the agenda included an increased number of local authority case studies, with representatives from Northamptonshire, Herefordshire, South

Gloucestershire, Croydon and Transport for Greater Manchester sharing their experiences.

Industry experts also talked about how Building Information Modelling (BIM) can enhance data collection and whether innovative and sustainable products can help reduce the number of potholes.

Delegates also heard from The Institute of Highways Engineers on the skills challenges

facing the sector and, with local authority self-assessment just around the corner, Haydn Davies from the Department for Transport also provided a review of Highways Maintenance Efficient Programme (HMEP).

Feedback

"Over 75 per cent of those who attended took the time to fill in the feedback form, which is fantastic as it gives us the information we need to continue to develop the event and meet the needs and expectations of the delegates," added Alan. "What is also very pleasing is that 100 per cent of the responses said they would attend a similar event in the future and that they would recommend it to a colleague."

The presentations from the event are available to view at www.asphaltuk.org If you would like to be added to the invitation list for future events, please call 020 7222 0136 or email info@asphaltuk.org.

The event provides delegates with the opportunity to network and informally share best practice.



The first session's speakers (from left): AIA Chairman Alan Mackenzie, Haydn Davies, HMEP Manager and Rural Policy Lead at the Department for Transport, Jon Munslow, Asset and Infrastructure manager at South Gloucestershire Council, Debbie Taylor-Bond, Northamptonshire County Council's Strategic Manager Transport and Highways, and BBC Midlands Today Transport Correspondent Peter Plisner, who chaired the event.



Delegates at the AIA's fifth Sharing Best Practice event, held at the National Motorcycle Museum in Birmingham, are introduced to the final session of the day by Conference Chairman Peter Plisner.

WHAT THE DELEGATES SAID

A day of excellent, well-balanced presentations combined with good knowledge sharing and networking.

Good venue. Well organised. Good topic range.

I enjoyed meeting colleagues within the industry and talking to them about their diverse roles.

It is a very useful event if you are involved in forward planning in a local authority and/or contracting role.

SPEAKER LINE-UP PROVIDES FOOD FOR THOUGHT

The first speaker at Sharing Best Practice was **Debbie Taylor-Bond**, Strategic Manager Transport and Highways at Northamptonshire County Council.

Managing a commissioning team of 25, as well as the £50 million annual KierWSP contract and a 25-year streetlighting PFI contract with Balfour Beatty, Debbie has been responsible for implementing a preventative asset management strategy.

Her presentation highlighted how her team introduced a "right first time" approach to maintenance and revised repair timescales and works programmes across the whole county.

As a result, efficiency savings of over £457,000 were made in the first two years and longer term savings of £2.5 million are anticipated from the preventative approach. Permanent and semi-permanent repairs now make up nearly 90 per cent of all repairs carried out – the figure was 10 per cent previously – and there has been a 23 per cent reduction in public-reported potholes and a 48 per cent reduction in claims against the council for incidents caused by poor road surfaces.

"The condition of the unclassified road network – the roads where people live – was one of the main reasons for implementing this approach," said Debbie.

"When we started 32 per cent required some form of maintenance intervention. We've recently had our survey results back and this has been reduced down to 22 per cent in just three years.

"But we haven't stopped there; we're constantly reviewing what we need to do and changing our strategy depending on the amount of budget available and the condition of the network."



Bob Collis, Director of Strategic and Local Roads at Transport Research Laboratory (TRL), posed the question "Can innovative and sustainable products make the hole smaller or will it get bigger anyway?" in his presentation about potholes.

He looked at what causes potholes to form and why many repairs fail as well as the types of materials that are being used. Bob drew on the findings of a recent study for the Scottish Road Research Board, which reviewed the effort in recent years by 10 Scottish authorities to reduce pothole repair costs.



Simon Jones of Metis Consultants and **Roland Gordon** (pictured), Network Maintenance Manager at Croydon Council, talked about the benefits of a collaborative approach to asset management through their involvement with the South London Highway Asset Management Consortium.

The group was established in 2005 to advance the highway asset management knowledge and capabilities of the eight South London boroughs involved, with support from Metis. Examples include joint development of documents and tools, benchmarking, sharing best practice, shared services and joint procurement.



 The Government's £6 billion fund to help improve local roads between 2015 and 2021 is encouraging local authorities to plan ahead and providing the supply chain with more confidence to invest.

