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Reporting on the asphalt industry

Issue 37 | Autumn/Winter 2016

CARFEST NORTH

Support for Children in Need

SHELL ECO-MARATHON

Energy efficient vehicles line up

FRESH APPROACH

The case for a Major Road Network



MOVE TOWARDS THREE-TIER SYSTEM?



The local roads sector is at a watershed. Investment, governance, regionalisation,

skills, technology and even Brexit are all issues that could have profound consequences for the future of the network in the years ahead.

There is already a shift taking place towards a two-tier road network – one where the SRN receives the bulk of investment while the local road network continues to struggle, for maintenance funding in particular.

The Rees Jeffreys Road Fund advocates that one way of tackling this in order to support regional economies could be the introduction of a three-tier system by setting up a Major Roads Network (MRN). This was the subject of an interesting discussion at the recent All Party Parliamentary Group meeting (page 8).

It is not yet clear how the Government will respond to the 'Roads for the Future' study, but the report suggests that there should be enough funding available to support all three without local authorities getting an even smaller share: a scenario we all want to avoid.

Embracing Change was the theme for our annual Sharing Best Practice event, held at the National Motorcycle Museum near Birmingham. This free event has become an important platform for local authority highways engineers to share knowledge and ideas and was attended by delegates from all over the country (pages 10 and 11).

Elsewhere in this issue, we look at innovation in the sector – including new equipment, materials and technology – as well as case studies, news and diary dates.

We have also revamped our website to make it easier to navigate and contact the press and information team. It can be found at www.asphaltuk.org

Alan Mackenzie
Chairman, Asphalt Industry Alliance

SHIFTING RESPONSIBILITY FOR EFFICIENCY PROGRAMME

■ **It is a period of change** for the Highways Maintenance Efficiency Programme (HMEP) as the government seeks to put the scheme on a more sustainable footing. It looks set to devolve responsibility for different aspects of the programme to separate partners.

The asset management and procurement products HMEP has made freely available, for example, will be passed on to Local Partnerships (a joint venture between HM Treasury and the Local Government Association).

In addition the National Highways and Transport Network – a subscriber-based, service improvement organisation best known for the NHT Public Satisfaction

Survey – will take responsibility for HMEP's Connect and Share resource.

HMEP documents will remain free to use and it is hoped the new system will present councils with even more support to present a coherent service to local highways authorities.

The ongoing HMEP ethos of 'for the sector, by the sector' will be maintained by drawing on the expertise of a range of stakeholders through a central steering group.

The membership of that group is still being finalised but it is likely to include the DfT and representatives from local authorities, the private sector and professional industry bodies.

EMISSIONS LINK WITH ROAD CONDITION

■ **European research** shows that smoother roads can reduce CO₂ emissions from vehicles by around five per cent, highlighting the need for road maintenance to be part of any strategy to reduce road emissions.

The research was carried out by members of FEHRL (Forum of European National Highway Research Laboratories). It adds weight to the call from FEHRL – along with EAPA (European Asphalt Pavement Association) and EUPAVE (European Concrete Paving Association) – for increased investment in roads and greater alignment of policies on CO₂ with those for upgrading and maintenance of roads.

The findings show that the condition of the road surface directly influences vehicle fuel consumption: if the surface is in poor repair, fuel energy will be wasted. 'Rolling losses' include energy used in overcoming the effects of unevenness, joints and rutting through suspension systems and from high rolling resistance at the tyre/road interface. In addition, a road network which is allowed to deteriorate will also lead to higher road maintenance or reconstruction costs over the long term – contributing to further CO₂ emissions.

Based on a five per cent CO₂ reduction, upgrading two thirds of Europe's road network by 2030 could lead to yearly savings of 28 million tonnes of CO₂ – equivalent to replacing six million cars with zero-emission cars.

The paper (<http://bit.ly/2fb157x>) concludes by suggesting that the investment costs of a well-funded and aligned maintenance strategy for CO₂ would be paid back in terms of stimulating the economy for growth and jobs, fuel savings and reduced vehicle maintenance in addition to the environmental benefits.



CONTRACT'S ULTRA SITE STATUS

■ **A partnership** between Tarmac and Nottinghamshire County Council has become the first highways maintenance contract in the UK to achieve Ultra Site status under the Considerate Constructors Scheme (CCS).

Ultra Site status is the top award under the scheme and requires registered contractors and their supply chains to demonstrate industry-leading best practice and collaboration among clients, contractors, subcontractors and suppliers.



The A338 team celebrate the project's completion

LOCAL AUTHORITY ROAD SCHEME SECURES BIM LEVEL TWO SUCCESS

■ A **£22 million** project to upgrade a 5.2 mile stretch of the A338 Bournemouth spur road is the first local authority road scheme to be managed to Better Information Management (BIM) level two standards.

The nine-month major rebuild programme has been completed by Hanson Contracting through the Dorset Highways Strategic Partnership, a 12-year collaboration with Dorset County Council.

The scheme included widening the dual carriageway as well as enhancing drainage and installing a concrete central reservation barrier to improve safety. The project also saw 100 per cent of the old carriageway – about 75,000 tonnes – recycled into the new road.

