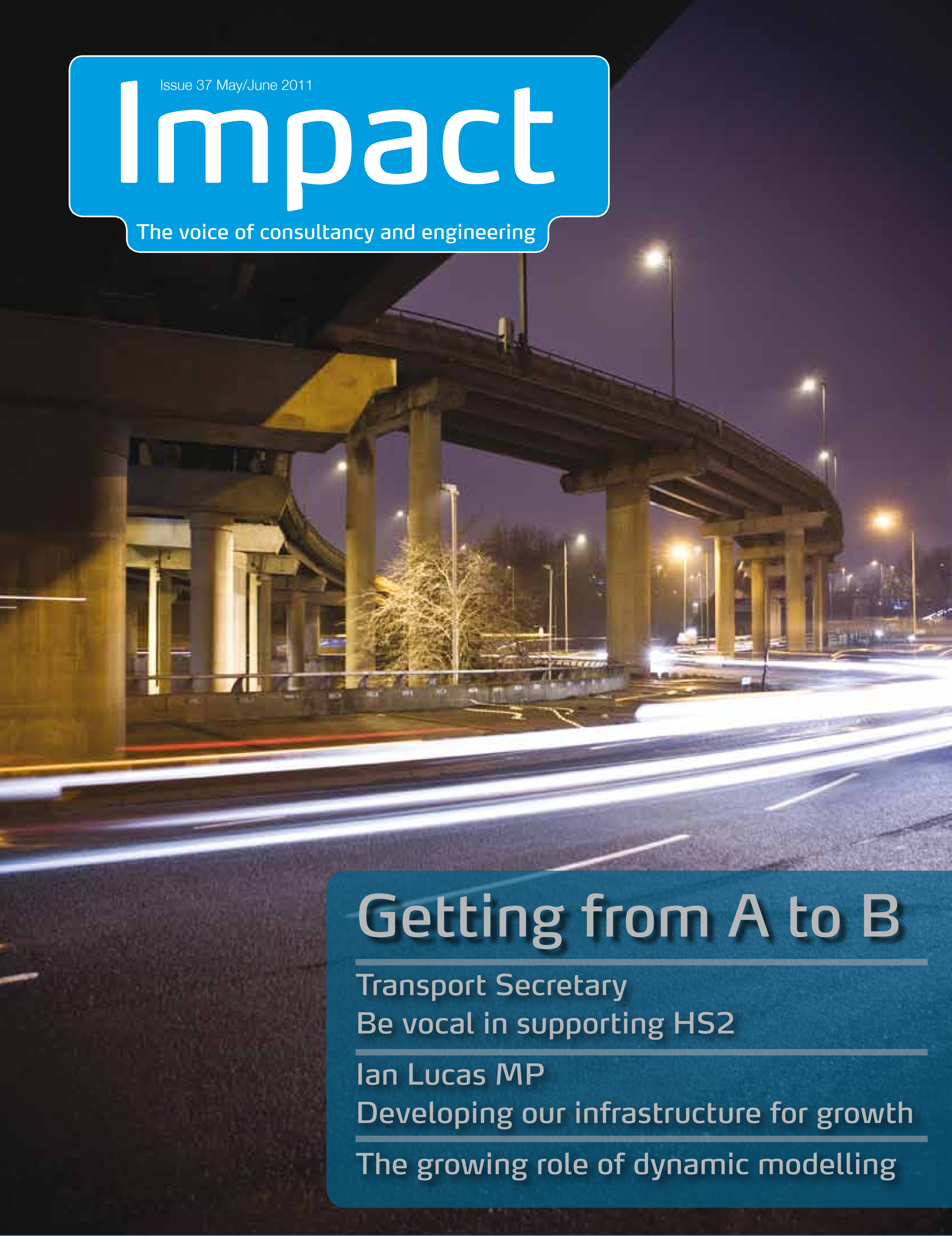
Issue 37 May/June 2011

Impact

The voice of consultancy and engineering



Getting from A to B

Transport Secretary
Be vocal in supporting HS2

Ian Lucas MP
Developing our infrastructure for growth

The growing role of dynamic modelling

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THE IMPORTANCE OF COMPARING STRENGTHS AND WEAKNESSES

ACE Benchmarking Lite 2011

New for 2011!

Following five years of successful benchmarking ACE is making this useful tool free to ACE members in the UK with a headcount of 50 or fewer

An industry overview report

- This will provide participants with an industry analysis of performance based on the real responses of SMEs, providing valuable insights into trends and costing information. This will be a standard report with anonymised averages (no companies or individual results will be identifiable) provided to all participants and used by ACE to promote the programme.

Your rating against key indicators

- These will utilise a rating system which compares your company’s performance to the average of those that took part.

www.acenet.co.uk/benchmarkinglite

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Impact welcomes articles and features on issues relating to the business of consultancy and engineering. Contributors should send material to the editor at impact@acenet.co.uk or to the address above. Phone *Impact* on 020 7202 0255.

Impact is the magazine of the Association for Consultancy and Engineering. It is published bi-monthly. Printed in the UK by Russell Press. © 2011

ISSN 2045-0141

Cover image courtesy of Amey

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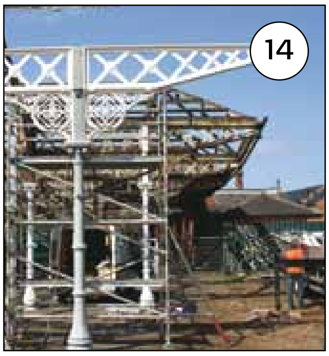
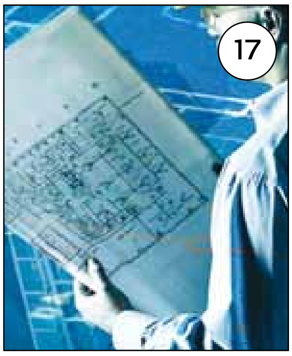




News

Renewables study published

The Department of Energy and Climate Change has published an independent study on the projected costs and deployment potential for different renewable electricity technologies up to 2030.

The aim of the study, undertaken by Arup, was to provide baseline data to inform a consultation this summer on support levels for a range of renewable electricity technologies for the period 2013-17 under the Renewables Obligation.

The study is an independent assessment of scope and potential of technologies. It is not a statement of government policy.

Charles Hendry, Minister of State for Energy said: "It is vital that our support for renewable electricity both encourages investment and represents value for money for consumers. This study provides a detailed picture of generation costs and deployment potential for a wide range of technologies to inform our work in this area."

RedR welcome disaster relief collaboration

Senior executives from a number of leading global companies have agreed that a range of clear steps are needed to ensure more effective collaboration between the private and humanitarian sectors so as to improve responses to major global disasters.

In a round table discussion led by the Lord Mayor of the City of London, executives from BT, Mott MacDonald, Prudential, South East Water, Swiss Re and UBS said that as the number of people caught up in emergencies grows, improved collaboration between humanitarian agencies and corporate companies must be addressed.

The high-level meeting was also attended by the UK Department for International Development's (DFID) Acting Permanent Secretary and was facilitated by disaster relief charity RedR.

Those involved agreed the critical need for new 'platforms' to bring private, humanitarian and state actors together, and that many private sector companies increasingly view a commitment to humanitarian relief as part of sustainable business models.

RedR's chief executive, Martin McCann, chaired the high-level discussion. He commented: "Today's round table shows that there is clear agreement at the highest levels that investing in emergency response makes good human sense – as well as good business sense. I have no doubt that we are entering an exciting new phase of collaboration which will, in time, lead to reduced suffering and faster recovery following major global emergencies."

Infrastructure Conditions of Contract launched 1 August

As of 1 August 2011, the longstanding ICE Conditions of Contract will be withdrawn after more than six decades of service. They will be replaced by the Infrastructure Conditions of Contract.

The conditions have carried the ICE name since 1945 when the country started its rebuilding effort after the destruction of the Second World War. However, ICE announced earlier this year that they would be withdrawing from them.

ACE and CECA, original partners in the conditions, have therefore agreed to develop a suite that builds on the generations of experience that culminated in the seventh edition of the ICE Conditions of Contract in 1999.

The Infrastructure Conditions of Contract are based on the ICE Conditions of Contract, and will ensure continuity of standards and trust that have developed over decades.

Nelson Ogunshakin, ACE chief executive, said: "ACE and CECA will maintain the integrity of the Infrastructure Conditions of Contract and continue to provide choice for the civil engineering industry. I am sure that Infrastructure Conditions of Contract will be an essential part of infrastructure clients' toolkits for efficient delivery."

What price an integrated industry?

At the ACE Engineering Excellence Awards, held on 25 May at the St Pancras Renaissance Hotel, I had the honour of presenting our inaugural lifetime achievement award to Sir Michael Latham.

Sir Michael's landmark report of 1994, "Constructing the Team", championed the use of partnership as a means of "improving quality and timeliness of completion whilst reducing costs". This was then reiterated in Sir John Egan's 1998 report, "Rethinking Construction".

Today we are still moving toward this goal. Much has changed in the construction sector since the early 1990s, but there is still work to be done to bring greater meaning to the partnership approach.

