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INFRASTRUCTURE Intelligence

*Produced for the industry by the Association for Consultancy and Engineering*

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# INFRASTRUCTURE Intelligence

Produced for the industry by the Association for Consultancy and Engineering

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## MESSAGE FROM THE EDITOR

With the UK's most unpredictable General Election in decades almost upon us, the question remains whether or not the increasingly rosy infrastructure sector should start to worry?

For on the one hand we continue to see unprecedented levels of cross party support for the £466bn National Infrastructure Plan, major schemes such as HS2 and for devolved powers to drive investment into areas such as the "Northern Powerhouse".

And we see long term spending plans being rolled out across the highways sector, the rail industry, power, water and communications as the clear link between investment and economic growth is driven home.

Yet on the other hand there is no question in anyone's minds that the post-Election economy will be tough and getting tougher. Not least across the public sector where the scale of cuts will be harsh.

Add to that the very real possibility that we will not emerge on 8 May with a single party government and instead see weeks of protracted horse-trading over power and the future does look somewhat uncertain.

Faced with these prospects, the only real option for the infrastructure sector is to build on the last five years' success and focus on delivery.

Looking back, one of the greatest changes - even successes perhaps - seen over this recent period is the shift towards whole life thinking around the UK infrastructure needs.

As we explain in Infrastructure Intelligence this month, there is a revolution going on in strategic roads, in the way that cities such as London are attempting to break down silo thinking to find investable solutions and in the way the public and private sectors are cooperating.

All good news but there is much to do. Key schemes such as HS2, Thames Tideway and the long-awaited A303 Stonehenge tunnel will require discussion with the voting public to a level rarely seen before.

And with next winter identified as the most critical for the power generation sector in terms of keeping the lights on, infrastructure may not yet be a doorstep issue but certainly looks set to command political attention.

**Antony Oliver,**
**editor, Infrastructure Intelligence**

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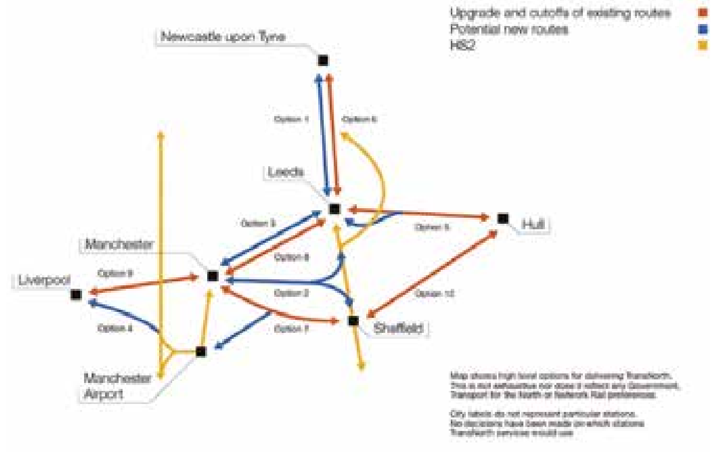
# News roundup

## BUSINESS

**Austerity is set to end in 2019, a year earlier than originally planned, Chancellor George Osborne promised in his 2105 Budget speech.** Infrastructure didn't get a big build up in Osborne's Commons speech which focused on economic successes and commitment to pay down the deficit. But he did commit to investment in the Northern Powerhouse. Also highlighted was investment in transport and regeneration in London, a renewed commitment to "opening negotiations" on the Swansea Bay Barrage and to boosting skills and productivity.

**Balfour Beatty has agreed with the company's pension fund trustees to delay an £85M payment into the scheme which it had agreed to do when it sold Parsons Brinckerhoff last year.** The new arrangement allows it to pay the money into the pension fund over eight years, with the first payment of £4M going in next year. In the interim, the pension fund will participate in a Scottish Limited Partnership into which Balfour will transfer PFI assets worth £85m. The deal is the latest move in new CEO Leo Quinn's recovery plan for the business.

**The public must be given a louder voice when it comes to decisions over nationally significant infrastructure, according to a new report** by environmental lobby group the Green Alliance. A new independent so-called Citizen Voice was, it said, vital to ensure a "rich debate" over infrastructure need and to provide "a well resourced source of engagement expertise". The Green Alliance report "Opening up infrastructure planning" also called for the creation of a new "civic society advisory council" to provide a more evidence based assessment of needs.




**A Hybrid Bill to allow delivery of HS2 to Crewe faster than planned will be laid before Parliament in the next session,** Government announced at the launch of the new northern transport strategy. The move followed the strong recommendation by HS2 chief executive Sir David Higgins in his Rebalancing Britain report in October last year that the link to Crewe be accelerated to 2027 instead of 2033 "so that the north and Scotland begin to feel the benefit of HS2 as early as possible". Government will also look at the case for accelerating construction of the route upgrade between Leeds and Sheffield proposed in the northern transport strategy and allowing it to be used for fast regional train services. HS2 will also be asked to take forward new line options to Liverpool and across the Pennines. Government has committed £6.4M for studies and another £6.1M in the Highways England roads investment plan.

**MWH director Andrew Cowell and URS director Richard Coackley will co-chair the BIM for the water industry conference on 29 April at Aston Villa Football Club in Birmingham.** Speakers will include head of BIM implementation at the Cabinet Office Professor David Philp, Anglian Water's @oneAlliance director Dale Evans, John Pride and Derek Bourne of Gee & Company and a technology expert view from Tony Andrews – solutions executive, asset management for Bentley Systems UK.

**Companies paying suppliers later than 60 days after invoice without being able to prove exceptional circumstances are to be blackballed from the Prompt Payment Code.** The move follows legislation for the new Public Contracts Regulations which came into force in March requiring every business in the public sector supply chain to comply with 30-day payment terms, including suppliers and sub-contractors.

**Publicly-funded infrastructure projects are to be branded with a Union Jack plaque** to recognise taxpayers key contribution in funding vital projects.

## HOUSING

**The UK's challenge to increase the number of new and affordable homes built each year has received a boost with the award of a £22.1M government grant to a Laing O'Rourke led consortium** to boost investment on off-site manufacturing. The Department for Business Innovation and Skills grant is part of its Advanced Manufacturing Supply Chain Initiative and will help to fund a £104M project for the advanced manufacturing of homes, buildings and infrastructure and support research and the development of new manufacturing facilities and training.

**Chief construction adviser Peter Hansford has called for evidence on how to unlock demand, improve affordability and increase attractiveness of solid wall insulation.** The Green Construction Board has commissioned Hansford to conduct an informal review into the use and demand for the technique in UK buildings. *Written evidence is invited to be sent to* jane.chelliah-manning@bis.gsi.gov.uk *and should be clearly marked 'Evidence to SWI Commission'. Written evidence must be received by Friday 24 April.*

## TRANSPORT

**A David Higgins style leader is required to head a new company to build new Thames crossings MPs have said. Higgins is chief executive of HS2.** Lack of political leadership has led to ducking of decisions on where to build necessary new Thames river crossings in East London according to the Transport Select Committee. Government and the Greater London Authority should establish a special purpose company "with the sole objective to deliver a package of crossings east of Tower Bridge," it said in its report on Strategic River Crossings.

**The UK's aspiration to create Europe's first commercial spaceport took a step forward this week after the Civil Aviation Authority (CAA) shortlisted six possible locations.** Shortlisted sites to be taken forward include Campbeltown, Glasgow Prestwick and Stornoway in Scotland, plus Newquay in England and Llanbedr in Wales. In addition RAF Leuchars near Fife, on the east coast of Scotland, was also confirmed as a potential temporary facility, however,

# News roundup

two other RAF stations in Scotland at Lossiemouth and Kinloss were ruled out for operational reasons.

## INTERNATIONAL

**Restrictions on the practice of foreign engineers in Malaysia have been relaxed following lobbying from the British High Commission and other business groups.** Amendments to the Registration of Engineers Act are due to come into force in June this year and for the first time will allow professional or graduate engineers of any nationality to register with the Malaysian Board of Engineers and set up a local engineering consultancy business. The change comes after several years of pressure by UK businesses and efforts by the ACE's International Business Group (IBG) to help firms take advantage of the growing opportunities in the Malaysian infrastructure market.

**Publicly funded infrastructure plans will survive the election chief secretary to the Treasury Danny Alexander said at the ACE National Conference.** Publicly funded investment in the latest National Infrastructure Plan should be seen as a firm commitment and will happen, he told the audience. "It is fundamental that long term decisions have to go beyond political cycles. So if something in the NIP is publicly funded then it is a firm commitment and will happen, all the way up to 2021, and not just by the next government but the one after" he said. Alexander highlighted five key priorities for the next phase of infrastructure investment which included focusing on environment, skills, devolution, and the much longer term. He was also adamant that the UK should remain within Europe and guide infrastructure investment across the European Community (see story page p28).

## ENERGY

**Hinkley C nuclear power station in Somerset is the subject of a new legal challenge.** A German energy co-operative founded by environmental lobby group Greenpeace is to launch legal action against the European Commission saying it should not have given approval to the strike price deal which could be seen as a subsidy. Austria - which opposes nuclear power - also signalled it will launch its own legal challenge against the project, arguing that subsidies should be restricted to renewable energy sources.

**MWH Treatment has secured its second gasification EPC contract for an innovative £51.6 M waste wood gasification project, Welland Bio Power Plant, Northamptonshire.** The plant will provide the equivalent of 17,000 homes with electricity from waste wood by March 2017. "This will be the second power plant of its type and we think this new deal signals an industry shift towards similar types of projects moving forward," said MWH operations director Ian Miller. The project has been developed by Cogen (formerly Carbonarius) and Balfour Beatty, with investment partners Noy Infrastructure & Energy Investment Fund and Equitix MA Infrastructure Fund who will each invest £17.2M.

**Tidal Lagoon Power – promoter of Swansea scheme,** has confirmed that early feasibility and engagement work is underway relating to the delivery of four other full-scale UK tidal lagoons at Newport, West Cumbria, Colwyn Bay and Bridgwater Bay.

## HS2

**HS2 is tendering for a delivery partner in a deal worth between £250M and £350M**, to last for the first 10 years of the scheme. The delivery partner will take on the management and coordination of engineering and environmental design development by separate design organisations, and support the management of the programme of ECI delivery contracts. The promoter is also looking for booking works contractors for £900M of work spread over three lots along the route.

**Atkins has won a four year contract to provide Building Information Modelling (BIM) technical services to HS2.** The contract will include professional support including BIM educational and assessment tools for the supply chain, and working to help drive long-term efficiency and durability into asset management.

**Construction of a £1.4bn Heathrow spur link for HS2 has been ruled out by transport secretary Patrick McLoughlin.** McLoughlin confirmed the decision in a written response to a question by Beaconsfield MP Dominic Grieve. It was expected that a final decision over this link would be held until after the Davies Airport Commission reported. However, McLoughlin said: "I would now like to make clear that we do not intend to build the spur as part of Phase 1 or 2 of the HS2 scheme."

**Stuart Westgate has been appointed programme development director (internal sponsor) for HS2.** Reporting directly to CEO, Simon Kirby, he will lead development of the new north-south rail line and provide an important link between HS2 and other transport bodies. Westgate joins HS2 from KPMG where he spent four years as director of major projects advisory. HS2 has also appointed former Civil Aviation chair and Housing Finance Corporation chair Roger Mountford as a non executive director.