COMPETITION SEEKS SOLUTION FOR ROAD USERS AND ENVIRONMENT

■ **Entries are now open** for the 2017 Wolfson Economics Prize, which this year is calling for fresh thinking on roads infrastructure.

The renowned prize, worth £250,000, is the second largest economics prize in the world after Nobel and aims to bring forward new thinking to help people, government and businesses develop practical policies.

This time it is seeking submissions on 'How can we pay for better, safer, more reliable roads in a way that is fair to road users and good for the economy and the environment?'

Applicants are encouraged to explain how their answers might win public support, as

well as address technical and theoretical issues.

Founder Lord Wolfson said: "Now is our chance to come up with answers that can help road users, protect the environment and support our economy – ideas needed not just in Britain but around the world."

With the advent of autonomous vehicles on the horizon he suggests that: "a new kind of driving will take a new kind of road and a new kind of funding."

The deadline for submissions is 2 March 2017. For more information on the award, visit: <https://policyexchange.org.uk/wolfsonprize/>

STUDIES IN PROGRESS

■ **Six strategic studies** are being carried out to inform the development of the government's second Road Investment Strategy (RIS 2) post 2020. The reports, which address some of the biggest challenges facing the road network, will be complete by the end of the year. Highways England will also revisit the 18 route strategies that identify the pressures on, and needs of, the entire strategic road network, providing a major opportunity for stakeholders to have their say.



IN BRIEF

■ **Over 1,600 people** have signed up for the Massive Open Online Course (MOOC) since it launched its first programme, 'Mastering bitumen for better roads and innovative applications' in April (see Asphalt Now 36).

The free training portal is run in conjunction with Total and French engineering school École des Ponts and is aimed at students, professionals and bitumen users as well as members of the public. Courses are available in English and French and combine video lectures, additional reading and staged quizzes to monitor progress.

The course has already received positive reviews from users and covers the entire bitumen chain, from crude oil to its final applications in road construction and industry, as well as in future infrastructure. For more information, or to sign up, visit:

www.coursera.org/learn/mastering-bitumen

■ **In a recently launched** YouTube video, MPA members have outlined the industry's commitment to delivery for all its clients, given concerns over capacity having been expressed in recent times.

The video shows new and ongoing investments in action and the mutual commitments required by highways clients and industry alike to ensure that both sides of the sector benefit from the New Era for Roads. The video can be viewed at the MPA YouTube site: www.youtube.com/user/MineralProducts1/featured and a supporting printed brochure will also be available.

■ **FM Conway** has relocated its head office to Sevenoaks, Kent, following a period of rapid growth. Among recent successes is a £56 million contract to deliver highways surfacing work for East Sussex County Council working as a sub-contractor to Costain/CH2M. The company will retain its former Dartford home, which will provide an expanded logistics hub alongside the materials recycling facilities already located at the site.

■ **Aggregate Industries'** Contracting division has been awarded the gold Investors in People standard after assessors praised the company for its embedded culture of training, coaching and 'inspirational' leadership.

MILITARY MAKEOVERS



JOHN WAINWRIGHT & Company Ltd has supplied asphalt to two major military bases in the South West – the Britannia Royal Naval College in Dartmouth and the Royal Naval Air Station in Yeovilton, Somerset.

The company supplied 652 tonnes of 10mm SMA surface course to resurface the internal roads at the Dartmouth college and 7,000 tonnes for use at the Yeovilton base.

The contracts reflect the company's commitment to investment and follow the opening of its new £9 million asphalt plant at Avonmouth, near Bristol, earlier this year.

SAFETY RECORD REWARDED



FM CONWAY has won a gold medal at the RoSPA (Royal Society for the Prevention of Accidents) 2016 Health and Safety Awards.

The award is given to companies whose health and safety practices are judged as gold level standard for at least five consecutive years. Entrants must also demonstrate year-on-year progression in health and safety compliance.

Andrew Cox, Director of Safety, Health, Environment and Quality at FM Conway, said: "This award is testament to our long-term commitment to lead health and safety best practice in the construction industry."

RISK ASSESSMENT IS BASIS OF NEW CODE

THE UK Roads Liaison Group (UKRLG) has published an updated Code of Practice following a two year review.

Well-Managed Highways Infrastructure was commissioned by the Department for Transport with input from an extensive range of stakeholder organisations including the Institute of Highway Engineers, ADEPT, SCOTS, CIHT, Transport for London and CSS Wales.

The non-statutory Code offers updated advice to reflect the latest developments in the maintenance sector – reinforcing the strides made through the Highways Maintenance Efficiency Programme (HMEP). It replaces three previous sets of guidance: Well-maintained Highways, Management of Highways Structures and Well-lit Highways, which will cease to be valid from October 2018.

The overarching principal behind the development of the new Code is the need to deliver a safe and well-maintained highway network through the adoption of an integrated asset management approach to highways infrastructure

through risk-based assessment. The Code makes 36 recommendations ranging from environmental, heritage, training and communication issues, to financial planning, whole life design and carbon lifecycle costs.

The recommendation for adopting a risk-based approach aligns with ISO 55000 Standards for Asset Management and can be adopted for all aspects of highways infrastructure maintenance including setting levels of service, inspections, responses, resilience priorities and programmes.