Fundamental to this funding pledge was the desire to help local councils move away from short term fixes in order to create a durable transport network fit for the 21st century. One way this can be achieved is through the specification of innovative road surfacing materials.

DURABLE ASPHALT EXTENDS LIFE

A durable, mastic asphalt has been used to complete a £1.2 million bridge deck refurbishment programme in Southampton.

THE 148-METRE LONG Northam River Bridge is a busy transport route into and out of Southampton. Its deck was in urgent need of refurbishment and, due to problems with the different types of surfacing previously used and the volume of traffic, consultant engineers Capita, on behalf of Southampton City Council, specified the use of Gussasphalt and Stirling Lloyd's Eliminator waterproof membrane.

This combination has been proved to offer long life and enhanced performance before any

first maintenance is required. The products are also quick and easy to apply, minimising traffic congestion and avoiding the need for road closures and diversions.

The work involved planing off the existing asphalt and repairing the badly damaged deck before two coats of Eliminator were spray-applied. A Flintag aggregate was included in the second coat while the membrane was still wet to provide an enhanced shear key interface between the waterproofing and the 55mm-thick surfacing material.

High performance

Once the Eliminator had cured, which took less than an hour, a hot melt adhesive was applied to enhance the bond between the membrane and the Gussasphalt surfacing. The strong bond that this coating helps achieve enables the surfacing to act as a composite with the waterproofing and deck, significantly reducing stress within the structure.

Gussasphalt, which for this project was

produced in the UK by Hanson on behalf of Aeschlimann AG, is a dense, machine-laid mastic asphalt that is self-levelling and self-compacting. It is made up of a high performance polymer-modified bitumen mixed with gritstone coarse and fine aggregate to provide the stiffness and durability needed for a bridge running surface. High PSV, lightly coated chippings are embedded in the hot surface by rollers to provide surface texture.

The Gussasphalt was produced at Hanson's asphalt plant in Brayford, North Devon, and loaded into Aeschlimann AG mixers for the 130 mile trip to Southampton. To meet the tight programme deadline, the plant was made available for extended hours to enable the mixers to make two trips to site on each of the two production days.

The project was completed with the application of 750m² of Eliminator overcoated with the Safetrack SC coloured surfacing system, in asphalt grey, to also provide slip resistant surfacing for the bridge's walkways.



Work underway on Northam River Bridge, Southampton

ODOUR-BEATING WIN

SHELL BITUMEN has won the research category of the 2015 Global Road Achievement Award, run by the International Road Federation (IRF).

Its Shell Bitufresh product, an additive designed to reduce the odour of bitumen, was awarded top honours by an independent, international panel of judges with expertise across major road and highways disciplines.

Rather than mask the smell of bitumen, Shell Bitufresh neutralises the substances that cause odour to be released from the bitumen. This reduces the odour at asphalt plants and during the laying process, improving working conditions and reducing perceived odour nuisance for neighbouring local residents.



The combination of Gussasphalt and Eliminator waterproof membrane offers enhanced performance

SURFACE AIDS EFFECTIVE BRAKING

A road surface designed to help vehicles come to a stop safely is being used in Aberdeen for the first time at a pedestrian crossing.

ROAD SURFACES at approaches to pedestrian crossings, traffic lights and some junctions are common locations where vehicles have to brake quickly or unexpectedly. As such, they benefit greatly from road surfacing solutions that help vehicles come to a stop more effectively, reducing collision risks and improving road user safety. So, when Leiths (Scotland) Ltd was contracted by Aberdeen City Council to resurface an approach to a busy pedestrian crossing it used its new Rigagrip product.

Rigagrip is a specialist material that enhances surface friction, providing an alternative to High Friction Surfacing (HFS). It has been designed to meet the requirements of the Transport Scotland 2010 (TS2010) road surfacing specification. The aggregate used in the mix is Torrodonian sandstone, which has a good polished stone value as well as a low abrasion value, and it incorporates a specialist binder from Nynas.

In Aberdeen, the Rigagrip used to resurface the King's Street pedestrian crossing included the company's warm-mix Nytherm PMB



Rigagrip increases surface friction to improve safety at pedestrian crossings

103 which extends workability, allowing better compaction and placement at lower temperatures than conventional materials and so reducing time on site. Being a warm-mix product, Nytherm also reduced the CO₂ emissions associated with the contract.