## RAIL

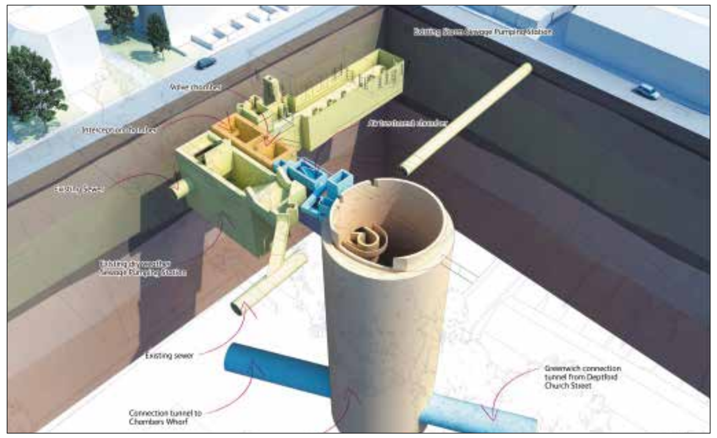
**Investing in a world leading digital railway holds the key tackling the UK rail network's on-going congestion, reliability, safety and escalating cost problems, according to Network Rail chief executive Mark Carne.** Using digital in-cab signalling technology could, he said, see capacity in urban areas instantly boosted by up to 40%, signals passed at danger cut by 80%, signal failures cut by 30%, trains running faster and more efficiently while passengers benefit from enhanced ticketing, information systems and service reliability.

**Network Rail chief executive Mark Carne and managing director for infrastructure projects Francis Paonessa** were due to be on site and highly visible as Infrastructure Intelligence went to press this Easter, as the network operator carried out a £100M programme of improvement and investment works. The decision followed criticism of the Christmas engineering work overruns when Carne remained at home in Cornwall as passenger chaos gripped major London terminals at Kings Cross and Paddington. This Easter both he and Paonessa were due to remain in and around London to oversee activities when 14,000 workers were scheduled to carry out upgrades.

**Orders have gone in for the two tunnel boring machines for the £1bn Northern Line extension.** London Underground has picked French firm NFM technologies to supply the machines to the Ferrovial Agroman Laing O'Rourke joint venture by summer 2016.

**Crossrail's 1000t tunnel machine Victoria has broken into Liverpool Street station marking construction of 40km of the project's 42km of train tunnel which finishes this spring.** Victoria now has under 750m to bore before arriving at Farringdon. Ahead of Victoria, her sister machine, Elizabeth has already started her final journey from Liverpool Street to Farringdon and her arrival will link the Crossrail tunnels for the first time.

**Also at Crossrail Liverpool Street, archaeologists have begun excavating around 3000 skeletons from the Bedlam burial ground used during the period of the Great Plague in 1665.** Tests on excavated plague victims will further understanding of the evolution of the plague bacteria strain. The skeletons will be excavated, after which archaeologists will dig through medieval marsh deposits and Roman remains. A Roman road runs under the site, which has already yielded several interesting Roman artefacts such as horseshoes and cremation urns.



**Three consortia of contractors who will be constructing the 25km Thames Tideway Tunnel have been named as preferred bidders.** Final contracts cannot be awarded until the summer when investors who will finance and deliver the project are announced. The tunnel winners are: BMB JV (Joint Venture of BAM Nuttall Ltd, Morgan Sindall Plc and Balfour Beatty Group Limited) for the West contract, from Acton Storm Tanks to Carnwarth Road largely in London Clay: FLO JV (Joint Venture of Ferrovial Agroman UK Ltd, Laing O'Rourke Construction) for the Central contract from Carnwath Road to Blackfriars Bridge in Thanet Sands and other groups; and CVB JV (Joint Venture of Costain, Vinci Construction Grands Projects, Bachy Soletanche) for the East contract from Blackfriars Bridge to Beckton in chalk.

## AIRPORTS

**Arguments that construction of new runway capacity at Heathrow or Gatwick to increase hub airport capacity will benefit the whole UK economy,** are dependent on sufficient slots for flights to and from smaller airports, the Commons Transport Committee said in its report on Smaller Airports.

**PwC has been appointed to review the process so far on decisions about the future of Manston Airport, Transport Minister John Hayes announced.** The appointment of PwC is part of the government's commitment to support Thanet District Council in its efforts to secure Manston's future.

**The cost of expanding runway capacity at Gatwick could put its business model based around low cost airline traffic at risk, according to research by the Independent Transport Commission (ITC).** The scale of investment needed to expand Gatwick would require the airport's debt levels to rise ten-fold and see user charges double, the ITC said, adding that while maintaining the business under these conditions is achievable, it would bring significant market uncertainty compared to investment at Heathrow.

## PEOPLE AND CAREERS

**Employers are to develop an apprenticeship for civil engineering technicians** following government confirmation that the skill set would be part of the Trailblazer programme. At the same time approval was given to the transport planning technician standard.

**Construction consultant Sweett Group has appointed former Atkins director Douglas McCormick as its new chief executive officer.** John Dodds, who has been standing in as CEO since the departure of Dean Webster in October will revert to being non executive chairman.

**Large firms will have to reveal differences between average pay for male and female workers** under a change to a law passing through Parliament.
Firms with more than 250 employees that don›t comply with the new rules could face fines of up to £5,000.

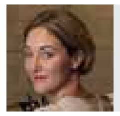
## ROADS

**Government is providing £350,000 of funding to the Greater Manchester Combined Authority for a study into a new Stockport bypass.** This funding is the latest stage of the implementation of the South East Manchester Multi Modal Strategy.

**Latest 'Road Traffic Forecasts 2015' predict that levels of traffic will increase on motorways and major roads by up to 60% in 2040 compared with 2010 levels.** For principal roads the increase from 2010 to 2040 could be as high as 51% and for minor roads the prediction is up to 54%. Car ownership is predicted to increase from 25 million in 2010 to 35 million in 2040, an increase of 42%.

**The new headquarters of Highways England - the company that will run motorways and major A roads** – has been opened in Guildford, Surrey by Transport Secretary Patrick McLoughlin. The new company replaced the Highways Agency on 1 April and will be responsible for delivering more than £15 billion of investment by 2021.

**Highways England announced that it will take more direct control of contracts and separate the way it runs its design, routine maintenance in construction.** At the moment all activities are bundled into single deals with contractor/designer teams. The new system is to be introduced first in East Midlands Area 7.



**Sadie Morgan**, Chair, HS2 Design Panel

# Design vision for HS2

High Speed 2 is the most exciting infrastructure project of my lifetime. I'm delighted to have the opportunity to be involved.

The Design Panel will have a crucial role in supporting and challenging the design process, at every level and covering the whole of the HS2 experience.

In parallel with my appointment as Design Panel Chair, HS2 has published its Design Vision. This document will form the basis of any contract involving design, ensuring that good design is an integral part of the planning and procurement process, from start to finish.

With a core team of circa 20 -25 people, the Panel with cover a broad range of industry sectors, drawing upon a wide range of skills.

Under my direction the Panel will assure the DfT and the public that design decisions deliver against the Design Vision, consider all needs, and are robust and transparent.

First we need to understand what 'successful design looks like'. A seamlessly enjoyable experience of travel requires many aspects of design to be right: from website and ticketing to trains, tracks, landscape and stations. Successful design is self evident in use and there are many UK exemplars from which to learn, from the GWR to Crossrail.

A successful HS2 will engender national pride matched by a sense of local ownership.

Business and cultural heritage is framed by infrastructure projects; the project elements must be fit for purpose and sensitive to environmental contexts.

Most importantly, given the scale and timing of the project, HS2 should be designed to last.

That means designing to a clear brief now which can serve the needs of the future.

"A successful HS2 will engender national pride matched by a sense of local ownership."

**Christine Townley**, Chief Executive, Construction Youth Trust

# The UK is waking up to what construction has known for some time ….a skills shortage.

With an ageing workforce the sector is losing skilled workers at an alarming rate. This is at a time when significant projects like Thames Tideway Tunnel, Crossrail, Hs2 and the Swansea Tidal barrage are either in the pipeline or already being delivered and the industry should attract the best and brightest.

There is a quick fix, I suggest, for helping stem those shortages. There are up to 50,000 young people who have already shown an interest in construction and are on full time built environment courses in further education colleges. What they don't have is an employer.

The sector must rally to give a helping hand to those students to give them a job and a meaningful career.

Not enough young people see construction as for them. The reasons are moribund but obvious. Young people lack the knowledge, the skills and the experience to identify and access opportunities.

The industry still has a poor reputation for image and diversity and young people are influenced by peers and parents over careers choices.

But most alarmingly it is the schools and colleges which lack the knowledge to offer careers advice and deliver a curriculum that reflects real labour market need.

Teachers can't be expected to be experts on every sector which is why the industry needs to collaborate and sell construction into schools. Many firms do great work in schools that's for sure. But it still is not joined up enough.

Working in partnership to deliver careers advice is essential; and delivering advice to young people in a way that they can relate to means they just might think a career in construction be for them.

We at Construction Youth Trust and our industry supporters are helping to raise awareness of the opportunities among young men and women. We do this by running free courses through our Budding Builders and Budding Brunels programmes and by making the links between the industry and schools.

Our Budding Brunels programme works with young people in Years 12 and 13 to help them understand the wonderful opportunities within the professions in construction. 30% of the students who join our Brunels courses are girls who have self-selected themselves onto the programme.

It's really important that we encourage more girls to see STEM professions as for them - not helped by the fact that only half of state schools have girls studying physics A level.

So my rallying cry is for a joined up approach to careers advice to help young people see the wealth of opportunity construction offers now and in the future. Help us to help them!

Details can be found at www.constructionyouth.org.uk

**Jeannie Edwards**, HR Director, MWH

# The Complete Pensions Trust

The government has taken the initiative to auto enrol employees into a pension scheme with their employer and from past experience I would say that this is a very sound move.

Many people don't enrol in a pension through either lethargy, ignorance or misinformation.

The government has built a structure around this auto enrolment to give flexibility to companies with regard to their start date (staging date) and then postponement dates to allow those companies with several small pensions to bring them together in one date.

The Government has also allowed for people to consciously opt out of the pension scheme initiative, but has wisely made it an opt out mechanism that ensures that if someone makes that choice they really mean to opt out and isn't opting out through carelessness or lack of information.

However, the unintended consequence of a pension structure with so many elements to accommodate such flexibility is that the application and administration of auto enrolment is complex and very time consuming.

For large companies with in house pension managers and structured administration the added activities of auto enrolment can be absorbed.

Yet for smaller companies - which makes up the majority of the UK engineering and consultancy sector - this additional administration and legislation is a burden.

For this reason, the Association for Consultancy and Engineering and Charles Stanley Financial Services have collaborated to bring a very cost effective solution for SMEs known as the ACE Complete Pensions Trust.

For a comparatively very small fee companies can utilise the pension solution and leave the burden of the legislation, administration and communication to the pension solution provider.

The government's initiative is excellent and this solution, provided by the ACE for not only its own members but for any interested company, is as much of a problem solver as it is a support to the Government's initiative.

Take a look to see if the ACE Complete Pensions Trust can help your business. Details can be found at www.acenet.co.uk/pensions

**Darryl Murphy**, Partner, KPMG

# Post-Election outlook for infrastructure financing and investment - wrong capital for the right projects?

2014 will be remembered as the year that the infrastructure debt markets fully recovered. There is now ample liquidity from banks with repaired balance sheets and institutional investors with proven ability to provide competitive long term capital.

There was also much activity in 2014 with some £16bn of debt financing in the UK for greenfield projects and refinancing of acquisition assets.

However, you may be forgiven for thinking the Government has fallen out of love with private finance for infrastructure. PF2 as the successor to PPP has hardly been used and this may not change significantly post-Election.

The National Infrastructure Plan set out £79bn of project finance opportunities - £44bn relating to nuclear. Aside from Thames Tideway Tunnel, all is required for energy.

There is no plan to utilise private finance in transport other than localised schemes such as Silvertown Tunnel or roads under the Scottish and Welsh Non Profit Distribution programmes. Even more striking is that projects in need of financing are generally complex projects such as nuclear, carbon capture and storage, offshore wind or merchant energy from waste projects.