Commenting on the new guidance, Andrew Jones, Parliamentary Under-Secretary of State for Transport, said: "This reflects the maturity of the sector, strengthening the links between risk, resilience and good asset management and ultimately allowing authorities to provide a more tailored service to meet local requirements and priorities."

Adoption of the Code is up to each highways authority based on its own interpretation of risks, priorities and legislative requirements. The UKRLG is seeking feedback on the Code of Practice and comments can be made via its website or by emailing ukrlg@ciht.org.uk

LOCAL AUTHORITY VIEWPOINT:

HEREFORDSHIRE'S RISK-BASED APPROACH

■ Herefordshire County Council has already adopted the principles set out in the new Code in its updated highways maintenance plan.

Clive Hall, Head of Highways and Community Services, pictured right, at the council said: "The intention of the incoming Well-Managed Highway Infrastructure code is that authorities develop their own level of service through a local, risk-based approach. One of the ways this is reflected in our plan is by the changes we will implement to the way in which defects will be handled. This will enable us to prioritise resources and reduce disruption and overall risk to highway users."

This includes applying a new model to inspection and repair assessment, resulting in amended periods for the repair of defects. For example, category 1 defects identified on A and B roads and prestige footways will continue to be responded to by the end of

the following day. At all other locations category 1 defects will be responded to within seven days.

"Our updated approach will enable a right-first time approach to permanent repairs that will reduce the use of resources on repeat safety repairs, protect the workforce, limit the environmental impact of maintenance work and ensure value for money," added Clive.



Risk assessment matrix, defect categories and response times

Impact	Probability			
	Very low	Low	Medium	High
Negligible	1	2	3	4
Low	2	4	6	8
Moderate	3	6	9	12
High	4	8	12	16
Category	Cat 2C	Cat 2B	Cat 2A	Cat 1
Response minimum time frame	Consider for forward programme	2 months	28 days	A&B roads & prestige footways: by end of the following day All other locations: 7 days

REPAIR TEAMS TACKLE KENT ROAD CHAOS



SMART WORK by road repair teams had traffic flowing freely on the M20 in Kent after a truck brought down a footbridge and caused chaos on one of the busiest weekends of the year.

The emergency repairs were carried out in double quick time by contractor Colas A1+ and asphalt supplier Hanson from its production units at Allington and West Drayton.

It took 34 lorry runs to deliver over 1,200 tonnes to the site near Maidstone, where a truck struck the bridge on the August bank holiday weekend, closing the motorway

in both directions. Hanson's Area General Manager Graeme Howard said the job had gone smoothly with the deliveries all done on the same day.

The emergency support was the latest success for the supply contract with Colas A1+. Hanson also completed two night surfacing jobs on the A21 in Sussex and Kent over the summer – three miles at Poppinghole Cross and two miles at Ringden – which were completed over 15 nights between 10pm and 5.30am using a total of 3,190 tonnes of asphalt.

UPGRADE FOR **CHILDREN IN NEED** FESTIVAL TRACK

AGGREGATE INDUSTRIES carried out essential works to the track at CarFest North to make it suitable to handle the high performance vehicles which take part in the motoring festival.

CarFest, the brainchild of Radio 2 Breakfast Show host Chris Evans, is now in its fifth year and raises money for BBC Children in Need.

Aggregate Industries provided over 1,100 tonnes of asphalt (770 tonnes of AC 20 dense binder course and 390 tonnes of AC 10 close surface binder) to upgrade the track at Bolesworth, Cheshire. The material was laid by 10 members of the company's contracting team over 5,000m² of the track.

The company also provided its 'pink paver' for the Mega Land area of the festival, where children experienced what it feels like to sit in a large construction vehicle. The Volvo P6870c was specially wrapped by Volvo for Aggregate Industries to help raise general awareness of cancer while out on the roads.

In addition, the Aggregate Industries team was also on hand to educate visitors on the process of creating a super sleek racetrack – from quarrying the stone and processing the surface material to laying the track. Neil Levene, CarFest's Operations Director, said: "This is a popular event and we were delighted to be able to draft in



Pink paver: giving children a new perspective

the expertise of Aggregate Industries, both when it came to the delivery of the track and as part of our event schedule. The team's guidance, together with support from our sponsors, means we have been able to create a fantastic home for our CarFest North event at Bolesworth."

Aggregate Industries has a proven track record of delivering top quality racing tracks, having previously worked on circuits for Silverstone and Snetterton, as well as the Festival of Speed at Goodwood and Formula E in Battersea Park.



Track works at CarFest North



Students from across the globe came to London with their energy efficient vehicles to compete in the Shell Eco-marathon Europe

STUDENTS TACKLE EFFICIENCY CHALLENGE

A CHALLENGING 2.2km street circuit was created at London's Queen Elizabeth Olympic Park so that young engineers could put their energy efficient vehicles through their paces in the Shell Eco-marathon Europe. The temporary race track was laid in just 48 hours by contractor FM Conway using asphalt containing Shell Bitumen's premium low temperature binder.

More than 200 students from 29 countries took part to see who could navigate the track with the least amount of fuel.