The recent Government Construction Strategy places significant emphasis on coordination, leadership and improved supply chain relationships. It makes clear that the government does not have a consensus understanding of its construction supply chain. Furthermore, there is the view within government that supply chains are generally fragmented.

To that end, the Strategy aims to achieve greater efficiencies through the "full engagement of an integrated team" – that is, designers, other professional consultants and contractors offering an integrated proposition.

ACE has often highlighted the value of early supply chain engagement and the need for meaningful partnership throughout the asset life cycle. The government's reinforcement of this is, therefore, extremely welcome.

So what might the integrated industry of the future look like, and what might it mean?

The drivers of integration – at least, in the minds of government – are efficiency, quality, value and decarbonisation. The industry of the future must be able to offer all of these.

The government aspires to place 25% of its work directly with SMEs, However, this will be achieved without breaking down packages of work. Some may find this disappointing; ACE has often highlighted how smaller suppliers can be placed at a disadvantage by frameworks that appear to favour larger companies.

The alternative is to re-think structures of delivery. SMEs can boost their contracting potential through collaborative bids, for example. Tier 1 suppliers, too, will need a different approach to their supply chains: more sub-contracting of work, more reliance on local presence – including SMEs - and more grouping together of suppliers from across the disciplines are the likely outcomes.

This very much reflects the trends we are seeing in the market. Contractors and consultants are converging; the distinction between the engineer and the architect is blurring; the big are getting bigger; the small are becoming more specialist.

Localism is another unknown quantity. Communities and local authorities will expect employment in their localities. For larger suppliers, this may mean more commitment to partnering with local expertise.

Is all of this necessarily a good thing? Those steeped in traditional approaches to procurement and delivery may disagree, but the market is an ever-evolving structure. New competition from developing markets will bring new dynamism; those unprepared for change may find themselves left behind.

Whatever the shape of the industry of the future, meaningful partnership is the best way of deriving the benefits of innovation and new opportunities. In my view, it is not just the best model for our future – it is our only option.

It's time for PSOs to get back to business

As we emerge from one of the biggest economic downturns in living memory, for professional services firms in the "built environment", the challenges are far from over. Investment conditions remain tight, clients are seeking greater value for money, and businesses face difficult decisions about resource management and business planning

These and other challenges were addressed by Graham Nicholson, chairman of the Association for Consultancy and Engineering (ACE) at a recent breakfast briefing in London, organised by Deltek, a leading provider of enterprise applications to professional services firms.

Businesses on the front line

ACE represents the business interests of its members in the consultancy and engineering industry in the UK. With around 600 firms - large and small, operating across many different disciplines - ACE is acutely aware of what is happening on the professional services "front line". With member companies emerging blinking from the recession, Graham Nicholson said that ACE is focused on helping pave a way forward for professional services firms – and helping them get back to business.

"Fundamentally, our strategic aims are to be a single voice for the industry, promote members' interests and provide support," he said. "Whilst times have been tough in recent years, professional services firms have in the main managed fairly well."

He cited that whilst there was a 15% reduction overall in consulting firms' turnover in 2009 – which led to them "watching overheads and costs more carefully and becoming more efficient" – a recent ACE benchmarking exercise indicated that they achieved profitability of 6.2% in 2009 and 6.8% in 2010. The forecast for 2011 is an increase to 7.3%, despite order books currently being down by 15%. Graham Nicholson added that the indications are that "there is a lot of work about to happen".

"Clearly, in this environment, fees charged by professional services firms need to be competitive, but we shouldn't undersell ourselves," he said. "We should be paid good money for the responsibilities that we take."

Investment in infrastructure

ACE is active on a number of fronts, not least campaigning to emphasise the importance of investment in the UK's infrastructure. To that end, it is working with the government's Infrastructure UK (IUK), which has a remit to focus on the UK's long-term infrastructure priorities and meet the challenge of facilitating significant private sector investment over the longer term. Some £200 billion of investment is planned over the next five years, across the key economic infrastructure sectors (energy, transport, waste, flood, science, water and telecoms).

The majority will come from the private sector. IUK also supports the delivery of major infrastructure projects where there is capital investment from the public sector. For example, ACE is supportive of the delivery of Crossrail, broadband UK, smart meters and a range of other projects and programmes.

Skills needed

As well as investment, Graham Nicholson expressed concerns about the future skills shortage in the industry. "Recruitment overall is down on previous years, so we really need to focus on this to ensure that we have the right level of skills in place for the future," he said.

The success of professional services firms will also rely heavily on what Graham Nicholson described as the "disconnect between procurement and operations departments within client firms." He added: "We need to get closer to clients, not just at the senior management level or within procurement, but at the engineer level. We need to listen to and understand their problems and requirements and provide services that target their needs."

He concluded: "Our industry has the skill, imagination and ingenuity to transform the way we do business in this country, so we should grasp the opportunities that we have."

Appointments

Impact keeps you up to date with who's who in the consultancy and engineering sector...

Parsons Brinkerhoff appoints new market sector director

Parsons Brinkerhoff has appointed Jeff Larkin to the position of market sector director for power & water. He takes on responsibility for growing the consultancy's energy and utilities business across the Middle East and Northern Africa.

Mr Larkin was previously country manager for Iraq, where he spent seven years overseeing Parsons Brinckerhoff's critical role in helping to rebuild and expand power supplies for the people of Iraq. He was ultimately Program Director for this $3.6 billion project, responsible for a team of almost 300 staff delivering over 560 power projects in a very difficult and challenging environment.

David Rutherford, Parsons Brinckerhoff's director, energy, said: "Jeff's appointment comes at a time of considerable opportunity in the Middle East and Northern Africa. Over 40 GW of new generation capacity is scheduled to be built during the next ten years, with a corresponding demand growth for fresh water through desalination plants."

New chairman appointed to the Engineering Council

The Engineering Council has announced the election of Rear Admiral Nigel Guild CB PhD DEng CEng FREng as the new chairman of its board of trustees.

The Rear Admiral succeeds Professor Kel Fidler CEng FREng HonFIET, who has completed two terms as chairman, having served on the board since the creation of the new Engineering Council in 2002.

Rear Admiral Guild says: "I am looking forward to the challenges of the next few years, as we continue the good work of the Engineering Council in ensuring that the competence and commitment of the UK's professionally qualified engineers is recognised as the benchmark to aspire to."

The new chairman has been an active member of the Engineering Council's board since 2005, and chairman of the organisation's Finance, Audit and Remuneration Panel.

Tim Laurence joins Capita Symonds board

Vice Admiral Tim Laurence, CB, MVO, ADC, has joined the board of Capita Symonds as a non-executive director

The Vice Admiral enjoyed a distinguished naval career that included four warship commands. He has also been involved in all defence reforms since the 1990s. Latterly his roles as a key strategist and resource planner within the MoD culminated in his appointment as chief executive of Defence Estates where he oversaw the three year change programme that led to the formation of the Defence Infrastructure Organisation.

He commented: "I am delighted to be joining the board of Capita Symonds at such a challenging but interesting time for the company. I have been very impressed with the company's ideas, their ambitions and their approach to solving complex problems. I look forward to contributing to the board's strategic debates and to helping the company support the Government's efficiency programme."

CIC appoints three new members to its leadership team

The Construction Industry Council has appointed Jack Pringle as its new deputy chairman.

Jack Pringle will be the first Past President of the Royal Institute of British Architects to become chairman, and he succeeds Keith Clarke CBE, the chief executive officer of Atkins, in this role.

The CIC chief executive, Graham Watts, welcomed the new appointment, saying: "I'm delighted that members have elected Jack to succession to be the twelfth chairman of CIC in a year's time and that he will be the first Past President of the RIBA to occupy this post."

The Council has also appointed Ann Heywood, principal of the College of Estate Management, and Ann Skippers, the Immediate Past President of the Royal Town Planning Institute, to the role of vice chairmen of CIC.

EIIR

Honours List

Engineers recognised

The Queen's birthday Honours list saw a number of engineers and friends of engineering recognised with honours.

Knight Bachelor

David Higgins, chief executive, Network Rail

DBE

Helen Alexander, president, CBI

CBE

Alan Baxter, senior partner, Alan Baxter and Associates
Paul Golby, chief executive, E.ON UK
Terry Hill, past chairman, Arup
Paul Jowitt, president, ICE
John McDonough, chief executive, Carillion
Peter Rogers, group chief executive, Babcock International

OBE

Louise Kingham, chief executive, Energy Institute

Have you recruited somebody new to your team that you want to announce?
Contact the editor on gpearson@acenet.co.uk or call 020 7202 0255.

Impact columnist Sharon Akumiah invites Michael Salau to report on expert immunity in court. Michael Salau is a partner with ACE affiliate Berrymans Lace Mawer

Jones v Kaney [2011]

I recently spoke at the ACE Annual Conference on the "end of expert immunity" and thought I would follow it up with a brief article for those of you who were unable to attend. The case of Jones v Kaney and the ramifications of the Court of Appeal decision continue to be reviewed and dissected by the legal press.

In Jones v Kaney [2011] UKSC 13, the Supreme Court ruled that expert witnesses should no longer be immune from suit for negligence. Their decision confirmed that experts can now be sued for providing negligent expert evidence in the same way they can be pursued if they are negligent in respect of any other services that they provide. In giving judgment, the Court of Appeal overturned the protection afforded to experts for more than 400 years and many commentators believe it is another step on the way to removing immunity for all types of witnesses.