"The crossing is on an arterial route through the city so the best time to carry out the work was at night," said Neil Anderson, Technical Director at Leiths'.

"Using Nytherm helped us complete the project with minimum traffic disruption and the increased compaction efficiency allowed us to finish the resurfacing in just two nights."

In addition to these benefits, tests carried out in Aberdeen have shown that Rigagrip performs well against HFS, with average grip numbers in excess of 0.71 recorded. It also offers improved durability, rut-resistance, lower noise levels and reduced life-time costs.

LOW MAINTENANCE SOLUTION FOR BUSY ROADS

A NEW SURFACE course solution developed by Aggregate Industries has been used by Derbyshire County Council to stand the test of busy city roads, with little maintenance.

A number of traffic hotspots where the road surface had failed were identified as part of the council's rolling scheme of civil engineering improvements.

The failures, which included plucking, fretting and potholes, occurred predominantly at high traffic roundabouts and junctions used by an increased number of heavy goods vehicles. These applied greater stress to the road than might otherwise be expected, causing premature damage and wear.

Chris Hudson, Director of Asphalt for Aggregate Industries, explains: "Derbyshire County Council was keen to ensure the safety of its road users and initiated a competitive tender process to find a cost effective solution to withstand the high traffic volumes and stresses at these particular sites. The product chosen was SuperCurve, a high performance 10mm polymer modified asphalt designed to provide a hardwearing solution for new networks and road renewal programmes."

SuperCurve incorporates a high grade PMB bitumen, which is more capable of withstanding the torsional forces seen on high-stress areas and heavily trafficked UK roads, while the mixture design has the added benefit of reducing the risk of skidding on wet roads.



SuperCurve offers a hardwearing surface for heavily trafficked roads

CLOSING THE SKILLS GAP...



A government-backed report suggests at least 100,000 new construction workers will be needed over the next five years to deliver the planned major infrastructure improvements. The National Infrastructure Plan for Skills, published by Infrastructure UK, sets out concerns in major sectors, including roads. Apprentices will be key to helping fill this skills gap and the construction industry has welcomed the government's pledge to create three million apprenticeships by 2020. But, says **David Butterfield**, Head of Learning and Development at Aggregate Industries, making the most of this new opportunity won't be easy.

THE NEW Government's commitment to delivering three million apprenticeships by 2020 has been hailed a positive step towards establishing the UK as the fastest growing economy in the G7. It is an increase on the 2.2 million apprenticeships secured throughout the previous parliament and is supported by a change in British law to strengthen the reputation of an apprenticeship qualification.

To deliver this ambitious pledge, the government will set targets for all public sector bodies and introduce a nationwide 'apprenticeship levy', which will set out a legal requirement for all large companies to play their part by investing in training.

Construction sector

So what does this mean for the construction sector? As the sector accounts for seven per cent of the UK's GDP, it should be responsible pro rata for 210,000 of the three million new apprenticeships. But, in order to meet that target, the construction industry would need to enrol 42,000 new learners per annum – a huge leap from the 16,000 we welcomed last year.



Opening of the new Technical Centre of Engineering Excellence at Stephenson College, Coalville, Leicestershire, by Aggregate Industries and Siemens

But we are making good progress. There was a sharp fall in the uptake of apprenticeships throughout 2009 and 2010 but since then the number has been increasing. This has been helped by the commitment of organisations like ours, which have well-established teams of staff dedicated to the enrolment, progression and recruitment of apprenticeships, as well as the continued support of colleges and universities. With funding available for three million

apprenticeships, it is up to us as manufacturers, suppliers and contractors to create demand for a bigger slice of that funding pie. We need to dedicate time and resources to developing strong college links, solid in-house training and development procedures and enticing marketing materials to attract young learners to all levels of our supply chain to narrow – and eventually close – the skills gap in line with the retirement of our ageing workforce.

Aggregate Industries is working towards five per cent of its workforce consisting of apprentices, sponsored students and/or graduates on formalised training schemes within five years. It has 49 young apprenticeships, as well as 11 employees participating in a graduate training scheme, and 31 studying for a variety of higher education qualifications.

Sam Hancock, 19, joined the company in 2014 on a Higher Apprenticeship, which combines practical work experience with higher education.