Hence, is there a danger we have the wrong capital for the right projects?

The UK Guarantee Scheme (UKGS) was set up primarily to respond to a market failure in terms of availability of long term infrastructure debt. The market has now significantly improved, so many may think the case for UKGS has become weaker.

However, there is an argument that the UKGS perhaps needs to expand and develop further products. Alongside the Green Investment Bank, it has a big part to play in attracting wider capital into complex energy projects through the use of credit guarantees, mezzanine debt, specific risk mitigation and particularly equity.

There is an increasing concern that the provision of equity is too challenging for complex greenfield projects. European utility balance sheets are constrained and despite an increase in Asian strategic capital, it is finite.

Complex construction risk is not something that infrastructure, pension funds and Sovereign Wealth Funds have found attractive to date.

An alternative strategy might be to use the deeper pool of capital available in the market to finance the less challenging projects in road, rail and schools for example and focus Government financing to the more challenging energy projects.

Of course, that would require us to fall back in love with PPP.

Perhaps we can learn from Scotland and the political success of the NPD programme?

"You may be forgiven for thinking the Government has fallen out of love with private finance for infrastructure."

**Isabel Dedring**, London Deputy Mayor for Transport

# London's holistic approach to a 2050 infrastructure vision

"The reality is that the current centralised decision-making system for funding is no longer fit for purpose"

London is home to more people than at any time since 1939. This story of success means its current population of 8.6M is set to grow to over 11M by 2050.

Modern integrated infrastructure is vital if we are to safeguard the quality of life for Londoners and will require much greater spending than ever seen before.

The latest London 2050 Infrastructure Plan – the first of its kind for the capital - is our attempt to identify the need but also to steer a path towards creating the business plans that will ensure aspiration can be funded and financed over the next decades and beyond.

Central to our goal is to ensure infrastructure is prioritised so that all Londoners benefit from access to green space, good transport connections, decent homes sustainably supplied with energy and water – and that all are included in the digital revolution.

To achieve this, innovative models of planning, delivery, funding and financing will be critical so that major investment decisions are shaped by a holistic view of the city's needs with greater accountability at local levels.

The reality is that the current centralised decision-making system for funding is no longer fit for purpose. A new approach to long-term strategic planning and funding with more integrated, devolved decision making is needed if we are to unlock the economic growth, jobs and housing London needs.

In response we have created the London Infrastructure Delivery Board (LIDB) to help identify and maximise the opportunities. Working with the London 2050 Infrastructure Plan we will start to move towards our vision for effective infrastructure delivery in London.

We will initially be focused on so-called Opportunity Areas for large-scale development. The LIDB will take an active role in Old Oak Common, the Upper Lee Valley and North Bexley as three case studies.

More will follow as we develop a programme across key sites and major pan-London projects - and a new digital mapping system - to look at each Opportunity Area to create a long-term overview of infrastructure need.

The regulatory system in place to support infrastructure is key and we will work with Ofgem, Ofwat and Ofcom as part of the LIDB to challenge regulations that restrict optimal investment.

This work marks the beginning of a much longer-term process. It is an evolving tool and our work to prioritise London's infrastructure requirements and reshape the institutions for delivery will be ongoing,

**Miles Ashley**, Director of Crossrail & Stations, London Underground

# We need more infrastructure for every pound we spend; cost is King

"If we want better value from our infrastructure, more operational performance per pound, we need a more sophisticated question."

There is passionate agreement. We know we need to work differently, we know we can, and we know that when we do we will get much better outcomes for UK infrastructure.

At industry events heads nod as we discuss the need for collaborative behaviours, investment in capability and training young entrants, building offsite, aligning rewards with client outcomes, integrated design, carbon efficiency, engaged workforces and innovative technology. One wonders why we just don't get on with it.

Whilst there are great examples of achieving these aspirations, our introspection continues and such exemplars remain exceptional.

In the majority of cases we continue to procure by project. A clear price for a fixed scope and service, enshrined in a compliant bid. It feels safe to do so, it fits the governance and expectations.

But history is clear, it fails to incentivise the market to innovate and it fails to engage that market in the value of outcomes. Such short term transactions fail to incentivise investment in skills, or indeed anything else. If the supply chain can only compete on price, then it will, and if such transactional behaviour is intended to drive certainty then witness the increase in contract costs to outturn, often for similar operational outcomes.

Low prices are an illusion, and they destroy focus on value. If we want better value from our infrastructure, more operational performance per pound, we need a more sophisticated question.

For tier 1 suppliers to prosper they will need to provide real long term value for operators and change their own commercial models. Integrated design will necessitate a different quality of engagement from both the supply chain and design community. Other industries have already prospered, from such change, benefitting from a fearless response to intransigence.

When we do see these new configurations develop, and there are examples, they are self evidently a better way of working, with motivated people simply doing what we all went into this industry to do; produce great infrastructure. What a prospect.

We should have low expectations of transactional arrangements to deliver complex infrastructure, and we should develop a low opinion of those that continue to promote them.



**Mark Whitby**, Engineer and Past President, ICE

# Calculating the real cost of nuclear

"Mindful of realities our government has set a price of 9.25p/kWhr for our new nuclear, four times the estimate made in 2004."

There was a great meeting recently at the Royal Academy of Engineering (RAE) where a nuclear expert promoted the concept of nuclear batteries - known as the U-battery to use industry jargon.

It is a lovely idea where we may be able to scale down a nuclear power plant to the size of a couple of squash courts for a smart city or even smaller for a remote off grid application.

The idea is not altogether new, small nuclear thermal electric batteries have been developed for lighthouses with some success, most notably during the Soviet era along their Arctic coast line.

Following glasnost, the security around these ice stations became a problem and whilst the Americans and Norwegians attempted to aid salvage, it would appear it is not only the copper and lead that is unaccounted for.

Of course we will manage the process better. But we should remember these tales when imagining solutions to the world's power supplies.

Back in 2004 the RAE published a paper on the cost of generating electricity that put the cost of the next generation of nuclear power at 2.26p/kWhr. This was possibly why Areva and Siemens had just signed a £2.2bn JV contract for a new reactor in Finland.

The report's conclusions were to be repeated throughout the next decade and influence our whole energy policy.

However, Siemens subsequently bought themselves out of the JV and, with costs now at over £6.5bn, Areva has recently posted a £3.5bn loss.

Mindful of these realities our government has set a price of 9.25p/kWhr for our new nuclear, four times the estimate made in 2004.

But this is not all the story as more recent research has now begun to seriously question the 'low carbon' claims for nuclear. Published in the Ecologist, this maintains that, much like the 'RAE cost estimate', there has been a tendency for experts to cite as evidence 'sources' with the same common unsubstantiated source. Each serves to support the others without justification.

Worse, the Ecologist calculates that our planned new nuclear doesn't even meet the Climate Change Committee's definition of low carbon generation of less than 50g per kWhr.

Perhaps this won't matter for Hinkley Point. But with decreasing grades of ores from which the uranium is mined. the suggestion is that by the end of its life such a plant would be totally unsustainable.

It would help if the experts could at least do a definitive calculation.

**Gerry O'Brien**, Partner, AKTII

# Domestic flights surely don't have to be so difficult?

"The faffing around at either end of a domestic UK flight sucks the life out of a real opportunity."

It is of course fantastic news to hear the Government's commitment to investing in rail infrastructure in the North.

Its aim is to reduce journey times between Metropolitan areas which collectively constitute a population of a similar size to London.

History often has a way of repeating itself and it would be wonderful to see re-empowerment of these areas some of which were the powerhouses behind the industrial revolution and the bubble of economic comfort that we have benefitted from for centuries.

But perhaps rail is not the only option that we have to facilitate a speedy and substantive link to this Northern resource. For many years now I have wondered that no entrepreneurial soul had managed to invent an effectively "turn up and go" air link; a service that takes all of the time and hassle out of catching a domestic flight.

This thought first entered my mind around 15 years ago when I was courting my now wife. She was in Glasgow and I in London. Every other weekend I would fly to Scotland, have a wonderful weekend then catch the 6am Monday plane and be at my desk between 8 and 8.30am. Not a short commute but by comparison my present 5 mile Battersea to Farringdon commute takes around an hour most days.

I revisited this idea recently when we were asked to look at a site a few miles from Edinburgh Airport. I thought I should be able to shoot up to examine the site and get back to London within a working day. But in reality this was much more difficult than I had hoped.

Yet surely with smartphones, biometric recognition etc, it must surely be possible to simply board a plane much as a National Express coach. The faffing around at either end of a domestic UK flight sucks the life out of what could be a real opportunity by adding hours to any plans.

But if we could simplify this interface and improve city centre connections from the nation's many small airports, the UK could at a step become a much more accessible place. With frequent small planes we could quickly link into our northern centres of excellence.

Whilst clearly I oversimplify a complex issue, there are surely many creative minds who could find opportunity in this sort of scheme. Can we make it work? The gauntlet has been thrown down.

# Crisis management, the global BIM arms race and the innovation challenge: Most popular stories

All articles can be read in full at www.infrastructure-intelligence.com

## TOP STORY: Crisis management: prepare for the worst

Chris Patey, crisis manager at Mott MacDonald gave advice on planning for a crisis, and became a top read story this month.

Engineers are increasingly asked to provide some level of risk or crisis management consultancy, Chris Patey, crisis manager, Mott MacDonald

Although the media can give us a hysterical impression of the calamities facing the world, it merely amplifies the unexpected situations that can strike anywhere and can cause serious problems for the unprepared. So far 2015 has seen the TransAsia plane crash in Taiwan; financial instability caused by the wrangling between Greece and the rest of the Eurozone; terrorist incidents in Paris and Copenhagen; and the ongoing chaos in trouble spots such as Nigeria, Ukraine, the Middle East and Libya.

Direct threats; such as climate change, terrorism, transport accidents and natural disasters can cause substantial harm to built assets and their inhabitants, while indirect threats, such as negative PR, especially in this age of social media, can cause huge reputational problems before facts are even established.

Given this, it is no wonder that engineers are increasingly asked to provide some level of risk or crisis management consultancy alongside their usual design services, and this is a trend that is likely to continue.

New regulations, such as BS 11200:2014 and other associated ISO standards for IT Security and Business Continuity are coupled with Business Continuity Institute good practice to provide guidance on the strategic advice needed. Clear strategies are pivotal in enabling clients to manage risk associated with infrastructure assets or systems

While crisis management strategies will vary, there are four key principles that should be kept in mind:

1. Leadership comes from the top
2. Communicate effectively
3. Consistent preparation
4. Review regularly

A crisis is defined as 'an abnormal and unstable situation that threatens the organisation's strategic objectives, reputation or viability'. They are difficult to mitigate against and the outcome is never guaranteed. But a strong and embedded crisis management capability gives an organisation the necessary tools to reduce exposure to risk and to respond competently.

Social and physical infrastructure systems are increasingly interdependent and are coming under ever greater strain. At the same time, we inhabit a world facing a new range of natural and man-made threats. Preparation and implementation of a crisis management plan may not avert unforeseen events, but will help owners and operators to deal with them when they occur.

Whether existing assets or a new dream project, it helps to think the worst.

## Digital Built Britain strategy to keep UK ahead

Failure to embrace digital technology and BIM level 3 will leave UK at risk from global competiveness *wrote Antony Oliver*

This month saw the launch of the government's new Digital Built Britain strategy, which builds on the standards and savings delivered by the Building Information Modelling (BIM) Level 2 initiative to drive the basic use of technology and data into the construction industry.

"We have seen the global reaction to our Level 2 BIM programme's successful delivery and significant cost savings which have greatly assisted the construction costs savings of £840M in 2013/4, with several major EU nations including France and Germany announcing similar BIM programmes," said Vince Cable, Secretary of State for Business, Innovation and Skills.