The reality is that most experts are extremely competent, as well as being honest and conscientious in their role of giving evidence, providing expert opinion and writing expert reports. However, the decision does now mean that where an expert has caused his client to suffer loss as a result of the expert's negligence or incompetence, then that client will no longer be left without a remedy.

The crux of this case lay in a straightforward road traffic accident claim. The defendant, Dr Sue Kaney, was appointed as an expert witness by the Appellant in the original injury claim. The claimant was said to be suffering from post-traumatic stress disorder (PTSD). Originally, Dr Sue Kaney supported his claims, but following a conversation on the telephone, she decided to sign a joint statement supporting the defendant's expert witness opinion. As a result of the change by the expert, the dispute was allegedly settled for an amount significantly lower than it would have been had she not "changed sides". Subsequently, when Jones commenced a professional negligence claim against her, in response to the claim, Dr Kaney pleaded immunity from suit. The case eventually reached the Supreme Court which overturned the original ruling (by a majority of 5:2) thus removing the protection of expert witnesses that had been in place for centuries.

The lead judgment was delivered by Lord Phillips (with whom Lords Brown, Collins, Kerr and Dyson agreed). Whilst the narrow issue examined related to the preparation of a joint statement, the majority recognised that the appeal raised important issues of principle. One issue was whether public policy remained justified in giving expert witnesses immunity from liability in the performance of the expert witness role. Lord Phillips in commenting on this point said that the onus lay "fairly and squarely" on the Respondent to justify the immunity behind

"most experts are extremely competent, honest and conscientious in their role"

which he sought to shelter. The Lords commented that the general rule is that every one should have a remedy, and that any exception to this rule had to be justified as being in the public interest.

It has consistently been argued that without immunity, an expert may be reluctant to give evidence that is contrary to his/her client's interest. However, the Lords thought that the removal of immunity was unlikely to deter expert witnesses from giving evidence and referred to the fact that experts are already at risk of professional disciplinary proceedings as a result of incompetent evidence and were comforted by the fact that such a threat has not served to deter individuals from being willing to assume the role as expert witness. In addition, the view that the removal of immunity would encourage experts to tailor their evidence, was counteracted by the fact that the removal of immunity from barristers had not caused them to cease to comply with their duty to the court and therefore there is no reason why experts should be any different. As indicated earlier not all the Lords share the view that expert immunity should be dispensed. The dissenting voices, explained that there should be a compelling reason to remove such a long standing immunity and that in their view there was no compelling reason at this time and therefore immunity should remain.

Most readers will be aware that within the construction sector, expert witnesses play an important role. Expert witnesses are often required to provide long and detailed reports and engage in painstaking and detailed reviews of evidence when producing their opinion and advising their client. As I have said earlier, much of this work is done by experienced and competent experts, many of whom are leaders in their field. However, the current state of the economy has meant that some construction professionals have seen expert witness work as a way of increasing their income, with relatively little risk. However, this case is a stern word of warning, and means that such construction professionals should now be aware that they will be potentially liable to their clients for a breach of duty. So what can the prudent expert do?

"expert witnesses should certainly review their insurance policy"

(i) Most expert witnesses have professional indemnity insurance, but expert witnesses should certainly review their insurance policy firstly to ensure that they have appropriate cover for their activities as expert witness and secondly to ensure that they have a sufficient level of cover should they be pursued.

(ii) Expert witnesses should give some thought to whether or not they should be limiting or excluding their liability by contractual terms. In my experience, most of the larger practices which have expert witness teams have their own terms and conditions. Many larger practices have limitations on liability. However, this is not true for the smaller practices. Of course, any such limitation or exclusion will have to comply with the relevant legislation in order to be accepted.

As a result of this decision, it has been suggested that irrespective of the Law Lords' views there may now be a decrease in the supply of experts. I have to say that I do not share that view, although I am hopeful that there will be a decline in the "bullish" expert willing to give strong unequivocal advice at an early stage of a dispute, only to retract from that position at a later stage in the litigation. The risk of a claim may give such experts more "food for thought", and result in them being more cautious and considered in their early advice.

The Future

In reality, will things change? Certainly for the good and competent expert, I would think not. Lord Dyson stressed that if the expert gives an "independent and unbiased opinion, which is in the range of reasonable expert opinions, he will have discharged his duty to the court and to his client and therefore have nothing to fear". However, unfortunately expert witnesses will have to be alive to claims by frustrated and disappointed litigants and I would have thought that the role of joint expert may be a little more challenging in this context!

Progress Network holds legal lecture

AECOM legal counsel, Nora Fung, has told young engineers that they have to be careful dealing with their liabilities in any major project.

Ms Fung warned over one hundred attendees at an ACE Progress Network event that they should be careful to avoid contractual clauses that suggest they "shall indemnify" the project. This can lead to limitless liability if there are problems with the project and liability need not be linked to negligence or a legally enforceable claim.

Instead, Nora Fung suggested that they should seek to have a net contribution clause included in the contract. This could ensure that each party liable in respect of a given damage should only have to pay the client for the proportion of the damage they are responsible for.

While she stressed that net contributions were of benefit to engineers, she accepted that some clients would try to avoid agreeing to such a clause.

Nora Fung went on to speak about further contractual issues that engineers may face before concluding with an overview of dispute resolution.

Alternative dispute resolution might involve negotiation, mediation or adjudication. The decisions over which route is taken might depend on relations between the client and engineer. Expert determination and arbitration were also highlighted. Ms Fung made it clear that litigation remained the option only where alternatives were not appropriate or had failed.

Engaging on the environment

Natural England's Andrew Wood outlines his organisation's role in advising on energy projects

Natural England's role
Natural England is the government statutory adviser on England's natural environment – including wildlife, habitats and landscapes – and people's enjoyment of it. We aim to conserve and enhance the natural environment for present and future generations, thereby contributing to sustainable development.

As well as advising and working with government, industry, communities and other stakeholders, we are a statutory consultee for development projects and plans that affect environmental interests. The advice we provide is underpinned by the best available evidence.

Climate change and energy challenges
Climate change and man's ill-considered responses to it are the most serious long term threats to the health of the natural environment. We must urgently address causes and consequences of climate change in order to protect our wildlife, habitats and landscapes and the services they provide. As by far the biggest source of greenhouse gas emissions, the spotlight has fallen on the way we generate and use energy. The transition to a low carbon economy is imperative, to address both anthropogenic climate change and long term energy security.

All types of energy generation and infrastructure can have impacts on the natural environment, negative and positive. The challenge is to deliver the low carbon energy we need in a manner compatible with key environmental goals. That challenge can be met. In essence it means deploying the right technology at the right scale in the right places, but it requires us to think carefully about how we get there. If we fail we risk causing irreversible damage to the environment in our efforts to protect it for the long-term – an ironic outcome, at best.

Energy networks
Energy networks have a crucial role to play in facilitating a low carbon energy system. Here too the level of change required is well documented and has significant implications for our environmental assets. New grid infrastructure will be needed to connect new generating capacity in more remote offshore, upland and coastal locations than has been the case to date. These locations also tend to be more environmentally sensitive.

Natural England's approach and our ask of industry
The environment is sometimes cast as a barrier to a low carbon future, but we have sustained objections to fewer than 10% of energy planning consultations, fewer still for grid projects. Our ambition is to say yes as often as possible and our "consenting" track record is good, but sometimes we have to say no and this may indicate that a developer has made poor decisions.

A strategic approach to delivering new energy infrastructure makes sense for the environment, and for industry. It offers the opportunity to consider alternatives, integrate objectives and minimise risks, environmental and commercial. Grid infrastructure by its nature brings need and opportunity to think strategically and the environment should be part of that thinking. To that end we are working with National Grid on enhancing their approach to options appraisal.

At the project level we encourage developers to talk to us as early as they can and where possible avoid getting locked into a specific location or design. This is not a means of subverting democratic process. Early engagement is a key plank of the new approach to major infrastructure projects and allows developers to demonstrate that proposals have been informed by open dialogue with interested parties, including communities. It also increases the chances of a positive outcome and can save all parties time and expense.

Finally, a word on promoting good practice. Demonstrating the outcomes that are possible and how we reach them is, in our view, a key ingredient of delivering sustainable energy infrastructure. We will play our part in sharing and celebrating good practice and invite others to help us.

FIDIC 2011 in Davos

Geoff French, the next president of FIDIC, writes on plans for 2011

Annual Conference 2011

The FIDIC Annual Conference for 2011 has been moved to Davos, Switzerland, from October 2 to October 5 2011. The decision to move the venue from Tunis was taken reluctantly but was considered vital given the perceived risk and uncertainty in North Africa at this time.

Although the location of the Conference has been changed its previously announced theme of “local resources - global perspectives” remains the same. Two years ago, when the annual conference was in London, there was very strong attendance from the UK and FIDIC hopes that this will be the case again this year.