The teams design and build cars that use a variety of energy types ranging from gasoline and natural gas to electric batteries and hydrogen. The designs fall into two categories: Prototype, which focuses entirely on driving as far as possible using the least energy, and UrbanConcept, where energy efficiency is important but the vehicles look more like normal city cars.

Teams can also win prizes for their work off the track in different categories such as communication, design, technical innovation and safety.

The Shell Eco-marathon began in 1939 at a research laboratory in the US following a friendly wager between scientists about

ultimate fuel economy: who could travel the most miles per gallon. Shell Eco-marathon Europe began in 1985 in France with 25 teams participating from four different countries. Over the years, the competition has grown into a truly global event attracting thousands of students from all over the world.

Festival of energy saving ideas

The 2016 event took place as part of Make the Future London, a festival of energy saving ideas and innovation, which was opened by football legend Pelé and welcomed more than 30,000 guests over four days.

This year's Shell Eco-marathon Europe also saw the introduction of the Drivers'World Championship: a head-to-head race against the 2016 UrbanConcept winners from North America, Asia and Europe to find the quickest and most energy-efficient driver.

A team from Indonesia won with a battery-electric car and were rewarded with a week's training with Scuderia Ferrari Formula 1 team in Maranello, Italy.

Emma Mallison, Shell Bitumen's Regional Marketing Manager Europe/Africa, said: "The Shell Eco-marathon is all about innovation and adapting to new challenges regarding energy

and mobility. This year we used our premium low temperature binder to create a high performance circuit within a short time frame which paved the way for the young engineers to put their energy efficient vehicles through their paces.

"The results are truly amazing: a team from France got 2,606.4km/litre equivalent from their compressed natural gas car. That's the same as driving from London to Milan and back on less than a litre of fuel."

ABERDEEN'S APPROACH

Aberdeen is using Rigagrip to improve safety at critical junctions



HANSON SPREADS THE BENEFITS OF WARM ASPHALT

Use of **warm asphalts** promises environmental benefits of energy saving, lower emissions and enhanced durability and to this list can now be added technical advantages, including extended compactability in cold weather and quicker reopening of roads to traffic.

HANSON IS one contractor which has taken these technical advantages on board and has used warm asphalt to reinstate one of Cumbria's busiest roads; the A66 at Crackenthorpe, west of Appleby.

"Carriageway closures were restricted to night time during last winter," said Hanson North Technical Services Manager, Aggregates and Asphalt, Jon Sharp. "We had to get in at 19.30, complete the planing out and replacement work, and get away for traffic to be running by 08.00 the next morning.

"Time was short considering the amount of work we had to do each shift. We needed materials that could be compacted well despite the cold temperatures and which would harden rapidly. Our client Kier (contractor to Highways England) agreed to the low temperature



solutions we proposed."

The challenge was to lay two layers of base course at 90mm each plus a binder course of 70mm, adding up to a total of 250mm, plus a Tuffgrip thin surfacing of 40mm, all between 22.00 (after planing) and the morning cut off point.

Hanson proposed lower temperature asphalt for the base and binder courses. Use of a warm asphalt containing Nynas Nypave PX50 allowed the asphalt to be mixed at a lower temperature

Base, binder and surfacing layers for the A66 at Crackenthorpe were laid successfully despite activity taking place in winter and at night

(140°C, providing a 30°C benefit).

This rapid turnaround meant Hanson could lay the subsequent layers sooner and to the right level of compaction. "Nypave PX50 allows for lower temperature compaction and rapid hardening of the asphalt which, in turn, permits two to three layers to be laid at night, in the cold, in short order," says Nynas Asphalt Support Engineer Jukka Laitinen.

Subsurface conditions

The asphalt – supplied from both Hanson's Shap and Keepersfield asphalt plants – proved highly suited to the job, even though subsurface conditions were less favourable than expected; and the contractor found itself planing out to a greater depth and having to install not three, but four layers, of base and binder.

Due to the issues relating to the lower levels, the programme was revisited. More time was provided for laying, meaning that speed of completion for the base and binder layers was no longer critical. This meant Hanson could move to a conventional 40/60 binder in its asphalt.

However, it stayed with Nynas Nytherm PMB 75 bitumen for the A66's 40mm thick Tuffgrip surface layer. Specially modified, the binder allows production of high performance asphalt mixtures at lower temperatures, which display enhanced compactability in cold weather. Hanson uses the product in summer too, for its early opening potential, as well as its environmental credentials which make it an obvious option when sustainability is on the agenda.

SEARCH FOR HIGH RISK JUNCTIONS



IN SPRING 2015 Aberdeen City Council resurfaced a busy pedestrian crossing with a new, high friction asphalt surfacing product. The use of Rigagrip has proved so successful, that the council has now specified it for a further high risk junction upgrade.

An alternative to High Friction Surfacing (HFS), Rigagrip, which is made by Leiths (Scotland), offers a level of skid resistance that exceeds the requirement for category K sites – approaches to pedestrian crossings and other high risk situations.

Highland Surfacing carried out the work at North Esplanade West, with control testing, including micro-grip skid resistance, handled by Leiths.