The goal of the strategy is to make fully computerized construction the norm and ensure that the benefits of these technologies are felt across the UK. The next step is to sell this UK expertise globally and "seize a share of the $15trillion global construction market forecast by 2025".

With work to bring the UK supply chain up to level 2 standard of BIM implementation – and to meet the 2016 mandate for all public projects to embrace the use of BIM level 2 – the new strategy defines a route toward the next level 3 programme and the cross industry partnerships needed to achieve it.


Mark Naysmith, WSP

## WSP PB leadership restructure

Details revealed on leadership team for newly combined WSP Parsons Brinckerhoff business

Mark Naysmith has been announced as UK chief operating officer for the newly combined WSP and Parsons Brinkerhoff company formed following last October's £820M take-over deal.

The senior UK leadership reorganisation also sees Ian Maclean, former managing director of Parsons Brinckerhoff Africa, become UK managing director for energy and industry in a role that brings together the former WSP industrial engineering discipline as well as Parsons Brinckerhoff's power and energy arm.

Steve Reffitt, former chief operating officer of Parsons Brinckerhoff Europe, is appointed as integration director for the businesses in the UK, the Middle East and Africa.

No new name has yet been agreed for the combined WSP and Parsons Brinckerhoff which is based in more than 500 offices across 39 countries globally.

"We have a very exciting future ahead, with huge potential for growth in our markets and services as well as for our people," said Naysmith. "We are already seeing some of the benefits of our new status in the industry," he added. "It is a truly complementary merger of minds and talent, at a very busy time and in a rising economy."

Naysmith joined WSP 26 years ago following the acquisition of Kenchington Little & Partners in the early 90s.

Swansea Lagoon

## Swansea team plans Cardiff tidal lagoon

Tidal Lagoon Power has taken a significant step towards the delivery of full-scale tidal lagoon infrastructure in the UK

An Environmental Impact Assessment scoping report for a tidal lagoon between Cardiff and Newport has been submitted advancing Tidal Lagoon Power's plans for the UK's first full scale tidal power scheme. This follows plans for the pioneering, but smaller scale, Swansea Bay Tidal Lagoon which is due to receive planning decision in June.

The new project will have an installed capacity, dependent on final design, of between 1,800MW and 2,800MW, giving a reliable annual output of 4 TWh to 6 TWh, enough low carbon electricity to power every home in Wales throughout its 120 year life, the promoter said.

Site selection and feasibility studies for the project began in 2011, with a dedicated engagement team established in 2013.

Feasibility and engagement work is underway relating to four other full-scale UK tidal lagoons at Newport, West Cumbria, Colwyn Bay and Bridgwater Bay. Together, the national fleet of six lagoons could meet 8% of the UK's total electricity requirement for 120 years.

Plans for Tidal Lagoon Cardiff include up to 90 turbines set within a 22km breakwater that will enclose an area of around 70km2 with an average tidal range of 9.21m. The lagoon could be powered on in 2022.

Simon Murray, Acumen 7

## UK construction has innovation problem

Simon Murray, director at the Acumen 7 network asked "why do so many clever people have so few game changing ideas?"

The UK construction industry has a problem with innovation. If the keys to innovation are diverse knowledge and connectivity, where is the construction industry going wrong? The answer might be found at the core of the industry's culture and structure and in particular in our reliance on the established professions and on the doctrine of project management. Are these the problems we have to fix if we want to become more innovative?

The evolution of the construction professions has produced many skilled and motivated people, but it has also developed specialists in narrow fields with limited relationships beyond fellow professionals and clients. They are open to new ideas within their own fields but often fail to spot new ideas outside their fields that connected together could lead to new ways of doing things.

The time has surely come to ask ourselves whether we want the construction industry to be innovative and competitive or are content with the status quo. If we are serious about innovation and improving performance we have to find ways of organising our people and processes that maximises our connectivity and makes best use of our diverse knowledge.

# Highways England – "the end of the beginning"

*Antony Oliver* talks to Department for Transport strategic roads director John Dowie on the launch of Highways England and the biggest investment in highways for a generation.

Granting of Royal Assent for the Infrastructure Act on 12 February gave a full green light for the creation of Highways England, the new government company charged with overseeing the investment in the Strategic Road Network.

For Department of Transport (DfT) director John Dowie it is a significant moment but very much the start of a journey to demonstrate to government that its planned investment of £15bn in the highways network over the next six years is set to be money well spent.

"I have no illusions that there is a lot to do – this is the end of the beginning," he says, borrowing a line from Churchill.

"But don't underestimate how far along the journey we have already got," he adds. "Highways England is up and running and underpinned by legislation so that is a big success."

The question of course is whether or not all this work to create focus on long term public funding for the strategic road network will survive the General Election and the needs of an incoming administration.

> "This is not just a framework for a road building government. It could just as equally be a framework for a sustainable transport driven government,"
>
> John Dowie DfT

Dowie is confident that it will – or at least that a structure and Road Investment Strategy has been created thus making it harder for investment plans to be changed at a stroke.

"It is entirely for any new government to decide the level and the purpose for which to spend funds on the trunk road network," he says.

"That is clear and a political reality - they could change the plan. But the difference is that in the past ministers could sit down with a single A3 spreadsheet of paper and completely recast the roads programme," he explains, drawing on the painful experiences of this happening in the past.

"In the future government will need to set out its objectives and Highways England will need to set out the evidence and a consultation [will] happen – that is light years away from what we did have."

However he also points out that the framework and strategy still gives future ministers flexibility to follow their chosen policies.

This is not just a framework for a road building government. It could just as equally be a framework for a sustainable transport driven government," he says. "At the end of the day it is about the government articulating its objectives - about a road sector led by Highways England."

"There is a very strong, once in a generation, sense that infrastructure is now a crucial part of economic prosperity for UK and England. That will bode really well for the future of the trunk road network."

He adds: "Different configurations of government will have different views on the precise outcomes and there may be a debate about the scale. But the fundamental point that trunk roads will be getting a substantial boost in investment is now beyond doubt."

### Capability challenge

Engaging the supply chain in the new world of longer term strategic highways funding will be critical as delivery is how Highways England and DfT wil be judged. "The supply chain has to demonstrate that it is focused and engaged on this agenda and taking action – collectively that they are doing things together, because they have to convince politicians they are serious," Dowie says.

*More from John Dowie on www.infrastructure-intelligence.com*



# Industry's biggest challenge for 50 years, says roads minister

Launch of Highways England and legislative commitment to a long term road strategy thanks to the Infrastructure Act mean "the greatest change the supply chain has faced for 50 years," according to roads minister John Hayes.

The digital revolution and the internet of things which will allow roads and vehicles to become interconnected are one part of the puzzle facing suppliers, he said; the other is training and developing the estimated extra 30% or 10,000 people need to deliver the £3bn of work a year in the first Road Investment Strategy to 2021 and for those beyond.

"The Road Investment Strategy is the greatest change the supply chain has faced for perhaps 50 years," Hayes said in a speech to a ResPublica event in London. "If the heyday of the road building industry was the years between the 1930s and 1960s, then most of the 30,000 people working in the industry today will have developed their careers in the relatively lean years since the 1970s.

"The road building industry of today will hold almost no corporate memory of the skills required to carry out a far-reaching, decades-long, road investment programme of this kind. So now is the time for the infrastructure supply chain to start assembling the resources, to invest in new techniques and equipment and to recruit and train staff with the ambition to get the job done. That's no small challenge.

"Our estimate is that, even with new working practices and more efficient delivery, the workforce will need to grow significantly - this could be up to a third," Hayes said. And Highways England contracts will include requirements for training the future workforce.

"Where Highways England identifies that specific skills are needed, those skills will be mandated in contracts with suppliers. But contracts won't just consider the job in hand, they will take account of future need. So when suppliers bid for work, they will need to commit to providing apprenticeships. And to implementing skills-plans to equip their workforce for the long-term.

"Of course, these contractual requirements will be reflected in the price that Highways England will pay,"

> "If drivers think they've got a bad deal today, it we don't act, it's only going to get worse"
>
> John Hayes

Hayes said. "But it's far cheaper to invest in rearing home-grown, British expertise now than wait and outsource work to expensive international consultants later."

Hayes announced that the recruitment and training of the roads workforce will be devolved to the regions and said that government has opened discussions with the Association of Colleges about establishing regional roads academies across England. Siting and establishment of the academies will be one of Highways England's early priorities after its creation on 1 April, Hayes said.

Hayes pointed out that the skills required would be the traditional engineering and construction ones but also in telecommunications, IT, nanotechnology and robotics. "Retraining current staff and bringing in new experts will take far-sightedness, ingenuity and innovation, he said. "It will mean encouraging a more diverse intake."

He underlined that the Infrastructure Act holds future governments to a standard of long term thinking – the road strategy can be varied or replaced "but that there is such a strategy is now upheld in law," he said. "It is a profound change which requires rethinking how future road investment is managed."

To do nothing, he said, is not an option. Britain's roads are ranked 28th in the world by the World Economic Forum. And between 2000 and 2009 the UK opened just 46 miles of new motorway compared to 225 miles in the Netherlands, 680 in Germany and 850 in France. Research on future UK driver numbers and behaviour has found that, to quote Hayes, "if drivers think they've got a bad deal today, it we don't act, it's only going to get worse. By 2040 congestion will have reached such a level that a quarter of all travel time will be spent sitting motionless in traffic. That is a loss to our economy equivalent to 100 million working days every year."

# Highways England - "We are modernising the motorway network"

112 schemes will transform England's strategic road network over the next five years and the £11bn investment will, it is claimed, lift the spirits of drivers and performance of the economy. *Jackie Whitelaw* reports

Highways England has taken its first bow with the launch of a detailed five year Delivery Plan.

The plan explains how Highways England will spend the £11bn of the £15bn roads settlement to 2021 currently allocated to improving and upgrading the strategic road network.

"We are modernising the motorway network," said chief executive Graham Dalton. "We are fully funded for all the capital investment schemes and for the first time we have a five year plan and can build new but can also go back and improve what we have already got."

Highways England's five year Delivery Plan to 2020 sits besides Department for Transport's Roads Investment Strategy. The RIS lasts for six years until 2021. HE will spend £11bn over the five year plan but government signed up for a six year investment via the RIS to create a "rollover year" and iron out any peaks and troughs in spending between delivery plan periods so the supply chain could plan for a smooth investment curve.

Over the first five years of operation, Highways England's intention is to invest in 112 major improvements, including 15 smart motorway projects providing 280 miles of capacity and resurfacing the majority of the network. New cycle ways and facilities – over 200 of them – are part of the work programme along with safety schemes to cut road deaths and injuries by 40% compared to 2010.

Investment rises from £1.782bn in 2015/16 to £1.8267bn, £2.241bn, 2.527bn, £2.974bn and £3.658bn over the five years. Renewals spend as part of that total starts at £718M and rises to £744M by 2019/20.

The plan describes how Highways England will:

- develop a new expressway standard for the busiest A roads to provide a similar standard of journey as expected on motorways with improved, grade separated junctions, emergency refuge bays and technology to keep traffic moving and reduce delays.
- organise improvement and maintenance work so it minimises disruption and keeps, on average, at least 97% of the road network open
- work with industry on emerging vehicle technology and cultivate a new and more mature safety culture that encourages good driver behaviour resulting in safer roads, vehicles and people.
- take a comprehensive approach to the environment: investing £225M on flood resilience schemes, encouraging biodiversity by protecting and restoring nature areas and resurfacing that tackles noise pollution using low-noise surfacing at 1,150 locations
- trial innovative technology on the network, such as wireless power transfer to electric/hybrid vehicles, wireless internet on roads in the south east and acoustic incident detection systems to improve tunnel safety even further.

Dalton said: The launch of Highways England is an incredibly significant moment for those who rely on England's motorways and A roads.