FIDIC Contracts

Two major FIDIC Contracts Users Conferences have taken place in the last few months. In December a Users Conference in London attracted some 250 delegates and in January the first ever MDB Contract Users Conference attracted a similar number of delegates to Brussels. Both conferences combined users, drafters and lawyers and proved to be very informative and very useful.

The present situation on the planned new FIDIC contracts and guides are as follows:

- A guide to the already issued Greenfield DBO contract is about to be published;
- A brownfield DBO contract is being discussed;
- A Project Procurement Guide is in its final draft;
- Revised Consultancy JV and Sub Consultancy agreements are almost ready;
- The major task underway is a comprehensive update of the 1999 suite - the yellow, red and silver books. The yellow book is being addressed first with a review version planned for early 2012;
- Another task group is just getting started on a review of the Dredging Contract.

Sustainability

There is much good work going on around the world on the issues of sustainability. However, many countries are now using different approval rating systems which can be difficult to compare and many have no clear targets for the level of sustainability to be achieved in each sector.

FIDIC is seeking to address these various issues by producing at least two new documents in the next couple of years. The first to appear will be PSM2 - a practical guide to incorporating sustainability issues into project appraisals. It is intended to follow this with a publication setting out the overall standards that should be achieved in each sector - such a document will take some time to research and produce and the target is to publish it in time for the FIDIC 2012 conference in Seoul.

FIDIC’s new Climate Change Task Force is also reviewing if it is realistic to produce an accepted basis for the future impacts of climate change (e.g. sea level rise, storm frequency and intensity, temperature changes).

Integrity

To promote the FIDIC code of ethics and values more effectively FIDIC’s Integrity Committee is producing FIDIC’s Integrity Management System (FIMS). FIMS will provide guidance on compliance issues and help member firms demonstrate that they have appropriate integrity management systems in place. This issue has become even more important as clients and governments seek to implement stricter sanctions on anybody or firm found to have been involved in corrupt practices.

Meetings with MDBs

FIDIC meets each of the major MDBs (World Bank, EBRD, IADB, ADB, AfDB) at least once a year to raise issues of concern to its member associations and member firms.

At the most recent round of meetings FIDIC has been pressing the MDBs to clarify the issues around integrity. In particular the MDBs have been asked to identify the minimum due diligence requirements in pursing, submitting proposals and performing contracts, to reduce the risk of being exposed to corrupt activities by rogue members of staff or associated firms and hence the risk of possible debarment. This issue has, of course, become even more important now that the major MDBs have introduced cross debarment. These discussions with the MDBs will continue until the appropriate due diligence requirements are adequately identified. The possibility of using the new FIDIC Integrity System, FIMS, as a compliance tool is also being discussed with the MDBs.

The discussions with the MDBs have also covered the sustainability issues outlined earlier, capacity building (one of the issues for this year’s FIDIC conference), the introduction of in-country procurement programmes, the control of NGOs doing infrastructure work, QBS and innovation.

Advocacy

FIDIC is seeking to produce more practical guidance to assist Member associations’ advocacy activities. This issue is being considered by FIDIC’s membership committee which is widening its remit to address ways to enhance the support offered to current member associations.

Chris Cole talks projects, change and pride in engineering

Chris Cole, chief executive of WSP Group and ACE vice-chairman, speaks with Impact about the state of the industry and his views of the future

WSP Group is one of the largest international consultancy groups in the UK, and operates specialists in almost every sector. As such their chief executive is well placed to reflect on where the industry is heading.

Market conditions
"This is a huge question and one that is somewhat coloured at the moment by the unprecedentedly difficult trading conditions in the UK", explained Chris Cole.

"The industry has to change, become leaner, accept different working practices like off-shoring, embed sustainability into everything it does without adding material cost and certainly not unless there is value evidently derived.

"The good news is recessions do come to an end and the companies that have best adapted to change are the ones who progress more strongly.

"The industry has to think of itself more as a partner helping clients to provide solutions to their problems, rather than an appointed provider of services already defined."

Improving the industry
As the industry continues to respond to the downturn, Chris Cole sets out changes he expects to see.

He suggested: "The industry needs to be more collaborative, leaner, avoid so much duplication, and either reduce or be more pragmatic towards legislation and regulation.

"Whilst embedding modern design techniques like Building Information Modelling (BIM) and sustainability, we still have to find the route map to delivering the built environment at lower or certain costs."

Prospects for growth
Chris Cole is clear that there is scope for growth in the years ahead.

"The key growth sectors are well known to all of us. They range from transportation and infrastructure to utilities, energy and climate change influences. All these issues support the proven future need for enlarged, refined and new cities and towns across the world."

New technology
With a range of new technologies coming on stream, Chris Cole can see a range of implications for engineers.

"The technologies that will probably have the greatest impact on our industry in the short to medium term are all forms of BIM, ever-improving modelling both for visual and design advantages", he suggests.

"In addition off-shoring, together with those design techniques, will become more prevalent along with various forms of knowledge management to connect global companies that are easier to use than their predecessors, including even developed forms of Twitter."

ACE's future role
As a recently elected vice chairman of ACE, Chris Cole is clear about the business association's future role.

"I feel privileged to have been asked to play a part in ACE, notwithstanding my other acknowledged business commitments. My ambition in this role is to support Nelson and the Board.

"ACE should be seen as a champion on lobbying and influencing areas of key importance to the industry", he said. "Initially it should be the centre of current thinking and sentiment and, from that platform, provide the influence and voice."

Prospects abroad
As chief executive of an international firm, how does Chris Cole view the present global climate?

"The international situation in the wider Middle East region is fragile. That equally reflects upon the world today both politically and economically. Also, the problem is that the UK is quite harnessed to the region", he explained.

"I don't suppose China, South America, South East Asia or Australia feel similarly affected. WSP has suffered in the economic downturn of Dubai and the ongoing legacy issues, and similarly our Sweden operations have had to repatriate a few people from Libya."

Pride in projects
As one of the most experienced engineers in the industry, what projects have given Chris Cole greatest satisfaction?

"I have a sense of pride on the delivery of Europe's largest shopping centre at the time, the Bullring in Birmingham which was the last major project I can genuinely say I was intimately involved with. More recently the Shard of Glass in London and Freedom Tower in New York clearly shine through as great beacons of achievement and it gives me great pride to be involved with them."

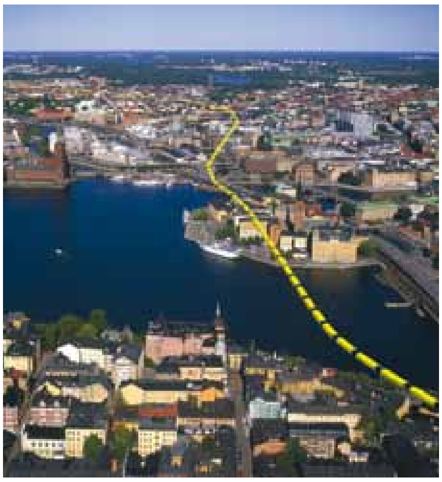
Looking back he commented: "Every time I walk across the Hungerford Bridge, I feel a sense of pride both with the design and the fact that this and the Millennium Bridge are the only pedestrian bridges constructed across the Thames for over 100 years."

And returning to the present, Chris Cole added: "When travelling through Stockholm and seeing the 20km of tunnelling being driven through the rock of the city on our City Line project, I feel good."

WSP icons for the future

World Trade Center, New York
WSP are structural engineers in One WTC, Two WTC, Three WTC, the Memorial and the Performing Arts Center. WSP were also the structural engineers for the now completed award winning Seven World Trade Center.

Credit: Silverstein Properties



The City Line, Stockholm
The City Line is Stockholm's largest construction project involving the boring of a six km rail tunnel under central Stockholm to relieve rail traffic in the city centre and increase capacity.

WSP Sweden has been working on the project since 2007, with around 100 people involved in designing the largest and most complex part of the project, which includes 2 kilometres of rock tunnel and the redevelopment of Stockholm's main rail hub. It is anticipated that the project will take nine years to complete and design is still in the first phase.

Credit: Project Architect: Pelli Clarke Pelli. Rendering courtesy of the Transbay Joint Powers Authority

Transbay Transit Terminal and Tower, California
Envisioned as the Grand Central Station of the West Coast, the new transit center will become a major transportation hub when it is completed in the next half decade. Details of the new Transbay Transit Center and Tower include centralization of the Bay Area's regional transportation network by accommodating multiple transportation systems under one roof, including a proposed future California High-Speed Rail terminus.

BBI Airport, Berlin
Berlin Brandenburg International Airport is Europe's biggest airport construction site – and we are managing the project.

Berlin's Schoenefeld Airport is being expanded to become Berlin Brandenburg International (BBI), the new airport for the German Capital. It is an enormous site, covering 1,470 hectares, the equivalent to 2,000 football pitches. Two parallel runways 1,900 metres apart will be operated separately to enable as many as 6,500 passengers to take off or land during a typical peak business hour. Between the runways the six-storey U-shaped midfield terminal will initially handle up to 27 million passengers a year, with the possibility for future expansion to up to 45 million passengers. Directly below the terminal, a new six-track railway station with three platforms for local and inter-city trains will connect the airport with Berlin city centre and the surrounding region.