"The test results showed similar levels of grip and texture to the Rigagrip previously laid in Aberdeen and we continue to promote the high performance this material delivers, as detailed in the full Type Approval Installation Trial (TAIT), to other councils," said Neil Anderson, Leiths' Technical Director.

Technical Officer Sharon Toseland at Aberdeen City Council added: "Improving safety at critical junctions is a key priority for us and we are very pleased with the results and will continue to specify Rigagrip on sites where HFS has been used previously."

PROPOSALS FOR A MAJOR ROAD NETWORK

THE RENAMED All Party Parliamentary Group (APPG) on Highways, chaired by Christopher Chope OBE MP, met in October.

The group aims to promote the safety, environmental, economic, and social case for local roads and its new name reflects the need for an integrated approach when it comes to ensuring the network delivers, with maintenance issues at its heart.

The emphasis on service was echoed by speaker Phil Carey's presentation on proposals made in 'A Major Road Network for England'. Phil, who is Road User Policy Advisor to Transport Focus and Vice-Chair of the Transport Associates' Network, is co-author, alongside David Quarmby, of the report which calls for a fresh approach to managing roads to better support the economy and meet England's needs.

Importance to economic wellbeing

The report was produced by the Rees Jeffreys Road Fund and suggests that 3,800 miles of council-controlled 'A' roads in England (or four per cent of the network) deserve special recognition, alongside the Strategic Road Network (SRN), because of their importance to the economic wellbeing of regions and the country as a whole.

Phil set out the report's proposals to the APPG for a consistent, joined up approach to the planning, management and funding of the Major Road Network (MRN) on a regional basis, allowing local authority major roads to have a planning regime and funding certainty similar to that now enjoyed by Highways England for the SRN.

"We've been looking at roads in the

context of driving economic growth by improving connectivity and accessibility for business," Phil told the group. "Putting commitment and resources into the SRN is great – but it's not enough to support the economy at national and regional level. Business also depends on the more important local authority 'A' roads to provide the service it needs from a good quality network with broad geographical coverage."

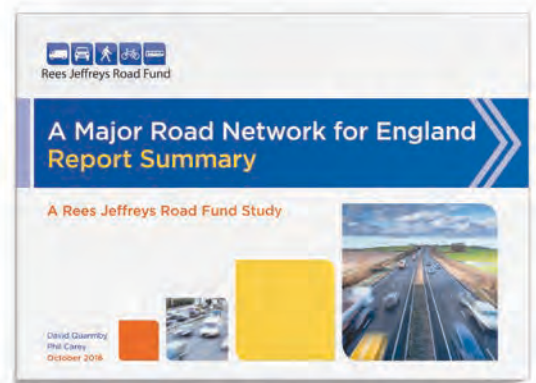


"Business...depends on the more important local authority 'A' roads to provide the service it needs..."
Phil Carey

To enable the MRN to overcome the growing funding divide between the SRN and the rest of the network, the report proposes that the scope of the National Road Fund, with income from Vehicle Excise Duty (VED) receipts in England from 2020, should be broadened and some funds redirected.

"After all, those paying VED use local authority roads at least as much as the SRN, and often can't tell the difference between them," commented Phil.

The report does not advocate that setting up an MRN would require changes in responsibility for highways as it makes sense to retain local control for major roads embedded in their communities. However, strong collaboration between local authorities and Highways England



on a regional basis will be needed to manage and develop the MRN and the emergence of the new sub-national transport bodies (part of the devolution agenda across England) should make this easier and more effective.

The presentation prompted a lively discussion and much of the feedback stressed the need for further clarity on funding and governance. In closing Phil reiterated how the MRN would need to be fit for purpose to deliver its full potential.

Six components

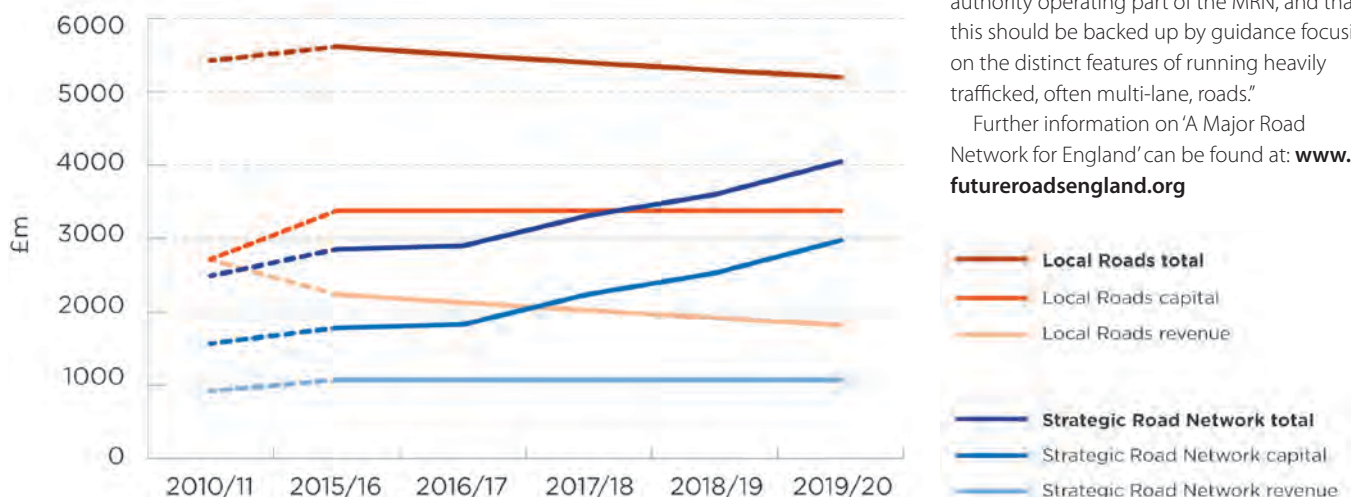
"We have set out six essential components that are needed to achieve this," he said. "Many are already written into current standards and best practice, but what is new is the emphasis on service and bringing them all together into one framework.