"As well as delivering the biggest investment in major roads since the 1970s, there will be fundamental changes to the way motorways and major A roads are maintained and operated. We will be focusing on customers, providing better travel information before and during journeys, improving safety and reducing the impact of roadworks."

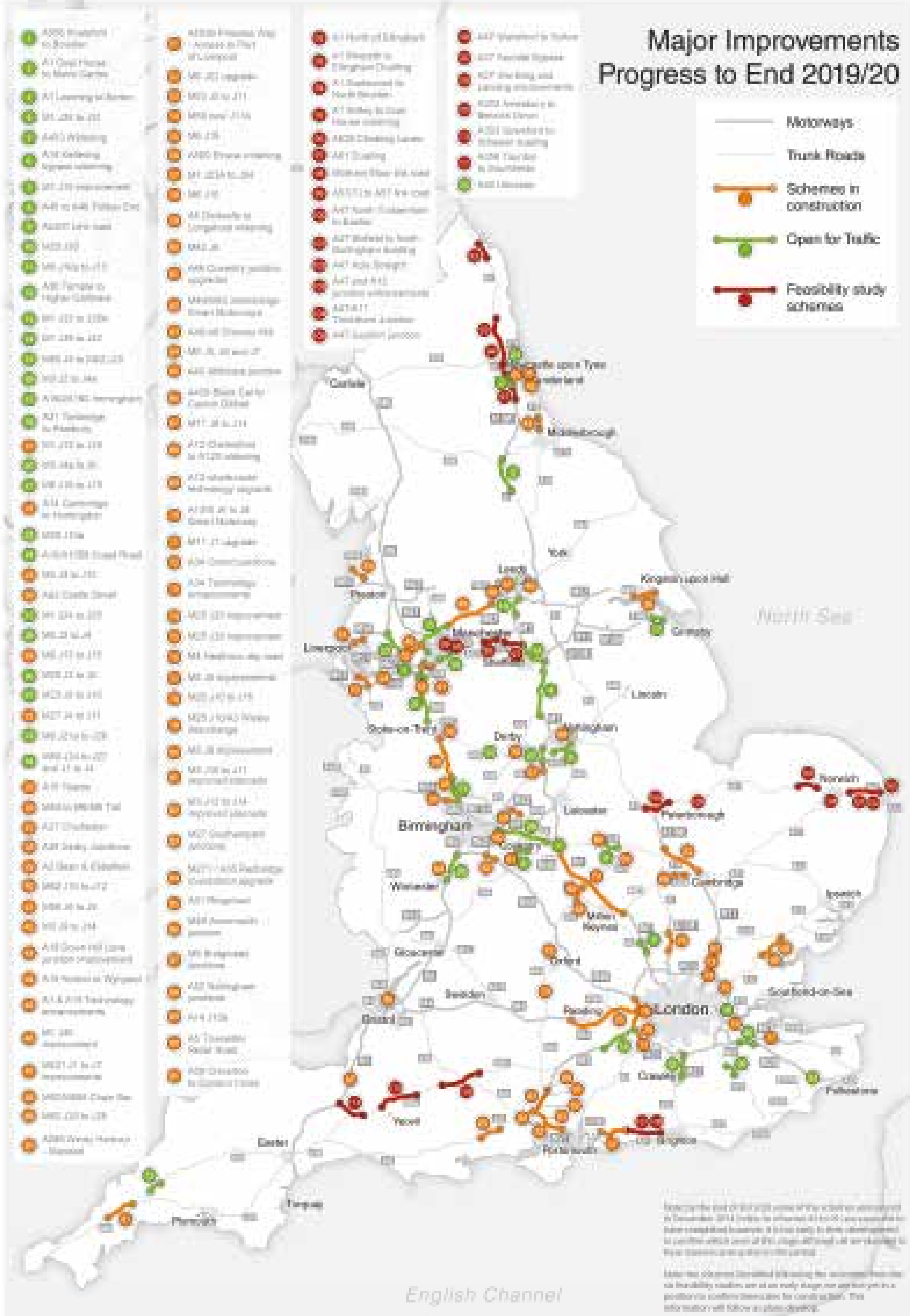
Dalton is leaving the organisation in the summer and the search is on for a new chief executive.

Highways England will be responsible for 4,300 miles of network. The Delivery Plan is the detailed response to the Government's Road Investment Strategy, a long-term approach to improving England's major roads. The claim is that for every £1 spent there will be £4 in wider benefits to the economy.

Oversight of Highways England will come from the Office of Rail and Road, formerly Office of Rail Regulation, who will monitor the performance and efficiency of the company and Transport Focus who will act as the watchdog for road users.

## Sample schemes to be in feasibility, under construction or completed by 2020

- **A tunnel at Stonehenge to allow A303 to be dualled**
- **A303/A358 to provide an enhanced Expressway corridor to Exeter**
- **Motorway from Newcastle to London complete by 2017**
- **Smart motorways across the Pennines on M62 linking Leeds to Manchester with four lanes, Leeds to Sheffield and Sheffield to London.**
- **Strategic study into a multi-billion pound Trans-Pennine tunnel**
- **Four lane motorway from Manchester to Leeds**
- **Smart spine along the M6 and M1**
- **Smart motorway to connect Worcester to the Birmingham Box and between Nottingham and Sheffield and to the north to connect Stoke, and on to Manchester, and south to Milton Keynes**
- **Completion of the London to Yorkshire Smart Motorway.**
- **Major upgrade of the region's A road network**
- **Dualling the Cambridge to Milton Keynes link**
- **Strategic study into a Cambridge, Milton Keynes to Oxford Expressway to enhance the existing A421 and A428**
- **Smart motorway introduced to tA1(M) around Stevenage**
- **Smart motorways will be introduced to M27 around Southampton and Portsmouth**
- **Junction upgrades on M25 at junction 30 to assist access to London Gateway Port, on the M20 at Dover and the M271 for improve access to Southampton Docks.**



Covenham-Boston pipeline, UK. Maximising the use of existing assets helped reduce the amount of new build required, saving 25% cost and 57% embodied carbon compared to Anlian Water's business plan

# Crunch carbon: cut costs

How cutting carbon is good for your business – *Mike Haigh*, Mott MacDonald managing director for Europe and Africa, sets out the issues.

Mott MacDonald recently hosted two 'low carbon master classes' featuring Anglian Water's pioneering work reducing carbon as a means of cutting cost. We are sharing, in this Infrastructure Intelligence briefing, the lessons learned about how to cut carbon, and how it is good for your business.

In November 2013 the government published a report, the Infrastructure Carbon Review (ICR), which asserted that the UK economy would benefit by £1.5bn if everyone involved in the infrastructure industry could achieve the same levels of carbon-efficiency as the industry leaders.

The master classes supported the Green Construction Board's ongoing work to raise awareness of the ICR, and they set out to provide practical advice and evidence of the business benefits of cutting carbon, to give others the impetus and confidence to pursue their own carbon and cost-saving programmes.

The ICR set out a small number of big issues that low carbon leaders have tackled to gain their commercial edge:

- Leadership encompassing vision, values and policy
- Culture encompassing behaviour, communication and skills
- Metrics encompassing baseline measurement, targets, tools and governance
- Innovation and standards
- Commercial solutions encompassing procurement, reward and supply chain integration

Anglian Water has been at the cutting edge of the low carbon agenda for more than five years. One of the key points of the ICR is that carbon best practice and innovation aren't sector-specific. Much of Anglian Water's experience can be adopted or adapted in the transport, communications, waste and energy sectors.

We all need to look outside our traditional spheres, and share ideas and information between them. As an environmental, social and economic threat, carbon transcends any one organisation or business sector. And the same is true of carbon reduction: there is scope for innovation that can save money and value for companies across all parts of the infrastructure industry.

"The master classes supported the Green Construction Board's ongoing work to raise awareness of the ICR, and they set out to provide practical advice and evidence of the business benefits of cutting carbon"

**Mike Haigh, Mott MacDonald**

**A 63% embodied carbon saving and 23% capital cost saving was achieved on Anglian Water's 20Ml/d Hall Water Treatment Works**

# Seven steps to make a difference

David Riley, carbon manager, Anglian Water and member of the Green Construction Board's Infrastructure Working Group offers advice based on his experience.

Anglian Water's carbon reduction initiative has its origins in a board-level decision, but it has been spread across the business and turned into a success by tapping into the leadership potential of our staff and suppliers. Carbon reduction is now embedded in all of Anglian Water projects.

In 2006 our then CEO identified climate change and population growth as the most pressing issues Anglian Water would face over the coming 25 years. Against a backdrop of increasing water scarcity, global demand for fresh water was predicted to grow 30% by 2030. We needed strategies to meet those challenges in an affordable way. As a result, in 2010 we launched a set of 10 ambitious targets to transform our business into a water company for the 21st century.

Two of these targets related directly to carbon: To reduce our operational carbon emissions by 10% in real terms and our capital carbon by 50% by 2015, measured against a 2010 baseline. Our target for the next five years is to cut capital carbon by 60%, measured against the 2010 baseline.

## Seven steps for fostering carbon leadership

### 1. Set targets worthy of an industry leader

Establishing truly ambitious goals was Anglian Water's first act of carbon reduction leadership. Aiming to reduce carbon by 10% or 20% does not create significant movement away from 'business as usual' – real step change requires disruptive targets. Striving for carbon reductions of 50% or 60% can be daunting, but the challenge of meeting these intimidating goals is what forces real innovation to happen.

### 2. Reward carbon-cutting behaviours

Anglian Water took steps to reward the behaviours it wanted to see from its own staff, for example by establishing awards schemes which recognised achievements in carbon reduction. Although many companies have internal award schemes, few have seized their potential to formally acknowledge and incentivise carbon-cutting behaviours.

### 3. Lead through project governance

Carbon reduction has been incorporated into project governance structures: Engineers are forced to address carbon as projects must hit defined targets in order to pass certain gateways. Governance processes have been imposed from above, but they also give engineers the opportunity and the permission to provide 'bottom-up' leadership by putting forward their innovative ideas.

### 4. Develop essential expertise and skills

Leaders have to understand carbon – and help others to understand it too. Internal master classes for staff, and external workshops across the supply chain, were held to build understanding and to stimulate thinking about carbon reduction, getting current leaders up to speed and incubate low carbon leadership among staff and delivery partners.

### 5. Empower early adopters

Turn people who are passionate about carbon into champions for the cause. People who are enthusiastic naturally lead by example, inspiring the 'early followers' around them to replicate their efforts to reduce carbon. Eventually, everyone will get the message.

### 6. Communicate your aims and give permission

Innovation within the supply chain needs to be invited and rewarded. It is not obvious to everyone that innovation is welcome – an issue highlighted in the ICR, with suppliers saying they don't know how to put innovations forward higher up to the food chain, or feeling that suggestions will be rebuffed. Opportunities to create change must be clearly communicated by clients to their service and product suppliers, and from senior to junior staff.

### 7. Challenge your specifications

If you're inviting innovation it is important that suppliers are able to challenge your specifications. Specifications exist to assure compliance, but they can act as constraints as well as safeguards.

## Measure, manage and reduce

**Carbon modelling has been invaluable for informing our reduction plans and tracking progress. Operational carbon modelling is common, but leading organisations also measure capital (also known as embodied) carbon. This can be more complex, but the additional value gained makes it well worth pursuing. For example, prior to modelling capital carbon, we would have assumed that greatest impact on the capital carbon footprint of a water main was the choice of materials used for the pipeline. However, our carbon models revealed that only up to 11% of capital carbon was in a pipeline itself, while 89% was associated with the excavation, laying and backfill activities during installation.**

# Global infrastructure leaders gather to set out route for business success overseas

"Maximising global infrastructure opportunities" – keynote speakers from McKinsey, Accenture, UKTI and HSBC join line up of global experts – book now to secure your place.