The Shard, London
The Shard, which is now ascending rapidly over at London Bridge, will be the tallest building in western Europe, its crystalline façade transforming the London skyline with a mixed-use 310m (1,016ft) vertical city of high-quality offices, restaurants, the 5-star Shangri-La hotel, exclusive residential apartments and the capital's highest viewing gallery offering 360° views.

Credit: LBQ Ltd

Tynemouth Station restoration

Simon Jacques of Gifford looks at the restoration of an historic railway station that remains in use after 129 years

The magnificent Victorian station at Tynemouth stands on the coast east of Newcastle, built in 1882 by the North East Railway. It was designed by William Bell, the chief architect of numerous stations and highly regarded for the quality of his roof and canopy designs. These canopies are currently subject to a major restoration project, with Gifford (now part of Ramboll) acting as conservation engineer.

The station was built to transport the expanding local population, local goods services and crowds of seaside trippers. But changing patterns of tourism and industry meant that by the 1960s the station had declined into a considerable state of disrepair. In the 1980s the central bays of the station became part of the electrified Metro Tyne and Wear network that still operates today.

The station is in a conservation area and received grade II listing in 1978, upgraded to II* in 2003. During the 1980s several phases of refurbishment were carried out, including works to the canopies on the west platform, the footbridge, the five central canopies on the east platform and the adjoining station buildings. However, the remaining canopies fell into a very poor state, and due to the historical importance of the station, it received front page billing on the English Heritage "Buildings at Risk" review in 2008.

Gifford was appointed as conservation structural engineer in 2009 to investigate and report on the condition of the glazed canopies by Station Developments Ltd, a joint venture between the station owner and north Tyneside council. The architect for the work is Lathams.

The canopies follow the gentle curve of the platforms, creating an impressive fan arrangement of supporting ironwork. They are split into glazed bays, 19 bays over the west platform and 23 over the east. The glazed roof is pitched between each bay, separated by a valley gutter. At the gutter position there is a lattice truss, spanning perpendicular to the platform with a cantilever section against the platform edge and vaulted arch trusses between. The lattice trusses sit into the side of cast iron columns with filigree brackets at the junction between column and truss.

In March 2009 I carried out a detailed "finger touch" survey along with fellow Gifford engineer Joe Hinchcliffe using access platforms. We found the condition of the canopies varied, with the worst affected ironwork in the end bays where there had been greater exposure to the elements. The cantilever canopies were generally in a poor condition, with most requiring additional temporary support. The main problems encountered with the iron work included delamination of the top and bottom truss members, loss of rivets and bolts and fractures in the columns at the level of the bottom of the truss due to the expansion of corrosion deposits and thermal movement.

As well as the survey work, we agreed to carry out trial repair work on an end truss to the south. Part of the truss was removed and sent to an iron work restoration specialist. The trial repairs allowed the team to discuss appropriate methods for further repairs with English Heritage. We analysed the extent of dismantling required and a cost consultant used the results of the trials and the survey to produce accurate project costs.

Our detailed drawings showed the extent of replacement required and were reviewed by Gifford project director James Miller, a conservation accredited engineer. We issued repair details to English Heritage and North Tyneside Council as part of the submission for listed building consent.

We proposed that the trusses requiring the most significant repair should be dismantled and taken off-site. Tynemouth is an operational station and some repairs are simply not feasible on-site. The columns can be safely left but the extensive corrosion of rivets means that many require replacement with dome headed bolts. Truss members lost by corrosion are being reconstructed with mild steel angles and plates. Existing bolts will be replaced in stainless steel with bimetallic insulation.

The proposed repairs were approved by English Heritage and North Tyneside in February 2010, the project received funding early in 2011 and works started on site in April. To date, several of the cantilever trusses have been removed and are currently being assessed in the workshop. The project is proceeding on schedule and due to be completed in April 2012.

Transport Secretary talks efficiency and HS2

Secretary of State for Transport, Philip Hammond, has warned the rail industry it must become more efficient to secure a bright future

Speaking at Railtex 2011 at Earl's Court, Mr Hammond said he had a genuine sense of optimism for the future. However, he warned that his optimism rested on the sector delivering efficiencies and cost reductions.

Railways, he said, would play a big part in increasing transport capacity while reducing carbon emissions. It was with that in mind, he stressed, that the spending review had allocated a remarkable £18 billion to rail investment despite the pressure on the public purse.

"once Crossrail and Thameslink complete, the focus would move away from London"

Mr Hammond used that context to declare himself a rail realist. He explained that he would support the railways, but that they had to be affordable and efficient, noting that unit costs were as much as 40% higher than on equivalent European networks.

With a need to drive down public subsidy, he suggested the changes being made to Network Rail would help improve competitiveness. He noted that wage bills had risen faster than the UK average, and that productivity had not kept pace with those rises.

However, he held out real hope that collaboration with train operating companies, unions, the government and rail suppliers could help make the railways look more like a competitive customer service than a public sector monopoly.

Looking towards major projects, the secretary of state was pleased with the significant projects already underway. He then noted that once Crossrail and Thameslink complete, the focus would move away from London.

In particular he turned to High Speed 2, which will reduce journey times, increase connectivity and reduce the need for internal flights.

Mr Hammond emphasied the economic benefits of investing in the new railway. He said that £17 billion of investment would generate £44 billion of economic activity. The regeneration zones around HS2 stations would benefit from thousands of new jobs and he noted that the classic railways would benefit too.

With more intercity journeys taking place on high speed rail, the capacity for commuter services and freight trains on existing lines would significantly improve.

However, the Secretary of State issued a stern warning on HS2.

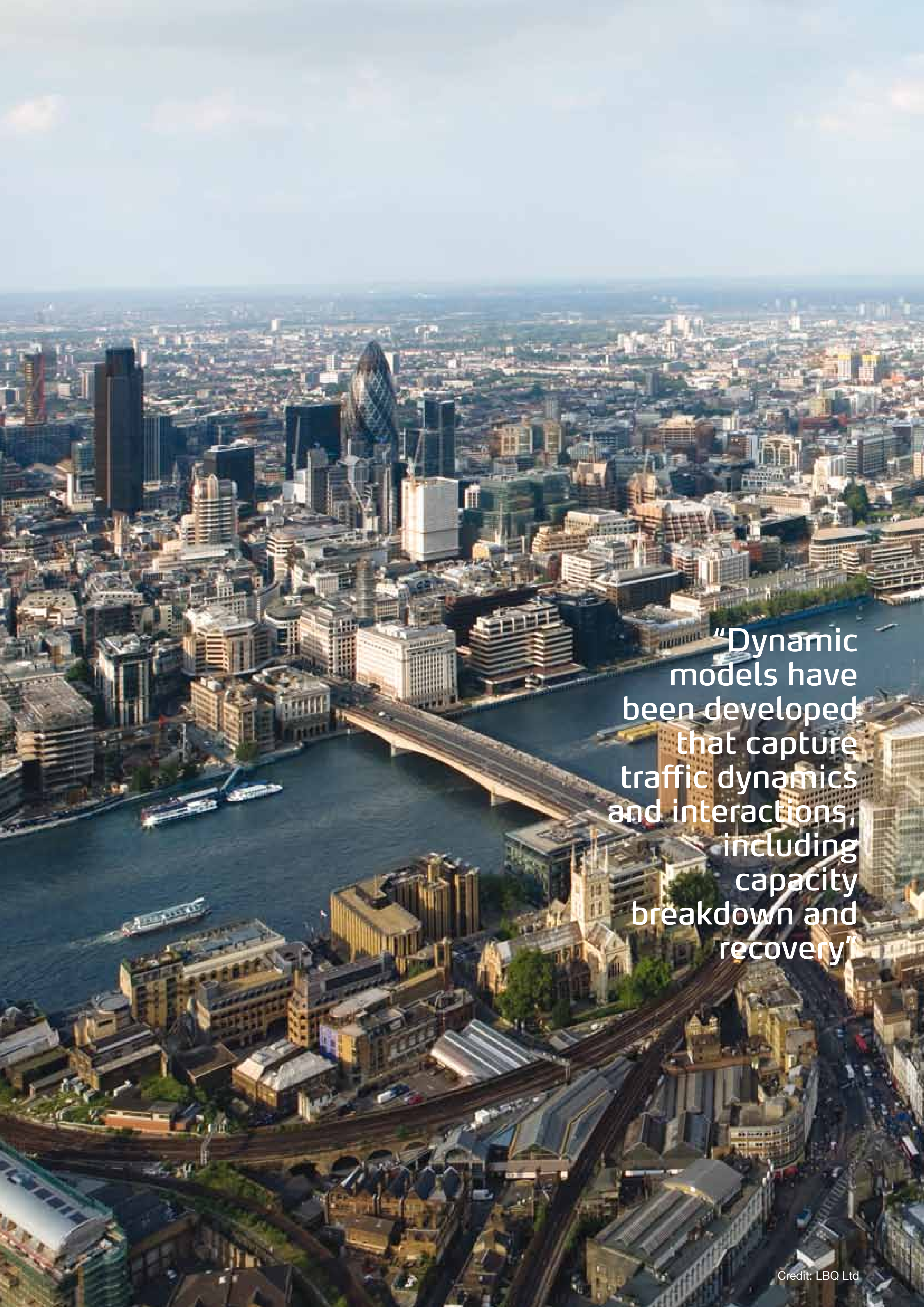
Philip Hammond expressed the concern that opposition to High Speed 2 was articulate, self-interested and well organised. He contrasted this to the major beneficiaries of the new line, who for the most part did not know they would be the ones to benefit from the jobs and opportunities it presents.