"Fit for purpose means fit for the user by understanding their needs and expectations; fit in the sense of being well managed for traffic flow; and, crucially, for safety. The MRN must also be fit for communities and the environment in addressing the mitigation of adverse impacts; must fit in with the more complex transport context in urban areas and integrate with the spatial and economic planning processes.

"And, of course, the highway asset must be properly and systematically maintained and renewed. We suggest that adherence to HMEP principles should be a condition for a local authority operating part of the MRN, and that this should be backed up by guidance focusing on the distinct features of running heavily trafficked, often multi-lane, roads."

Further information on 'A Major Road Network for England' can be found at: www.futureroadsendland.org

CURRENT AND FORECAST CAPITAL AND REVENUE EXPENDITURE ON ROADS





Local roads in Kent suffered as a result of last year's Operation Stack

Emilia Whitbread / Alamy

KNOWLEDGE SHARED

THE LATEST batch of current and future highways professionals has passed through the 43rd annual course on Asphalt Materials and Pavements at Newcastle University.

The capacity attendance of 100 delegates took part in lectures and on-site visits and demonstrations to gain an introduction to, or update on, asphalt and highway construction technology.

Delegates came from across the UK and overseas and from a wide range of disciplines including materials suppliers, contractors and clients to learn and share their experience and knowledge.

At the closing course dinner, the Institute of Asphalt Technology (IAT) was represented by Arthur Hannah, a past IAT President and member of its Education Committee. In brief speeches both Arthur and AIA Chairman Alan Mackenzie noted the ongoing importance of training and competency for the industry. The course will continue to be co-promoted by the University, MPA Asphalt and the IAT.

FULL WIDTH PAVER AVAILABLE



A NEW generation of paver is available in the UK which allows asphalt to be laid across a full carriageway width in one pass.

Aggregate Industries is the only contractor currently able to offer the Titan ABG heavy duty paver, which is capable of laying asphalt and hydraulically bound mixtures in a single layer up to 13m wide and 300mm thick.

This eliminates joints associated with two standard sized paving machines laying in echelon, improving the finish of the surface, and reduces the health and safety risks associated with the need for multiple pavers and gangs working in close proximity.

Using the Titan ABG also reduces time by laying at increased depths and covering wider sections.

PRACTICAL CHALLENGE OF UNDERFUNDING

THE IMPACT of long term underfunding, as highlighted in the AIA's Annual Local Authority Road Maintenance (ALARM) survey, was the focus of the summer meeting of the APPG on Highways.

Speaker Alan Casson, Road and Footway Asset Manager at Kent County Council, set out the practical challenges experienced in managing a local road network valued at £11.5 billion and comprising of 5,400 miles of roads, in addition to other highways assets.

His talk highlighted to attending Members of Parliament, representatives from the House of Lords and industry figures, how, for those working at the sharp end, it is a time of diminishing resource, growing backlogs, deteriorating asset condition and increasing customer expectation.

Bleak picture

"The main findings of this year's ALARM Survey echo our experiences in Kent as it paints a pretty bleak picture of the effects of long term underfunding, exacerbated by increased traffic," explained Alan.

"We support the aim of embedding the use of asset management in highways maintenance and are fully participating in the Highways Maintenance Efficiency Programme, conscious of the need to maximise the use of finite funding. However, even with asset management being used extensively, this



"Given Kent's strategic position, its proximity to Europe plus increasing traffic volumes, one can expect our highway assets to increase in quantity, value and cost to repair."

Alan Casson, Kent County Council

will not in itself solve the problems we face to maintain local roads. Funding will need to increase."

Alan set out how the size of Kent's highways maintenance backlog is expected to rise over the next decade, based on current investment levels. Against a backdrop in which reductions in base funding from central government have yet to be felt, he raised concerns about the task ahead for highway authorities.

A further point discussed at the meeting, held just days after the Brexit vote, was the particular challenges faced by the county as a result of its location as the road gateway to the Channel – exemplified last year by the impact of Operation Stack on local roads.

"Given Kent's strategic position, its proximity to Europe plus increasing traffic volumes, one can expect our highway assets to increase in quantity, value and cost to repair," Alan said.