Global infrastructure leaders from across engineering and consultancy will set out unique perspectives on the opportunities for UK businesses and professionals at the ACE International Conference on 20 May.

McKinsey principal Julian Mills, Accenture Strategy managing director Ogan Kose and HSBC head of economics Mark Beresford-Smith lead the keynote speaker line-up of high level strategy specialists to set out the challenges and opportunities for UK businesses around global infrastructure projects.

Mills' delivery will set the scene for the conference and draw on his experience of leading thinking as co-founder and chief executive of the Global Infrastructure Initiative – a group which marshals the world's 150 most influential infrastructure leaders controlling much of the $20tr that the world will spend on infrastructure over the next decade.

Meanwhile Kose will explain and discuss what constitutes a quality investable project and explain the emerging financial mechanisms being used to bring projects to life across the world and how infrastructure professionals can influence deliverability.

UKTI Senior International Advisor Malcolm Cohen has also joined the programme to highlight the significant business opportunities – and government assistance - now available to small and medium sized enterprises in the global market.

Mark Beresford-Smith, senior economist from HSBC joins the conference to set out and explore the pitfalls of working globally and identify strategies to properly managing the risks. The session will provide facts and experience needed to manage the critical issues which can often turn a good business opportunity into a high risk, low return or even business failure.

The day will conclude with a unique perspective on the market by Atkins group chief executive Uwe Krueger, drawing on his experience and recent work with the Global Infrastructure Initiative and at influential panels at the World Economic Forum.

Other speakers and panellists from across the global industry will bring delegates from the unique insight on current and future global business opportunities, post-recession drivers of change, investment strategies and successful approaches to navigating market entry risks and barriers.

The conference is supported by the ACE's International Business Group with the goal of helping the UK market to understand how they can capitalise on the significant global opportunities.

"The quality of the high profile speakers and discussions planned on the growing global infrastructure opportunities this year is tremendous", said Gavin English, managing director of IMC Worldwide and chair of ACE International Business Group.

Delegates from across the range of businesses across the sector will be given insight into how to take advantage of the growing global infrastructure opportunities available to UK infrastructure professionals.

Other topics to be covered include managing the risk of overseas business opportunities, the international role for small and medium sized businesses, overcoming barriers to market entry, understanding the global infrastructure growth hot spots, UK global success stories and learning from mistakes made in the past.

In particular the conference will also be a critical event to help young professionals to understand the complex and exciting career opportunities on offer around the world of infrastructure. Concessionary pricing is offered to ACE Progress Network members.

*Maximising Global Infrastructure Opportunities" will be held on 20 May 2015 at the Westminster Conference Centre.*

*For details of the conference, programme and speakers and to book your place at the event, visit the International Conference website at www.ace-international-conference.co.uk*

**Dr Uwe Krueger, CEO, Atkins will give a global perspective**

## Other speakers confirmed include:

**Mike Haigh, UK MD, Mott MacDonald**
**Philippe Valahu, chief executive, PMU**
**John Horgan, AECOM, managing director, EMEA and India**
**Andrew Ivison, partner, CMS Cameron McKenna**
**Baroness Linda Chalker, chair, Africa Matters**
**Malcolm Bairstow, senior partner, EY**
**Gavin English, MD IMC Worldwide, chair ACE International business group**
**Bernard Obika, MD, Roughton Group**
**Mathew Riley, Arcadis EC Harris**
**Mark Whitby, Whitby Mulhair**
**Henry Kerali, World Ban**
**Peter Chamley, director, Arup**
**Julia Prescot, chief strategy officer, Meridiam**
**Ben Mellors, partner, Beale & Company**
**Ailie MacAdam, senior vice president, Infrastructure, Bechtel**
**Paul Westbury, group technical director, Laing O'Rourke**
**Geoff Mills, Sino Infrastructure Partnership**

# London 2050 Infrastructure Plan to embrace "holistic" business case planning

## Programmes not projects hold key to delivering the vital infrastructure business cases needed to drive the capital forward

London's new 2050 Infrastructure Plan will drive a shift in the capital away from planning in silos across transport, housing, energy, water and communication toward a new "holistic" model that better serves the needs of the growing capital.

The new plan, published in March by the Greater London Authority, calls for the creation of infrastructure business cases that are "comprehensive and compelling" to reflect the range of benefits associated with unlocking the full regeneration and economic potential of investment in infrastructure.

"Right now regeneration areas are absolutely at the bottom of the list in terms of priorities for transport because you prioritise investment where there are congested parts of the network and where people are not able to get onto platforms," explained London deputy mayor for transport Isabel Dedring.

"So, of course, as a transport agency you would always look at those [congested] areas," she added. "But if you have a business case for a scheme that is about regeneration or unlocking housing growth that business case will struggle to get through the internal processes of a transport oriented agency – rightly at one level."

Dedring was speaking at the launch of the new London 2050 Infrastructure Plan during London First's annual Infrastructure Summit which also highlighted a £1.9tr economic benefit should London properly embrace investment in infrastructure.

Overcoming this mis-alignment of business case priorities to find the nirvana of holistic planning, taking into account the needs of all stakeholders, she said, had prompted the creation of a number of cross GLA working groups with developers and with Boroughs to try to "stitch together all the different funding sources".

"Clearly those projects which are likely to generate the greatest value for money will need to be prioritised. However, we believe that the way business cases are currently prepared is much too narrow. This is particularly true for the very large strategic schemes, such as Crossrail 2," the report adds.

"The current centralised decision-making system for funding was developed in an era in which only modest national budgets were available for managing what was felt to be the inevitable decline of cities. This is no longer fit for purpose in today's more expansionary city-focused climate, and the appraisal system currently used by the Government stands out as particularly ill-suited to the kinds of large projects that will fundamentally transform the way the economy functions."

The Northern Line Extension and its impact on the London Riverside development was highlighted as an example of the GLA working to bring together funding and needs from a multitude of different parties to "stitch together" the holistic business case and make the investment possible.

However, Dedring accepted that the challenge today is finding the way within the existing GLA organisation structure and resources to embrace the new challenge.

Initially the plan would be taken forward, she said, on a piecemeal case-by-case basis as GLA sought a more effective mechanism to tackle the complex issues of multiple stakeholder engagement.

The focus centres on, for example, case studies at development projects at Old Oak Common and Park Royal alongside Crossrail and HS2, Upper Lee Valley and North Bexley plus continued work at Vauxhall Nine Elms Battersea and on programmes such as the £400M plan to target investment in 20 housing zones.

A new interactive map is being launched in June by GLA to help the developers, stakeholders and the public better understand the plans and the potential of current and planned infrastructure projects as a first step toward reorganising the GLA structure to embrace this new holistic planning ambition.

"It is an overcomable problem as a practical matter but the issue is that if you are trying to do that in 30, 40, 50 locations across the city there simply isn't that resource within the [GLA] organisation," she said pointing out that the complex nature of these deals mean that they needed a lot of senior time to negotiate.

"So we need to come up with a slightly more institutional solution to the problem that is still a practical solution to the problem," she explained. "There is an institutional question about how we engage and pull together so that we can deliver the kind of integrated business cases that we are describing."

**The London 2050 Infrastructure Plan**

On 30 July 2014, the Mayor published the London Infrastructure Plan 2050 (LIP 2050), a consultation on the future of the city's growth.

The updated plan published this week set out the issues raised by the consultation but then also tackles delivery across a range of sectors, how we might pay for the plans how to progress towards reality.

In his foreword to the report Mayor Boris Johnson sets out his ambition: "We know that well planned infrastructure and housing are innately linked. People must live in areas with running water, energy supply and flood protection.

He added: "Beyond such basics, they also need excellent transport and digital links to connect them to the rest of the city and the world, and good quality of life. That means investing in the benefits of green infrastructure and reducing demand on our finite resources."

> "Clearly those projects which are likely to generate the greatest value for money will need to be prioritised. However, we believe that the way business cases are currently prepared is much too narrow."
>
> London 2050 Infrastructure Plan

Infrastructure delivery areas include transport, green infrastructure, digital connectivity, energy, circular economy, water, housing and social infrastructure

"It should not be seen as a final report, nor as an attempt to summarise London's total infrastructure requirements over the next 35 years. In reality it merely marks the beginning of a much longer-term process," explains the plan.

The updated report confirms the aspiration set out in the July consultation report, which highlights that by 2050 London's infrastructure will include:

- 1.5M new homes;
- A 50% increase in public transport capacity, through Tube upgrades and extensions, Crossrail 2, road tunnels and river crossings, and a comprehensive rail network across London with substantial improvements to services in South London;
- Over 600 schools and colleges;
- 9,000 additional hectares of accessible green space;
- A new 'strategic' water resource;
- A sustainable drainage network to complement the current drains and sewers;
- High-speed digital connectivity;
- Around 40 facilities for reuse, remanufacturing, recycling and waste management.

Better use of existing assets is also at the heart of the Plan, with measures such as greater use of tunnelling for roads – including the possibility of dual use for storm sewers – extending the use of green roofs, sustainable urban drainage schemes and a raft of technological solutions to ensure that London infrastructure maintenance and operation is future proofed.

Also speaking at the London First Infrastructure summit this week, Sir Edward Lister, London's deputy Mayor for Planning explained that it was vital for the UK that London continued to invest in its infrastructure.

"If London catches a cold then so does the rest of the country and we cannot afford to let that happen," he said.

"We have a population growth of 80-100,000 a year and that kind of growth rate will be with us for the next few years," he added. "We are beginning to get the right funding methods. This plan is not a shopping list it is a series of programmed parts and we have to make each part stack up financially – there has to be a really solid business case for it – Treasury will expect that from us."

The Plan is clear about the need to move away from the existing silo business case models towards a new era of "holistic" planning to ensure that better cases can be made for both the public and private sector to invest in infrastructure but also that local and business communities are brought into the planning process.

"It is vital that infrastructure is prioritised and delivered in an inclusive way, with all Londoners benefiting from access to high-quality green space, good transport connections to work and leisure activities, and decent homes sustainably supplied with energy and water - and that all Londoners are included in the digital revolution," says the report

According to a new report by business lobby group London First, a £1.9 trillion prize awaits should the capital opt to properly fund and prioritise vital investment in transport, communications, housing, water and power with the UK also benefitting from significant returns to the Treasury.

However, with London's population set to grow from the current 8.2M to beyond 10M in 20 years, failure to invest, warns the report, will see the capital become less attractive as a place to visit, live or work, public dissatisfaction increase and international competitiveness is hit.

"Fulfilling London's growth potential would bring significant benefits to London and the UK," says the report. "Illustrative modelling undertaken by KPMG suggests that if infrastructure investment enabled an increase in London's GVA growth rate from the historic trend of 2.5% to 3.5%, this would yield an additional £1.9 trillion to the economy in present value terms. Of this, around £650 billion would be raised in additional taxation alone."

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## Chartered status in six years with new degree apprenticeships

New higher and degree level apprenticeships in five disciplines offer students a chance to gain professional status in just six years.

Balfour Beatty is leading the construction Trailblazer Employers' Consortium which have developed the courses and qualificaitons, working with BAM Construct, Carillion, Galliford Try, Lend Lease and Willmott Dixon.

"We will be starting at least 35 people on the course this year at Balfour Beatty and overall there should be at least 80 Trailblazer apprentices on the consortium's books," said Balfour Beatty emerging talent development manager Tony Ellender.

"It's small beginnings but we are expecting the scheme to grow rapidly as people see it as an alternative route to professional qualification."

The new higher and degree apprenticeships will be offered in civil engineering, construction management, building services engineering, design co-ordination and quantity surveying.

New entrants will gain an HNC and Associate or Technician professional status in three years, followed by a full honours degree and Incorporated or Chartered status in a further three years (providing they pass their professional examinations).