He therefore called on his audience to respond to the government's consultation and asked that they help to spread the word and encourage colleagues and friends to do likewise.

Asked why, given the strong figures in the cost benefit analysis, he could not just press on and make HS2 happen, Mr Hammond counseled caution.

He acknowledged that simply planning to build 200 miles of high speed rail in the UK would take longer than China will take to build 5,000 miles. But he stressed that as a democracy it was right that consultation and due process was in place. He then repeated that it was important that supporters of the project engaged with that due process.

Have your say on HS2
http://highspeedrail.dft.gove.uk/



"Dynamic models have been developed that capture traffic dynamics and interactions, including capacity breakdown and recovery"

Credit: LBQ Ltd

Viewpoint:

The growing role of dynamic modelling

According to Wilco Burghout of the Royal Institute of Technology, Stockholm, planners have to give up static traffic modeling and adapt to an age of dynamic modeling and real-time data

If only the world were static

Most of our roads have been planned and designed using static assignment models. These are models that were designed by mathematicians and as such they had to have properties that mathematicians like: they had to be differentiable, continuous and in general present a convex, solvable problem of how people get from A to B and what that means for traffic on the roads. Unfortunately this also meant they had to assume that roads behave something like balloons, being able to expand to accommodate any amount of traffic, be it at an asymptotically increasing amount of travel time for those vehicles.

Reality works rather different. Roads have an absolute maximum capacity and travel times increase suddenly when this capacity is approached. In addition, adding only a few more vehicles than a road can take will result in queues (called capacity breakdown) and the recovery capacity is much lower, meaning that the queues will only disappear when the traffic decreases far below the original maximum capacity.

While it is clear why planners prefer models that do not suddenly produce chaos while they are planning the road network, unfortunately real traffic does behave in this way.

In addition, these models usually work on a whole day's worth of traffic and assume that traffic demand and road capacity are static for the whole day. In effect this presumes that traffic can be evenly spread over the whole day, nobody has to be anywhere at a specific time, and rush hours do not exist.

While these assumptions greatly simplified the problem and made it possible to make computer models that would run on the computers available in the eighties and nineties, it also means that many of the current roads that were planned with such models never come close to being able to deal with the current traffic, especially when it counts: in the morning and afternoon rush hours.

“the addition of a road to the network can actually make everybody worse off by increasing the travel times on all routes”

From static to dynamic

However with today’s computing power there is no need to stick to models that massage reality to such an extent. Dynamic models have been developed that capture traffic dynamics and interactions, including capacity breakdown and recovery. Unfortunately, they behave a lot more like real traffic and are therefore unforgiving: producing large traffic jams for even minor road design errors, which makes them much more difficult to calibrate.

Planning agencies are therefore still reluctant to move from their trusted, well-behaved static models, even if their results are very different from reality. However, in recent years dynamic models are used more frequently, although often in addition to static models.

Another challenge that arises when dynamic models of traffic are used is that they need a dynamic description of the travel demand. This means modelling not only how many people want travel from A to B, but also when they leave A (or need to be at B). In addition, travel patterns vary with the time of day, with morning rush hours having most of the demand from peripheral origins to destinations in city centers and the afternoon peak in the opposite direction.

This means that the static demand matrices need to be factored into unequal chunks for different times of day. These dynamic matrices are then re-estimated together with the traffic model to match the observed flows and speeds for each time of day.

In many cases there is a need to model why people travel in the first place, how they plan their day and how they adapt their plans in reaction to traffic conditions. This is especially important for planning and managing dynamic congestion charging networks (e.g. Stockholm and Singapore), where varying charges given the time of day are used to try to spread traffic peaks over a longer period. Such dynamic modelling of travel demand (activity based demand models) is developing fast, but adds another layer of complexity and requires large amounts of data to calibrate.

The way these models operate is by using demographic and socio-economic data to create a synthetic population of the area, where each synthetic household has characteristics such as income, number of children, access to car(s) etc which on aggregate are typical for that neighbourhood. On the other hand, socio-economic characteristics of people at typical attractors (work places, shopping malls, schools etc) in the cities are cross-referenced against the synthetic households to generate travel patterns, which are then calibrated using overall travel demand data. These synthetic individuals and their travel patterns are therefore representative of their real life counterparts and follow similar trip chains such as dropping off the children at school in the morning, driving to work, doing the groceries and pick up the children on the way home. These synthetic individuals learn from their experience and may try to optimize their activity chain and times, in response to experienced traffic conditions.

So when evaluating the effects of dynamic congestion charges as a tool to try to spread the traffic peak hour, one can study not only the effects on peoples routes, but also departure times, and their travel behaviour in general. For instance, one can model people doing the groceries at a different mall to avoid traffic jams, or picking up the children before doing the groceries. It also provides information on the socio-economic effects of such measures, for instance which income groups or areas are benefiting most from certain measures and which areas may be negatively impacted. This allows for a much more accurate appraisal of proposed policies.

“Mobile phone network operators can provide a plethora of real-time data on congestion and traffic flows”

Braess Paradox: the price of anarchy

From the 1960s mathematicians have been aware of a counter-intuitive phenomenon called Braess’ Paradox. This says that under certain circumstances, the addition of a road to the network can actually make everybody worse off by increasing the travel times on all routes. In particular, in case of congested or near-congested networks, the addition of a sufficiently attractive shortcut (such as a bypass) is likely to ‘activate’ Braess’ Paradox.

Recently researchers have shown the occurrence of the paradox in real networks[1] using modelling analysis of the main road networks of New York, Boston and London. These showed that closing certain roads during rush hour would actually reduce the average travel time for everyone in the network. In addition, such ‘hidden bottleneck’ analysis has led to modifications of the road networks in Stuttgart (Germany) and Seoul (South Korea).

Everyone is a probe

Another issue with dynamic models used to be the amount of data needed to calibrate and validate such models to reality. Traffic sensors used to be built into roads, which made them expensive to place and maintain. As a result relatively few links in the road network would provide data on traffic flows and speeds. However in the last decade this has changed radically. Overground sensors based on microwave radar, image recognition and magnetic resonance and using wireless communications, have reduced the cost of traffic data collection.

In addition, two technologies in particular have increased the accuracy and abundance of data available to modellers. Mobile phone network operators can follow the location and

“travel times increase suddenly when capacity is approached”

“any predictive routing advice will invalidate itself if enough drivers follow it”

movement of everyone with a mobile phone, which when filtered, anonymised and mapped onto the road network provides a plethora of real-time data on congestion and traffic flows. The second technology is the use of sat nav devices which report back to operators to continuously improve the routing of all drivers using that service. The main challenge is now finding methods for treating such large amounts of raw data in real-time so that they can be used while they are still fresh.

Route Guidance for all

Sat navs are a quickly expanding market (7.5m UK drivers have one), and are having an increasingly noticeable impact on route choices. Current models use the latest traffic data (from roadside sensors, mobile phones and other sat nav users) to provide drivers with dynamic re-routing, attempting to avoid traffic jams and minimize delays. The next step in this technology is using dynamic modelling for short-term predictive routing. The real-time traffic data on which the current re-routing is based, is already old when the driver gets to the respective roads in the network, leading to inaccurate estimations and drivers avoiding traffic jams that no longer exist.

Dynamic traffic models are re-calibrated to the real-time data on the fly and can provide a short-term prediction of the traffic conditions, producing improved routing that takes into account how traffic jams develop over time.

There are political and ethical issues with the pervasiveness of sat nav and the dynamic re-routing, especially when one producer has a large market share (TomTom has currently 50% of the EU market). In effect it becomes unclear who is directing the traffic on the roads, and whether at some point some traffic jams observed on the roads are more a result of the advice from sat nav systems. One large sat nav firm has been asked by the Dutch government to show how their services may affect or cause traffic jams on the roads, at different levels of market penetration.

Another issue is that any predictive routing advice will invalidate itself if enough drivers follow it. This self-consistency problem is perhaps the most complicated issue that sat nav producers and government agencies have to deal with. Giving some users ‘bad advice’ for the good of the mass will undermine their credibility. The most promising direction seems to be using the uncertainty that is inherent in the travel times. Whereas currently average link travel times (for that time of day) are used, in reality there is a considerable amount of spread in the link travel times. This also means that in reality there often is no single optimal route, but a set of routes which are all ‘close enough’ to optimal, and it may depend on small variations in actual link travel times as to which would be ‘best’.

When explicitly accounting for this uncertainty, models are able to create a set of alternative routes which together may represent the best possible route, and which together will be able to accommodate all drivers trying to avoid the traffic jams.

In addition, the dynamic models try to capture their own effect by explicitly modelling the drivers’ reactions to their routing advice, and the resulting traffic conditions on the roads. In a number of iterations the advice is adapted until it is consistent with the resulting traffic conditions.