HIGHWAYS PROFESSIONALS COLLABORATE AT BEST PRACTICE EVENT

OVER 90 DELEGATES at Sharing Best Practice 2016, including representatives from over 40 local authorities in England and Wales, shared their experiences and solutions to the challenges facing the local roads sector.

"Today is all about working together across regions, across the supply chain and with

stakeholders," said AIA Chairman Alan Mackenzie as he kicked off the day-long programme under the theme *Embracing Change*. "Sharing our ideas will help us get the most from opportunities that the current period of change will bring."

As well as presentations from local authorities, including Surrey, North Yorkshire,

Norfolk, Buckinghamshire and Leeds, HMEP Advocate Matthew Lugg OBE spoke on the DfT self-assessment process and the future of HMEP. Cross-border sharing was encouraged as Paul Hardy set out the Welsh approach to asset management on behalf of CSS Wales.

Client/supply chain collaboration was also presented, demonstrating the benefits and successful implementation of Better Information Management (BIM) on a local

AMANDA RICHARDS

The first speaker at Sharing Best Practice 2016 was Amanda Richards, Group Manager for Network and Asset Management at Surrey County Council.

In addition to her local authority role, Amanda is also a member of the UK Roads Board and chairs one of its sub groups, the Road Condition Management Group, which governs UKPMS systems and their associated condition surveys.

Amanda discussed Operation Horizon, Surrey's five year roads programme, why it was introduced and the development of a 15 year strategy for key highway assets.

"In 2012, around 17 per cent of Surrey's roads were classed as 'poor' compared to the national average of 10 per cent,"

explained Amanda.

"Through two key actions – an increase in road maintenance budget and contract savings – we delivered a £100m investment plan for major road maintenance to replace the worst 500km of Surrey's roads and deliver over 1,000 separate road schemes.

"We are already seeing the effects: by April this year, we had reconstructed 350km of road within three years and achieved a 12 per cent contracts saving."

The programme of work was created from the existing rolling programme, public nominated schemes and those generated through condition data. All suggested schemes were validated and signed off by local committees in the work areas.



"Through two key actions... we delivered a £100m investment plan for major road maintenance..."

NICK TUPPER

"BS 11000... sets out commonly agreed good practice and defines a common language..."



Nick Tupper, Head of Highways at Norfolk County Council, explained the council's decision to move to BS 11000 Collaborative Business Relationships accreditation, how it was achieved and the resulting benefits.

"It gives us a structured framework for building effective and profitable relationships, sets out commonly agreed good practice and defines a common language for a collaborative approach," he said.

highways upgrade scheme by Hanson in Bournemouth for Dorset County Council.

This year's event saw, for the first time, a poster session in association with LG TAG (Local Government Technical Advisers Group) under the banner 'Fit for the Future.' The posters from local authorities and highways sector experts provided case studies on tried and tested ways of implementing efficient highway management.

Feedback from delegates

The popularity of the free event was emphasised in the positive feedback received through a delegate survey. Over 90 per cent of respondents found the event 'very useful' or 'useful' and 100 per cent would attend a similar event again and would recommend it to colleagues.

Alan Mackenzie continued: "We see Sharing Best Practice as a key milestone in the AIA's annual programme. The timing of the event, ahead of the work associated with Challenge Fund and self-assessment submissions, allows

Another excellent, informative event organised by the AIA. Top quality speakers sharing best practice to the benefit of all.

Very thought provoking with some useful ideas gained and experiences shared.

ANDREW MOLYNEUX



The West Yorkshire Combined Authority (WYCA), which was represented by board member Andrew Molyneux, is a collaborative authority between Bradford, Leeds, York, Calderdale, Kirklees and Wakefield.

Andrew, Highway Asset Manager for Leeds City Council, set out how collaborative highway infrastructure asset management has been embedded across these authorities to the benefit of all involved.

The group was established in 2014 and works with the Leeds City Region Enterprise Partnership to promote economic development and strategic transport roles across the combined authority.

local authorities to learn from the experiences and successes of their sector colleagues, while helping industry representatives understand the constraints that highways teams operate under so we can better support them in the future."

All presentations and poster sessions can be downloaded on the AIA website: www.asphaltuk.org

E&E CONGRESS: INVESTING IN OUR GREATEST ASSET

THE SIXTH Eurasphalt & Eurobitume (E&E) Congress provided delegates with three days of informative presentations, seminars, workshops and exhibitions.

The theme was *Investing in our greatest asset: roads* which provided a platform to demonstrate the innovation and investment made in product development, technology and decision making in recent years.

More than 1,000 people attended the 2016 event, held in Prague, which also included over 250 technical papers delivered to share information and ideas and stimulate discussion.

Among those who participated in the event were AIA Chairman Alan Mackenzie, who shared the findings of the 2016 Annual Local Authority Road Maintenance (ALARM) survey, and Director of MPA Asphalt Malcolm Simms who talked about sustainability in the sector.

The E&E Congress is held every four years and is jointly organised by the European bitumen industry association, Eurobitume, and the European Asphalt Pavement Association (EAPA). It is used as an important method of raising awareness of the key market drivers; to share best practice and technology; and respond with solutions to future challenges.

The event was an excellent opportunity for all involved to share knowledge and received extremely positive feedback from those attending. The next E&E Congress will take place in Madrid from 13-15 May 2020.