The new higher and degree apprenticeships start in September and were developed with the support of the Chartered Institute of Building, Institution of Civil Engineers, Royal Institution of Chartered Surveyors, Chartered Institution of Building Services Engineers and Chartered Institute of Architectural Technologists.

## Employers begin work on civil engineering technician apprenticeship

Employers are to start developing an apprenticeship for civil engineering technician following government confirmation that the skill set would be part of the Trailblazer programme.

The employer working group for the civils technicial apprenticeship, chaired by Arup's Kim Blackmore, is looking to build on the already successful advanced technician apprenticeship for civil engineering technicians.

It will be the third Apprenticeship Trailblazer to benefit companies which are members of the Technician Apprenticeship Consortium. Companies represented on the Employer Working Group are Arup, BWB Consulting, CH2M Hill, EM Highways, Highways Agency, Mott MacDonald, Mouchel, MWH Global, Peter Brett Associates, Scott White and Hookins LLP, Tata Steel, Tideway Tunnels, Tony Gee and Partners LLP, and Waterman Group. The group has the strong support of the Institution of Civil Engineers. TAC is also helping develop apprenticeships in railway engineering design and transport planning technician.

Approval was given this week for the employer produced standard for the transport planning technician apprenticeship developed by an employer working group led by Atkins' Christine Crossley.

Over the last five years TAC membership has risen from six to over 50 and the number of apprentices from 8 to over 300. Since its inception in 2010 over 700 apprentices have been offered an alternative route into the industry.

## Support needed to help SMEs tackle "experience gap"

Support to help small and medium sized businesses provide career paths for apprentices and technicians is crucial to ensure skills are available across the infrastructure supply chain, says Crossrail technical director *Chris Sexton*

Speaking at the launch of EngTechNow's new report "The experience gap' - a gap which reportedly threatens the UK engineering professions' future and with it the nations' growth potential, Sexton warned that helping smaller companies to invest was a key issue to tackle.

"At Crossrail we have the benefit of looking across a very wide supply chain and people are worried both in the tier one contractors but also the SMEs about whether they have the skills base to fulfil the contracts that they have and for the one that they might get in the future," said Sexton.

"This is not helped in the construction industry by the fact that in many cases the major contractors subcontract many of the work packages so they are detached from the workforce that is carrying out their work," he added.

"The approach to the skills gap up until now has largely been to hope for the best and in my view that will no longer do. Companies have to invest in their engineering teams and this means apprentice programmes and early professional recognition as engineering technicians."

# Keeping it simple to drive delivery

Whether he is directing work to deliver London's 2012 Olympic legacy, driving residential development deals or building Mace's growing rail portfolio, director *Davendra Dabasia*'s strategy is clear – don't make it too complicated.

Being based in the London Legacy Development Corporation (LLDC) offices in Stratford, just off Queen Elizabeth Olympic Park, underlines the key role that Mace's Davendra Dabasia plays as project director for the Park Legacy Team.

And having worked on the Olympics and Paralympic project since 2007, first with the team that set the £9.2bn budget and programme and then leading delivery of key venues including the Velodrome, the Basketball Arena, and the Eton Manor complex, Davendra is clearly the go-to man when it comes to knowledge of Queen Elizabeth Olympic Park.

However, this is just one of the many hats that he wears as a key part of the Mace leadership team and a business unit leader.

The range of activities in Davendra's business unit is particularly diverse – in addition to overseeing Mace's post Olympics and Paralympic construction management work for LLDC, he also runs a number of smaller housing development projects, the sports and events division and the rail business.

> "In 2020 Mace will have been associated with the Queen Elizabeth Olympic Park for 15 years having helped contribute to its very important legacy."
>
> Davendra Dabasia

"I do enjoy driving delivery and that is really what I have grown up with," he explains, highlighting that from a very early age he was exposed to building projects and construction sites via his parents' family construction business.

"I try to get good teams around me," he adds. "On a project like the stadium I will try to be there every day or two to work out how we can drive performance and improve things. And on the rail side I was with the client recently really mapping out how to improve the planned bridge replacement work."

Davendra points out that, regardless of the sector, key to his role is managing logistics and analysing the various constraints of the programme to see how to deliver the design and construction more efficiently.

"It is about simplifying – in construction we can tend to make things too complicated," he says. "I like to simplify programmes into smaller bite sized chunks. My role is to support and help the team to see things like that.

"But of course my other role is to grow the business – in particular the rail business – so I spend a lot of time with clients, contractors and consultants understanding opportunities," he adds.

At just 35 years old, Davendra has packed a great deal into his career already since graduating with a building surveying degree from Westminster University and an MSc in construction economics and management from UCL.

His career started on a graduate programme with Costain and he then spent four years on what he describes as his "most difficult job", refurbishing the Royal Festival Hall in London with Bovis Lend Lease consulting. It was a great opportunity and he rose up the ranks quickly to project manager.

Like many young professionals in the industry he then decided that he had to work on the London 2012 Olympic and Paralympic Games and was quickly embraced by Mace to run the Velodrome project in 2007.

However at this point in the project, he explains, relationships were still forming and with the various parties trying to position themselves, there wasn't immediately a proper role.

Unprepared to "sit around" waiting for the project to get going he sought a more hands on role and created what he describes as the "watershed moment" for his career working with the senior 2012 team assembling the £9.3bn so-called "Yellow Book" baseline report to define the programme for government to support and fund.

He then went on to manage the Velodrome project and several others including the Basketball Arena, and the Eton Manor complex.

Following Mace's successful work to help deliver the London 2012 infrastructure as part of the CLM consortium, the firm now has been given sole responsibility for the on-going programme management (with Davendra at the helm since 2013) to support London Legacy Development Company as it develops Queen Elizabeth Olympic Park.

Today Davendra's business unit is expected to turn over £8M in fees a year with a team of over 100 people spread across the Olympics work, sports facilities and the rail sector.

Essentially Queen Elizabeth Olympic Park work involves the conversion of the stadium into a key venue for the Rugby World Cup in October 2015, then to the new home of West Ham Football Club and the national competition centre for UK Athletics by 2016. Meanwhile construction of the so-called Olympicopolis cultural and education quarter in the park continues, along with build out of residential developments needed to support and finance the project.


The Olympicopolis is the largest development on Queen Elizabeth Olympic Park and is intended to be developed as a university and cultural district – anchor tenants include UCL, the V&A, University of Arts London and Sadlers Wells – there is a housing development to help fund it and the Smithsonian is currently working on plans to open its first permanent space outside the US as part of this exciting development.

But it is in the rail business that Davendra sees the greatest challenge and scope for growth based on the successful work already underway for Network Rail redeveloping Birmingham New Street Station and the Great Western Electrification programme plus work on the Joint Delivery Partnership with London Underground.

"Last year I started to get involved in the Joint Delivery Partnership and my instruction since has been to see how we can grow this business," he explains.

> "In construction we can tend to make things too complicated. I like to simplify programmes into smaller bite sized chunks. My role is to support and help the team to see things like that."
>
> Davendra Dabasia

"I am not going to pretend that I'm a rail expert," he adds. "But we have great teams running Birmingham New Street and another running the Great Western Electrification programme. We are also looking at other opportunities with both Network Rail and Transport for London."

Achieving Mace's stated aim of developing the business to a £2bn turnover in the next five years is important he says but more important is getting the right people on board to sustain that growth and increase the margins.

That means bringing in new skills at graduate level but also developing existing staff and turning assistant project managers into effective project managers.

The business, he says, needs a range of skills, some technical and some not so. The key, Davendra says, is having the skills, knowledge and experience in the team to be able to make the right decisions based on the information available.

"Success for me on the Queen Elizabeth Olympic Park is to work in partnership with London Legacy Development Corporation to assist them in delivering the Olympicopolis projects," he says. "In 2020 Mace will have been associated with the Queen Elizabeth Olympic Park for 15 years having helped contribute to its very important legacy and been part of such an incredible achievement. For the rail business it is about bringing that name and legacy into this sector.

*Interested in joining Mace? Send your CV with a covering letter to: infrastructure@macegroup.com*

# Publicly funded infrastructure plans will survive election, Alexander tells ACE

National Infrastructure Plan is a firm commitment to 2021 and a NIP for skills is on the way chief secretary to Treasury reveals.

ACE chief exective Nelson Ogunshakin, chief secretary to the Treasury Danny Alexander, ACE chairman John Turzynski at the ACE National Conference

Infrastructure will be a key plank of the next government's economic growth plans whoever is elected, chief secretary to the Treasury Danny Alexander indicated to the sector's business leaders at the ACE National Conference in March.

Publicly funded investment in the latest National Infrastructure Plan should be seen as a firm commitment and will happen, he said.

"It is fundamental that long term decisions have to go beyond political cycles. So if something in the NIP is publicly funded then it is a firm commitment and will happen, all the way up to 2021, and not just by the next government but the one after" he said.

Alexander highlighted five key priorities for the next phase of infrastructure investment which included focusing on environment, skills, devolution, and the much longer term. He was also adamant that the UK should remain within Europe and guide infrastructure investment across the European Community.

Alexander highlighted that the economic return figures for infrastructure investment speak for themselves. "Every £1 of infrastructure investment there is £2.84 of economic impact. Every £1bn spent is 5000 jobs in construction alone."

But that return has to be shared around the whole country. "We want a rebalanced economy and to see growth in every part of country," he said.

**The five priorities were, he said:**

1. "Think Green. It is not just environmentally friendly but a real driver of growth." He highlighted the development of the Green Investment Bank - the first bank for the green economy and its £2bn of investment so far. And he pointed to the announcement of plans for a series of tidal lagoons around the country.
2. "Create the right skills". Government has announced that it would create the first-ever National Infrastructure Plan for Skills to ensure that the UK has the skills it needs to maintain and deliver world-class infrastructure.
3. "Empower local communities" which means greater devolution. There will always be major national projects like high speed rail, but the future will be about the regions taking control of opportunity to unlock local growth through infrastructure development, he said.
4. "Work within the EU. "EU President Juncker plans to use infrastructure to drive growth – I wonder where he got that idea?" Alexander said. "I know we can work together. We need to be leading in Europe not talking about leaving Europe."
5. "Planning for the next 20, 30, 50 years. I'm relaxed about the format," Alexander said, referring to debates about the Armitt commission and an Infrastructure Department. "The politics needs to be taken out of it … but I don't like creating quangos."

> "We want a rebalanced economy and to see growth in every part of country"
>
> **Danny Alexander, chief secretary to the Treasury**

The chief secretary also thanked ACE chief executive Nelson Ogunshakin and the organisation for the "dedication and passion shown in the cause of infrastructure".

"We are also grateful to ACE and the National Infrastructure Plan Strategic Engagement Forum for helping us improve the NIP and focus on the issues that help industry and get long term pipeline right," he said. In the future industry needed to help fire up the public about infrastructure and generate excitement about how it can change lives, he said.

"We need to make infrastructure exciting again. As much as getting long term plans in place are important, firing up the country about infrastructure really matters too."



# The future of NIPSEF: three things to consider

ACE's chief executive Nelson Ogunshakin is joint chair with Danny Alexander of the National Infrastructure Plan Strategic Engagement Forum – set up to help deliver the National Infrastructure Plan. Here he considers its future.