In many cases dynamic traffic models help analyse the crucial aspects of a problem and test suggested solutions. While it may be tempting to stick to static models for their simplicity, this may be a case of the proverbial drunk looking for his house keys under a street light, because it is too dark to search where he lost them.

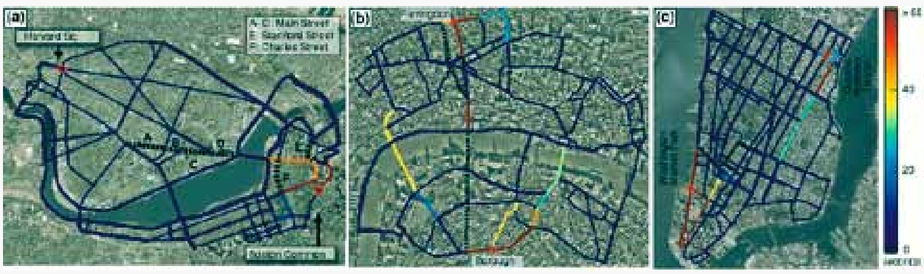


Figure 1 (Source: Hyejin, Gastner and Jeong 2008) Networks of principal roads (both solid and dotted lines; the thickness represents the number of lanes). (a) Boston-Cambridge area, (b) London, UK, and (c) New York City. The color of each link indicates the additional travel time to all drivers if that link is cut (blue: no change, red: more than 60 seconds additional delay). Black dotted lines denote links whose removal reduces the travel time, i.e., allowing drivers to use these streets in fact creates additional congestion.

[1] Youn Hyejin, Michael T. Gastner, and Hawoong Jeong, “Price of Anarchy in Transportation Networks: Efficiency and Optimality Control”, Physical Review Letters, 2008, 101, 128701.

Shadow minister for industry talks construction and SMEs

Impact editor Gavin Pearson interviews the shadow minister for industry Ian Lucas

Your brief as shadow industry minister incorporates the construction sector. What role do you see for construction in spurring the economic recovery?

Construction is a vital cog in spurring the economic recovery. Investment in construction creates domestic demand and domestic jobs. A significant drop in construction demand means that if we have any recovery at all, it is the wrong kind.

Construction involves large companies and small companies, partnerships and sole traders. The government suggests that SMEs should be leading us out of recession but construction, a sector where SMEs are so important, is lagging behind. The government is saying the right things but its words are not matched by action.

What role do you see for SMEs in supporting recovery, and how would you look to support them?

The government is making the right noises on SMEs – there is an understanding that smaller businesses, not just in construction but more widely, have a role in building growth.

First, we must recognise the position of SMEs in construction is urgent.

Second, I think it is vital that the promises that we are hearing from government about procurement – that one quarter of government procurement will come from SMEs – are carried through. We are hearing much from government about the savings it is making through the Green review on procurement – but the opportunities it could create for small firms are – one year on – still mostly at the action plan stage.

There has been some good work - the Contracts Finder website is a good idea. A similar scheme has been run by the Welsh Government for some time. However, for the UK version, I am not sure enough has been done to make business aware of its existence.

SMEs should not be afraid to speak out about these problems, either – I was always keen, in government, to hear of what was happening on the ground.

There has been a growing recognition of the role of infrastructure in spurring wider economic growth. Where do you see the big opportunities to harness that?

It stands to reason that developing our infrastructure is vital to spurring growth. I attended the opening of a construction project this morning to improve the road links to Wrexham's industrial estate – funded by the Labour Welsh Government. That improvement in the road infrastructure has long been recognised as a key component of the estate's future – and it provides jobs now to Birse, the private sector company carrying out the work, as well as their supply chain companies.

However, infrastructure is not just transport. Improved telecommunications to enable superfast broadband is a crucial investment that has to be made. The government says it agrees but the private sector investors who are needed to build that infrastructure say that the present investment framework is wrong. This will stop investment and jobs in what, under Labour, was one of our most competitive sectors.

Understanding tomorrow's needs – not just today's - will be key in building sustainable growth. Projects which anticipate future needs, rather than simply

solving current problems, will become increasingly important.

What do you think can be done to solve the funding problems faced by the construction sector, in light of the credit squeeze and reductions in public spending?
Firstly, the government needs to ensure that the promises it is making on bank lending – the warm words we hear from the Treasury that banks will ensure finance for business – are carried through in reality.

Project Merlin launched earlier in the year with much fanfare about the lending it would encourage to SMEs – though there was scepticism even as it launched. In the months since, there has not been a significant upturn in lending to business – indeed, the reverse is the case. It is key the Treasury does not allow Project Merlin to simply be a PR gimmick and that it pushes banks to stick to the promises they made at its inception.

Government must also work to facilitate confidence in the domestic construction sector – translating demand into build. We all know that young people want homes – but confusion in finance and in planning is stopping progress. And there needs to be understanding of the urgency of the position. We need to argue the case for more homes and work with the industry to eliminate the barriers to building them.

What do you want to see from Industry as it looks to recover in the years ahead?
I want to see imagination and novelty – in people and in processes. There are opportunities for the construction sector in harnessing technology - for instance, the coupling of the renewable sector with new build construction on homes – which I think have the potential for huge development. I think that pushing these sustainable developments forward as an industry – and setting an example for the government to follow – will be vital in the coming years.

I am not sure that the government have as clear a picture of the way forward as the industry does – so experience from the sector really should have a role in driving the government's thinking.

I want a commitment to jobs, training and apprenticeships across the industry. My constituents want to know where jobs for young people are going to come from and the construction industry needs to shout out how big a player it can be.

What message do you have for our industry, and what priorities do you have for the coming year and beyond?
Construction should punch its weight. It is a key manufacturing industry which creates jobs in every constituency in the country. It can be the driver of growth in jobs for young people and in addressing the great demand for homes which we all know is there. We need to work together to put the construction jigsaw together and exploit the challenge that low carbon build offers to build new homes, to retrofit old homes and to train our people in the new skills that the new, green world demands.

As shadow minister, one of the key things for me is building on the work we have already been doing in our policy reviews. It's vital that we, as an opposition, not only hold the government to account but also do so in a way which understands the needs of industry.

How best can industry engage with you and Her Majesty's Opposition?
There is a huge opportunity for industry to get involved at the moment – with the party carrying out policy reviews, now is the time to get involved and let us know your opinions. We are engaging with industry figures – but if anyone has an opinion on what we should be doing – or, indeed, what the government should not be – then I am very open to suggestions.

I am especially keen that we hear from SMEs too –as their voices – by nature of their size – need a keener ear. Please do get in touch and let me know your thoughts.

All construction businesses should contact their local MPs too – all of you have them and most of them do not understand sufficiently how important the construction sector is.

The Government Construction Strategy

Michael Hall examines the Government Construction Strategy and explores some of its key features

As part of its efficiency agenda, the Cabinet Office published the Government Construction Strategy in June 2011. It is a core part of the government's strategy for increasing growth in the UK economy and follows on from the review of the cost of civil engineering works, which highlighted the role that the client can play in driving value in construction.

Context

The Strategy notes that construction output in the UK is worth in the region of £110 billion per year, of which around half is accounted for by refurbishment and improvement of existing building stock. The Strategy notes that poor procurement practice, a lack of investment, and the need to maintain a competitive market have all presented a case for fundamental change.

The Strategy intends that the public sector becomes a better client, understands construction costs more thoroughly, gives better visibility of construction activities, and facilitates the creation of more effective supply chains.

Better coordination

More effective coordination of public sector construction practice is a core aim of the Strategy. A Government Construction Board has been created, bringing together representation from across the public sector and including local government. The group will be chaired by Paul Morrell, chief construction adviser, and will direct a number of task forces and workgroups focused on reform. It will also drive the development of mandatory Government Construction Standards for all central and English local government construction.

ACE has noted the often disparate nature of public construction practice, and believes that this new grouping offers the opportunity to facilitate sharing of effective practice, particularly in local government.

"the Strategy appears to address some long-standing criticisms of public sector behaviour"

Greater visibility

The Strategy recognises that suppliers require sufficient visibility of planned projects in order to adequately invest in the people and resources needed to deliver. To this end, the government will establish a rolling two-year pipeline of works to which funding has been allocated. Once established, this horizon may be extended.

While this is a welcome commitment to increase visibility, ACE feels that two years may prove to be too short, particularly given that major programmes can extend beyond the lifetimes of parliaments.

Procurement models

The Strategy aims to drive the development of improved procurement models that reduce waste, encourage the development of integrated supply chains, incentivise cost and programme efficiency, encourage standardisation and attract private finance.

Within all of this, the development of a truly integrated delivery team is paramount. One of the chief criticisms levelled at the construction industry is its perceived fragmentation and disconnected.

Cost benchmarking

As part of improving government understanding of value for money, the Strategy emphasises the need for benchmarking of construction costs, leading toward a more standardised understanding of value for money.

ACE has recognised that the lack of comprehensive understanding of the cost base of construction is a chief barrier to delivering better value. It is therefore pleasing to see this acknowledged as part of government strategy.

Contracts, prequalification, payment and insurance

ACE has consistently called for the greater use of recognised standard forms of contract with minimal variations. The Strategy recognises this.