He talks to Asphalt Now about his experience of the apprenticeship route:

Why did you choose an

apprenticeship? It is a great way to earn a living while learning at the same time. I was unsure about what I wanted to do when I left school so university was not an option at the time and I didn't want to get into debt. This way I am earning a wage while studying part time at university.

What made you choose this apprenticeship? The nature of work involved, which is manual as well as office based. The wage is good for an apprentice, above the national average, and it also gives me the chance to gain a degree.

How did you find out about the apprenticeship? On the www.apprenticeships.org.uk where most big companies advertise. From there you apply for the job

you are looking for. I went through an apprentice recruiter and, after a telephone interview and formal interview with them I then had an interview with Aggregate Industries and they offered me the job the next day.

What roles have you been doing since you started your apprenticeship? I started in the main offices at Bardon Hill, in Leicestershire, working within the contracting team; mainly with the estimators. I was then on site reviewing and sorting technical data before moving to the laboratories at Bardon Hill quarry, testing and grading different sized aggregates. Now I am working within a team laying asphalt.

Is there any mentoring or

coaching involved? I have regular progress meetings with my line manager and HR about how I am getting on and whether I am enjoying it. We also plan and discuss what jobs I would like to do.

What have you enjoyed most about it? Doing different jobs at different sites and I have learned a lot about the whole business.

Tell us about the course you are on? Three years are mandatory for the completion of a Certificate of Higher Education and then another two are optional to gain a full honours degree in Mineral Products Technology. I am studying at Derby University and am also completing a Level 4 NVQ Diploma in Health, Safety and Environmental Management.

A coloured bus lane in Birmingham, completed more than a decade ago, is a good example of how asphalt innovation can help reduce maintenance costs.

Thomas Moons, general manager of Shell Bitumen Europe and South Africa elaborates:

ELEVEN YEARS ago Shell and Tarmac completed a 6km coloured bus lane in Birmingham's city centre. The three metre-wide lane used Tarmac's Ulticolour coloured asphalt, incorporating our Mexphalte C synthetic clear bitumen.

Funding for the project, which uses an in-laid coloured asphalt surface course rather than a coloured surface treatment, was secured from the Department for Transport and formed part of Birmingham City Council's Bus Showcase Scheme.

The distinctive surface along the bus lane was chosen to provide a clear signal to motorists to stay out, making enforcement easier, and allowing buses to travel more easily along their designated routes.

Around 2,500 tonnes of 14mm green Ulticolour were supplied and installed by Tarmac's contracting team to provide effective demarcation of the bus lanes and a durable surface and it is still delivering



excellent performance.

Local authority customers are increasingly considering long-term durability when making decisions on their choice of resurfacing, and Birmingham City Council is no exception.

We estimate that using Ulticolour for this bus lane has helped save the authority three or four resurfacing maintenance interventions to date, compared with surface dressing or painted solutions.

ALL PARTY PARLIAMENTARY GROUP

APPG RE-FORMS WITH INDUSTRY SUPPORT

THE ALL PARTY Parliamentary Group (APPG) on Highway Maintenance has re-formed following the general election with collaborative support from the Asphalt Industry Alliance (AIA) and the Institute of Highway Engineers (IHE).

In the last Parliament the APPG was highly effective in raising awareness in both Houses of the poor condition of our roads and the need for local authorities to use asset management to facilitate a preventative rather than reactive approach to maintenance.

Under the chairmanship of Christopher Chope MP OBE, the APPG will continue to promote understanding and awareness among politicians of the economic importance of the highway network as well as the safety, social and environmental benefits that properly maintained local roads provide.

At the first meeting of the APPG in this session, an IHE delegation outlined the skills challenges facing the sector. Nigel Wilson of AECOM, an associate member of the IHE, spoke on its behalf: "The recently published National Infrastructure Plan for Skills highlights the challenges facing the construction industry and, in particular, the roads sector," he said.

"Projected expenditure on roads over the next five years will require a workforce of 62,000 – an increase of 15,000 on current levels – and



The IHE delegation outside the Houses of Parliament (from left): Nigel Wilson with IHE Chief Executive Richard Hayes and President John Nightingale

this is before the impact of an ageing workforce is factored in." The provision of a consistent approach to training and qualifications could encourage graduates, apprentices and technicians to opt for careers in the sector and, at the APPG, the IHE team set out thoughts on how this could be addressed via the establishment of a national academy.