DIARY DATES

Some 2017 dates for your diary:

- | | |
|------------------|---|
| 22-23 Feb | 16th annual Asphalt, Pavement Engineering and Infrastructure conference, Liverpool John Moores University, Britannia Adelphi Hotel, Liverpool
www.ljmu.ac.uk/about-us/faculties |
| 2 March | 'Delivering World Class Transport Infrastructure and Services' – CIHT's fourth national conference, Park Plaza, Victoria, London
www.ciht.org.uk/en/events |
| 15 June | 51st IAT National Conference: 'Driving Forward', The Johnstown Estate Hotel and Spa, Enfield, Co. Meath, Ireland
www.instituteofasphalt.org |
| 3-8 Sept | 44th Annual Residential Course in Asphalt Materials and Pavements, Newcastle
http://bit.ly/2eyQSRo |

A Warwickshire quarry is one of four trial projects to explore the concept of **Corporate Natural Capital Accounting (CNCA)**. But what is CNCA, what does it mean and what are the implications for the asphalt industry?

A CAPITAL IDEA TAKES NATURE INTO ACCOUNT

CNCA IS central to a 25-year plan, unveiled in autumn 2015 by the Department for Environment, Food and Rural Affairs (Defra), to deliver a healthy natural economy and is set to be incorporated into the Treasury's national accounts by 2020.

Natural capital is, essentially, the elements of nature which provide value or benefit to people. Air, land, soil, biodiversity and geological resources are all assets just as buildings or bridges are. Assets have a financial value and the Government estimates that Britain's natural capital is worth some £1.6 trillion.

CNCA applies this value to an organisation's or society's 'balance sheet' and, in doing so, paints a picture of the benefit natural capital brings.

Mancetter was the only quarry to take part in the CNCA pilot. It was an ideal location, with the potential to have a further two million tonnes of minerals extracted up to the end of its operational life in 2024 and aftercare work then taking place to create a natural habitat.

"We are committed to ensuring that at the end of a quarry's operational life the local ecology is richer, more varied and sustainable than before," explains Dr Martyn Kenny, Director of Sustainability at Tarmac, the quarry's owner.

Pilot objectives

"Through the pilot, we wanted to test whether we could track our progress against this commitment using hard evidence and financial metrics. Additionally, we wanted to see how CNCA could support asset and resource management, and boost our community engagement programmes by showing the contribution our restoration schemes can deliver to the local environment.

"Lastly, we wanted to learn how the approach could improve the resilience and sustainability

of our long-term operations." Tarmac worked within a framework developed by the UK Government's Natural Capital Committee (NCC), designed to ascertain the current worth of the site's natural capital and then attribute a future value to it post restoration.

The CNCA process starts with a register of the natural capital assets which an organisation either controls or benefits from. A wide range of areas were evaluated at Mancetter including carbon sequestration and storage from soils and vegetation; habitat and biodiversity; minerals yet to be quarried; natural water, such as rivers; and recreation and amenity.

Compared with its condition at the time of the pilot, the CNCA process found that the fully-restored site will deliver significantly improved wildlife conservation, carbon sequestration and recreation, with the financial value of these exceeding the cost of restoration.

At the time of the pilot Mancetter Quarry had a total net natural capital, excluding mineral reserves, of £0.11 million. For the year 2032, following aftercare, this was forecast to be £3.56 million. The worth derived from carbon sequestration and biodiversity was higher and, for the first time, a value could be placed on the amenity the restored site will offer.

"This shows that a restored quarry carries significant value," says Dr Kenny, "and highlights the benefits of the CNCA process. This was encouraging but the analysis does not give a

whole picture, as the framework has no scope to consider the worth of natural capital once put to commercial use.

"For our pilot we were required to show a value for mineral reserves at the time of the study, but zero for the extracted mineral in 2032. We believe, though, that the working of mineral reserves delivers societal, environmental and economic benefit, as aggregate products are used in the construction of assets such as housing, schools and transport infrastructure. There is an opportunity to reflect this in the methodology in the future.

Theory into practice

"We're starting to put theory into practice and there's a lot more development to come. The pilot has helped refine the thinking and the concept of treating nature as an asset that delivers quantifiable services.

"We welcome the NCC's decision to further test its methodologies via regional programmes and we ourselves are engaging with the University of Birmingham to examine the ways local authorities may use natural capital assessments as part of their decision making processes. Moving forwards, it would be exciting to extend the pilot to work with other organisations in different areas and apply the methodology to whole infrastructure projects, for example.

"From our perspective, the scope could be extended beyond aggregates to asphalt materials. For example, a permeable asphalt surface can provide advantages in terms of biodiversity, flood prevention and water provision, so there would be enhanced natural capital value with its use on a project.

"The quantification of such benefits could be used to support the justification and value of infrastructure schemes and/or identify alternative designs in order to capitalise on these for the benefit of natural resources and local communities."

"We are committed to ensuring that at the end of a quarry's operational life the local ecology is richer, more varied and sustainable than before."

Dr Martyn Kenny, Director of Sustainability, Tarmac



Mancetter quarry, Warwickshire

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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