**Audience participation and interest in speakers like Vicky Pryce was high**

### What is NIPSEF

**ACE played the leading role within the Infrastructure Alliance (ACE, CECA, CPA and ICE) in creating NIPSEF in collaboration with the Treasury. The organisation was championed and is co-chaired by chief secretary to the Treasury Danny Alexander and ACE chief executive Nelson Ogunshakin on behalf of Government and industry respectively. In total 60 CEOs and business leaders from the infrastructure supply chain, asset owners, financiers and business end user organisations like the CBI sit on NIPSEF. Each group meets separately and issues raised are taken to meetings with Alexander and commercial secretary to the Treasury Lord Paul Deighton. The group has been instrumental in reshaping the National Infrastructure Plan (NIP), for instance lobbying for the inclusion of financing options for the projects pipeline in the annual document. In addition, the feeling was that the NIP should be a "Pitch Book" for potential investors in the UK, something the current NIP 2014 is widely accepted to be on the path towards. HM Treasury has also committed to develop a complementary "NIP for Skills " to support the delivery of the NIP project pipeline on the advice of those attending NIPSEF. Furthermore, particularly important issues have been taken by Ogunshakin and the NIPSEF chairs to the Government's Economic Affairs (Infrastructure) Cabinet Sub-Committee, chaired by Alexander and Oliver Letwin MP, and Secretaries of State of all departments which spend on infrastructure.**

When the National Infrastructure Plan (NIP) was established in 2010 it was a bipartisan effort created by the coalition government. However, in its infancy, NIP was in essence a shopping list and not a strategic document, a criticism that was levelled at it from the start.

There was, therefore, an obvious need for government and industry to transform NIP into what I would call an 'investment pitch'. That is why we have the National Infrastructure Plan Strategic Engagement Forum (NIPSEF). Through NIPSEF industry and government collaborated to facilitate the delivery of infrastructure.

I think over the last three or four years significant progress has been made on NIP. We are getting closer to what it should be, namely a roadmap for future investment in the UK. It now addresses issues to do with planning, financing, stakeholder engagement, and supply chains. In short, NIP has become a vehicle to make investment in the UK a more attractive proposition to investors.

So what does the future hold for NIPSEF? Well before we look to the future, we need to recognise where we are now. The general election is fast approaching and from the end of March, every system, every structure that is already in place closed. Crucially when the dust settles after the election, it is up to whoever is elected to decide what continues and what is cast aside, and what new ideas are implemented.

Regardless of what is decided it is vital NIPSEF does three things:

1. Make sure our work does not interfere with the political parties and the government departments, specifically, Infrastructure UK (IUK) and Treasury
2. We must ensure the NIP is built upon and taken to the next level
3. There must be cross-party political support for NIPSEF and its impact on NIP

What is important is we have engaged the various political parties to raise awareness of NIPSEF. I sense the political establishment understands the rationale for it and appreciates that NIPSEF is an enabler between government and industry. Already issues to do with planning, the demand for resources, and supply chains have been addressed by NIPSEF. Treasury has opened up to industry to inject ideas and suggestions into their own thought processes, creating solutions and allowing them to act quicker.

I am therefore confident there is a strong awareness within government of what we have been doing. As a result I believe whoever comes into power in May will look at the success story that has been achieved.

However, like every initiative nothing lasts forever. NIPSEF has to build on what it has been doing, it must continue to be relevant and add value. The current government has been supportive in encouraging engagement between stakeholders and industry. The next government would be wise to take a leaf out of that book. It will also need to feed off the confidence of the industry. For projects like HS2, Hinkley, Thames Tideway, continued stakeholder engagement is vital, and must continue.

At times, government has criticised the industry for lacking unity. I think NIPSEF has been able to harness the voices of the supply chain, the financial institutions, the asset owners, and the end user into one. To curtail NIPSEF would simply set the industry back five years and hurt the country. So I would advise the next government to look carefully at what NIPSEF has accomplished, take advantage of that and the industry will be there to support it.

# ACE Engineering Excellence Awards 2015 - shortlist announced

ACE's Engineering Excellence Awards celebrate the best performances of the year from across the UK consultancy and engineering community.

Now in their eighth year, the awards continue to be a fantastic opportunity for the ACE member firms of all size and discipline to showcase their talents and successes. Winners will be announced on Wednesday 20 May 2015 at the Grand Connaught Rooms, London. Details at www.acenet.co.uk.

**Engineering Excellence Awards Shortlist 2015:**

**Building Services (over 250 employees)**
**Sponsored by Beale & Company and Griffiths & Armour**

- AECOM
- Hoare Lea
- Ramboll

**Building Services (up to 250 employees)**

- BWB Consulting
- Clancy Consulting
- Hurley Palmer Flatt
- Skelly & Couch

**Building Structures (over 250 employees)**
**Sponsored by Beale & Company and Griffiths & Armour**

- BDP
- Capita Property and Infrastructure
- Pell Frischmann
- Ramboll

**Building Structures (up to 250 employees)**

- BWB Consulting
- Clancy Consulting
- Engineers for Overseas Development

**Engineering Professional of the Year - Sponsored by Mott MacDonald**

- Brian Brett, Hurley Palmer Flatt
- Matthew Browell- Hook, Atkins

**Project Award Design (up to 250 employees)**

- BWB Consulting
- Skelly & Couch

**Research, Studies and Consulting Advisory Award**

- AECOM
- IMC Worldwide
- Jacobs
- Roughton

**Utility Infrastructure Award**

- GHA Livigunn
- Pell Frischmann
- Royal HaskoningDHV
- Waterman

**Transport Infrastructure Award**

- AECOM
- Capita
- Mott MacDonald

**Progress Network Award - Engineer of the Future**

- Chris Walker, Flint & Neill
- Divindy Grant, Mott MacDonald
- Karole McCusker, AECOM
- Michelle Hicks, WSP
- Victoria Sutherland, Mott MacDonald

# Treasury welcomes ACE input on social infrastructure

Chief Secretary to the Treasury Danny Alexander told ACE at the National Conference that he would welcome more discussion with the organisation on the impact of the National Infrastructure Plan on social infrastructure and potential benefits of this to SMEs.

"The knock on effect from economic to social infrastructure is not captured in the National Infrastructure Plan, so what he is asking us to come up with is a mechanism by which we can see what that knock on benefit will be," explained ACE chief operating officer Anil Iyer. This could then be used to highlight future opportunities from the NIP to SMEs in the sector.

SMEs at the conference welcomed the comments and highlighted several key issues currently affecting smaller consultancy businesses. At the top of the agenda were concerns that SMEs would be under utilised in the major infrastructure investments planned for the UK. "The potential is huge but the problems of getting involved are of a similar magnitude," said Steve Wooler, managing director of BWB Consulting.

"The SME community has a massive role to play in social infrastructure and buildings. Most SMEs work for private clients where they have to deliver value and innovation, always trying to be ahead of the curve. Those skills can be transferred to public clients," he said.

However Wooler said that procurement bureaucracy prevents SMEs from getting involved with public sector clients on both social and economic projects. "It is a great shame because the SME community has got massive potential to bring to public sector procurement and to ensure that the tax pound is spent in the most efficient way."

Evidence of this is clear, said Wooler, as Tier 1 contractors on major public frameworks were bringing designs to SMEs and asking them to find alternative, better value solutions. "And we do, and they keep coming back to us so the expertise does exist and is being utilised by contractors."

Taking a peer review type role working directly with clients was another area of opportunity for SMEs said Wooler, if the procurement hurdles could be overcome.

ACE North West regional chair Mike Barber issued advice for SMEs seeking to be involved in large infrastructure projects starting with being realistic about the services that SMEs can bring to both clients and projects. "Demonstrate an absolute ability to deliver," he said noting that delivering specialist services, having a regional presence or existing relationships with the client or the Tier 1 contractors could all be advantages that win work for smaller firms.

He also advised SMEs not to agree to 'pay when paid' clauses from Tier 1 companies. "Or forever be compromised," he warned. He also encouraged SMEs to aim high, consider joining forces with other SMEs where there might be opportunities, and never ignore the client.

# WYG director to lead new ACE group in the North

Marc Davies, head of geo-environment and waste resources at multi-disciplinary professional services consultancy, WYG, has been selected to chair the new Association for Consultancy and Engineering (ACE) Northern Region Group.

The group, which officially launched in March, has been established to give regional consultancy and engineering business a voice, including in the planning and development of major infrastructure projects, such as roads and high speed rail.

A launch event, hosted by Pinsent Masons in Leeds, saw the group meet for the first time to set out its vision and objectives. Leeds City Council chief executive, Tom Riordon presented to the group meeting which was attended by ACE chief executive Nelson Ogunsakin.

In his role as chair, Davies will oversee the group's development as it works to drive the collective improvement of areas such as housing, education, employment, and infrastructure across the region. A parallel priority of the group will be to support the education and career development of graduates and young engineers in the sector.

"The concept of the Northern Powerhouse could play a vital role in the infrastructural and economic future for the North of England," said Marc Davies. "However, in order for this vision to become a reality, we need economic devolution to happen and businesses across the region to work with each other properly and fully, which will be my key focus as chair."

The group was established just as Transport for the North's first strategy was published which included options for billions of pounds of investment in rail and road connectivity in the region.

"The new Northern Transport Strategy is welcome and, with its pan-regional and long term approach, seems to be going down the right path. Better linkages between the economic centres of the North with go a long way to creating the Northern Powerhouse." Davies said.

Does the Northern Powerhouse need more steam? Read Marc Davies on www.infrastructure-intelligence.com





# Housing land is a core priority

The next Government should extend Land Remediation Tax Relief to get more brownfield sites into use for new homes, says *Matthew Farrow*

After several barren years since the coalition government axed targets for the proportion of homes to be built on previously developed land, 'brownfield first' is back in vogue.

A combination of a cross-party acceptance that more homes must be built (the Association for Consultancy and Engineering reckons 880,000 new homes will be needed over the next few years) and the strength of lobby groups such as the CPRE has meant that George Osborne and Boris Johnson to name but two political heavyweights have been arguing for a push to build homes on brownfield sites.

The 2015 Budget included new brownfield initiatives in the South West and in London while Labour has also announced it will pursue a pro-brownfield policy if elected.

The UK should be well-placed to step up a gear in its efforts to get more previously developed land reused for homes. While the land remediation industry was hit very hard by the 2008 economic crash with many firms downsizing, the sector has been slowly recovering, and my experience is that countries such as China look to the UK as a centre of expertise in contaminated land remediation (across consultancy, onsite treatment and laboratory soil analysis) – a consequence of the scale of our historical industrial base and our retrenchment from it.

## Change needed

But getting brownfield developments up and running takes more than some welcome speeches from political heavy hitters. Developers usually prefer greenfield sites for the simple reasons that they are cheaper, less complex and quicker to build on, so we need to address this differential if we are going to reverse the greenfield trend of recent years.

So while the budget announcements were welcome as far as they go, I think a more fundamental change to the tax treatment of brownfield development is also needed. A new government looking to improve the economics of brownfield development could do worse than look at extending Land Remediation Tax Relief.

This relief was earmarked for abolition by HM Treasury a few years ago, and abolition was only averted by an award-winning lobbying campaign carried out by the Environmental Industries Commission in close conjunction with our member for AECOM.

## Prioritise brownfield

But LRTR is not as widely use as it could be on brownfield sites, in part because its eligibility is quite restrictive and was made more so through changes made in 2009. In addition, the steady lowering of corporation tax in recent years has also reduced its incentive value. Increasing the rate of the relief, or extending its coverage to demolition or soil stabilisation costs incurred on a brownfield site, could make a real difference.

There is also more to be done to reduce the complexity of brownfield regulations. Like all areas, brownfield has its own jargon: 'Part 2A', 'Category 4 Screening Levels' and so on. As development control and land use are local authority matters, regulatory approaches can vary across the country. Attempts by Defra to develop more consistent definitions of contamination levels have not found universal favour and the split in government responsibilities for brownfield policy between Defra and DCLG does not help either.

The old adage is that 'land is the one thing they're not making any more of'. A Cambridge University study has estimated that the UK needs to find an additional seven million hectares of useable land to ensure the housing and food needs of our rising population are met by 2030. The next Government will need to make facilitating brownfield development a core priority.

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