Commenting on the concept Mr Chope said: "An enhanced training structure could potentially be of benefit to those already in the industry as well as those coming into it and could offer enhanced flexibility across existing routes of qualification. The APPG looks forward to hearing more about plans for the academy as they develop."

Over the past 10 years, a large number of organisations have started to realise the benefits of carbon efficiency in road construction. Increasingly, they understand that there are tangible environmental and practical benefits in improving the efficiency of road material manufacture and increasing the use of lower temperature asphalts.

At the start of 2014, Tarmac released the results of a three-year study it had undertaken with the Carbon Trust which aimed to address these two main opportunities. BRIAN KENT, National Technical Director at Tarmac, discusses the key benefits emanating from development of this innovative material.



TURNING UP THE HEAT ON LOW TEMPERATURE ASPHALT

THE GOVERNMENT'S 2025 Construction Strategy holds carbon reduction at its heart and as such, cutting carbon during the construction and lifecycle of infrastructure is a key focus for all businesses that operate in the UK construction sector.

Earlier this year, the Government announced that it would be investing £15 billion in Britain's strategic roads, resulting in 1,300 new miles of lanes added to motorways and A-roads over the next five years.

Delivering this programme will involve more collaborative ways of working to assess how project outcomes can be achieved in smarter, more cost effective, innovative and sustainable ways. Materials innovation is a key part of this discussion and solutions like lower temperature asphalt play an intrinsic role in the success of the roads programme. Over the past four years we have worked with local authorities and network operators across the UK to deliver projects using low temperature materials.

Environmental awareness

Many of the studies around low temperature asphalts have focused solely on their environmental benefits. As you might expect, there are considerable carbon savings to be gained from using lower temperature materials. Primarily, this is due to its potential to reduce embodied carbon compared to conventional hot mixes. It has been proven that by using some lower temperature asphalts, the carbon footprint can be reduced by up to 25 per cent.

The principle behind the technology is that lower temperatures are used to manufacture these materials and therefore less energy is required. Actual energy savings for reduced temperature materials will depend on the manufacturing process used at the specific production plant and the level of demand, i.e. greater demand will allow longer production runs which increase efficiency.

Practical benefits

During development and supply it was clear that there were also safety and working environment

benefits for the surfacing workforce. With hot mix materials it is not unusual for excessive steam to be generated during laying operations, particularly during cold or wet weather, this steam can significantly impair visibility. By creating less steam, lower temperature asphalt helps to create a safer site when weather conditions are less than favourable – which can be often in the UK! This benefit is also very relevant during dark night shifts.

In addition, due to the fact that warm mix asphalt is typically supplied at 40°C lower than the hot equivalent, there is a considerable reduction in the heat emanating from the surface during laying operations. This is particularly popular with surfacing crews during hot summer weather when the heat from the sun can already be creating a very hot and challenging working environment.

Saving time

In addition to providing working environment and visibility benefits, warm mix asphalt also helps to deliver time and cost savings on site, as it can be trafficked earlier, therefore enabling works to be completed earlier. This feature reduces disruption to road users and increases the productivity of the workforce. Faster and more cost effective project delivery times are vital for the delivery of the UK roads programme, enabling a larger number of projects to be undertaken in a shorter timescale.

Increased recognition

We are now experiencing a higher level of demand for warm mix asphalts as clients become aware of the benefits that these materials can deliver and availability across the UK network is now increasing with this demand. Indeed, a number of local authorities have now stated preference for warm mix asphalts and introduced relevant usage targets to encourage progress.

For example, Staffordshire Highways recently became the first local authority to specify lower

temperature asphalt as their default on selected materials across its strategic network. The customer was impressed with the increased safety due to the reduced level of steam on site, as well as the way that this did not impact on performance levels.

Expanding the network

Our experience on Britain's highways network gives us a unique opportunity to support the UK's infrastructure delivery and environmental objectives and help customers deliver better roads in the long term. Demand for lower temperature asphalt continues to increase as clients see the benefits that can be obtained.

To meet this demand, we are continuing the expansion of our network of sites capable of supplying these materials, with 24 supply units currently available and more to follow subject to demand. Tarmac is committed to sustainability in our industry and view progress with low temperature asphalts as playing a key role within the asphalt sector.

Asphalt Now is published by 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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