Repetition and waste in prequalification processes – a long-standing concern of ACE members – is addressed by the adoption of PAS 91-standard prequalification forms in all central government procurement processes.

The Strategy reiterates previous government commitments to speed cash flow through the supply chain through fair payment provisions.

The Strategy also proposes the development of integrated project insurance, in collaboration with the construction industry. This should help to drive down project costs and improve the management of risk.

Aligning design, construction and operations

Under the Strategy, proposals will be developed in regards to how designers and constructors will be required to prove the operational performance of buildings in around three to five years post-handover. This reinforces proposals for a "new professionalism" made by the Usable Buildings Trust, and is aimed at realising greater energy efficiency and sustainability in new buildings.

Implications for ACE members

The Government Construction Strategy potentially represents a significant step change in the way that the public sector procures and manages construction. Clearly, achieving cost efficiencies is the primary motivation, yet the need to ensure achievement of carbon reduction targets is also embedded.

For ACE members, the Strategy appears to address some long-standing criticisms of public sector behaviour. Recognition of the role that clients have in achieving best value was identified strongly by Infrastructure UK in its review of the cost of civil engineering; the Government Construction Strategy continues this theme.

Commitments to improve the use of contracts, prequalification questionnaires and project insurance are also welcome, as is the renewed focus on greater understanding of the cost base of construction.

There is also the recognition that public sector clients need to share knowledge and best practice with each other, including local government.

However, all of this is likely to be driven through a fundamentally changed industry structure. Public sector clients will expect integrated propositions from the industry,

"the Strategy emphasises the need for benchmarking of construction costs"

which may encourage more consolidation, alliance building and joint ventures.

Paul Morrell and his team also face a significant challenge of changing cultures. Embedding best practice principles across the public sector will take quite some time. While some agencies and bodies are already making strides to address the efficiency challenge – notably Network Rail with its proposals for new models of programme delivery – others will take longer to make the transition. Support at all levels in the public sector will be critical to ensuring that the Strategy is translated into real benefits.

Another major risk to construction is political. Changes of government can pose a risk to programmes, and thus can pose challenges to developing longer-term and larger-scale projects. A key priority for government must be to find ways of mitigating political risk, thus giving assurance to suppliers, promoters and investors.

The Strategy does not apply to devolved matters in Wales, Scotland or Northern Ireland. ACE will continue to engage with authorities and core delivery agencies in the devolved nations in order to facilitate the best value agenda.

Impact columnist Graham Pontin provides his latest analysis of the economic climate and how this affects the industry. Graham Pontin is an economist with the Association for Consultancy and Engineering

How far and fast are costs likely to drive innovation?

There have been increasing concerns as to the cost of living over the past few months, with poor retail statistics and company forecasts suggesting that consumers and businesses are preparing for a difficult year:

- Wage increases remain below that of the current rate of inflation (CPI May 4.5%, RPI 5.2%);
- Oil prices have continued to pressurise household budgets following instability in the middle east;
- The announcement of potential increases of approximately 10-20% in energy costs in the upcoming winter.

However, out of inflationary effects and rising costs comes the possibility of innovation. For example, consider vehicle excise duty in the UK. This form of taxation has been in place for over 100 years; in 1909 it was announced that the duty would result in the road network being self financing; the tax disc was introduced in 1920. However, the actual tax itself saw little change until 1999 when point the duty was split into bands reflecting cars with smaller and larger engines. 2001 saw this tax policy once again shift with the introduction of more detailed bandings based on the carbon emissions of vehicles.

The UK car market since this time has gone through an amazing transformation. The increase in the cost of this tax alongside rising fuel costs has provided the UK consumer and business with greater incentive to go green. Whilst those who already owned vehicles were unlikely to replace them on this basis of this tax alone (given the up front capital costs), car manufacturers started to see a significant shift in consumers' demands.

Whilst car tax is based on the CO2 emissions (g/km) of a vehicle and

businesses and consumers may ask what their vehicles emissions are, carbon emissions still remain a hard concept to visualise. For this reason another related factor which can be easily seen and felt by consumers and businesses in terms of outlay took precedence, that of fuel efficiency. The combination of vehicle excise duty and fuel costs made this ever more important and, recognising this demand, car manufacturers started to respond. The number of innovations within the car market underwent a step change, with innovations such as active engine cooling/heating systems, hybrid engines, energy recapture systems, and driving evaluation/feedback systems.

The car industry has stepped up to the challenge presented to it by consumers, and with further innovations in battery technologies, engine efficiency and with competing hydrogen systems we could soon see the majority of cars in the UK producing emissions less than 100 g/km. These innovations have occurred following significant investment by business, with all areas of the process subject to scrutiny, including design, materials, construction processes and even improving driving style.

Given the carbon targets set by the UK, a similar revolution is going to be required in the construction sector. There have been a number of innovations in terms of green policies to encourage investment from the emissions trading scheme: the boiler scrappage scheme; insulation schemes; preferential VAT rates and tighter building controls. As with the car industry these will take time to feed through into business and consumer expectations, and it can be seen that these policies are starting to take hold. New homes are being developed at code 3, 4 and 5 in terms of sustainability, and the newest commercial spaces in London are being designed with the inclusion of solar, micro CHP, improved insulation and ground source heat pumps to reduce not only their carbon emissions but also their operating costs.

As with all investments there needs to be a number of conditions in place that will ensure success. The financial crisis and recession have resulted in tighter credit conditions which are less conducive to innovative investment. The higher level of risk attached to innovative technologies does not provide the certainty investors require, reducing the viability of projects. However, the recession has also meant that the rates of return available in other areas of the market have fallen making investments into improving buildings performance potentially more profitable, especially given rising rental rates at a time of a stagnant housing market. The rising costs presented at the beginning of this article have also played their part with already squeezed companies and consumers looking at ways of reducing their costs and liabilities. Whilst this raises consumers' disposable income, for businesses this improvement to its cost base can mean the difference between being competitive and in profit or uncompetitive and loss-making.

Another area of importance is that of policy certainty. To date there has been a wide and varied approach to green taxes for both businesses and consumers. For example, there have been policies such as the Carbon Reduction Commitment, Renewables Obligations Certificates, Emissions Trading Scheme, Green Deal, and the Boiler Scrappage Scheme. Within these there have been a number of changes with regards to the schemes themselves and the outputs they aim to achieve. This creates uncertainty within the market, which results in higher risk factors and increased return demands. If we compare this to the automotive tax regime, despite several rebranding's of the vehicle excise duty rates between 1999 and 2011, the number of schemes has remained minimal and the principles more consistent.

Finally, international conditions must be considered. In the motor industry there were clear signals for consumers across Europe and America that fuel cost increases and taxation were becoming unacceptable, and national dependence was not going to continue to be a feasible option. Car manufacturers responded to this demand across the globe, from Germany to Japan. If we look at the influence of low carbon policies, these hold even greater potential to change international construction markets. There is significant weight behind the drive to reduce the effects of carbon dioxide emissions, and there have been a number of policies put in place internationally to drive progress. This means the size of this market holds significant potential in terms of opportunities to work and profits to be earned. For example, China, despite expanding their electricity generation by significant amounts in more traditional fossil fuels, are also one of the biggest investors in renewables. The UK will be competing with these markets and so needs to ensure that its expertise is ready to deal with this global challenge.

"To date there has been a wide and varied approach to green taxes for both businesses and consumers"

Are we about to see the low carbon construction market take off? Based on the policy lag in the motor industry, the prevailing credit markets and consumer uncertainty, significant change is unlikely before the end of 2012, but following this the opportunities in the low carbon sector are likely to expand exponentially.

The McNulty Report

The McNulty report published on 19 May 2011 has made a number of recommendations to overhaul the UK's rail network. Key to the report is the need for efficiency savings to be made whilst not compromising the capacity of the system and allowing for future growth.

The scope of the efficiencies in the report are substantial in size, with McNulty indicating that the industry should be aiming to achieve a 30% reduction in unit costs (i.e. costs per passenger-km) by 2018/19.

This will certainly be a challenge. For example, if you were to ask most households to reduce their spending by 30% many would struggle? As one can imagine there is no single item that will make up these efficiencies and similarly the acknowledgement that there is no "silver bullet" in the rail sector is welcome.

However, given there is no silver bullet a wider variety of policy changes will be required. Whilst this may result in a more efficient rail sector in the medium to long run it is vital to ensure that short run operations and investment are not too severely impacted.

Industry has offered innovative schemes in the past, but clearly there is room to do more. This requires a further improvement in the client – supplier relationship, and given the scale of the challenge engagement will need to improve significantly.

Transparency and policy certainty will be key for any industry, as is clarity on the direction government wishes industry to go that instils confidence. It is important to remember that policy uncertainty does carry a premium.

The report recognises that fragmentation, excessive government intervention and lack of collaboration has created a system whereby the likely direction is the one in which it is heading. This is a start to recognising some of the inefficiencies that occur.

The misalignment of incentives has created inefficiencies and it is important to address this. The key to efficiencies will not necessarily be addressing the differential between opex and capex, but more importantly the way in which they are integrated and performed.

The direction and implementation of policy should be consistent and encourage industry involvement. Throughout the whole process incentives, policy and regulations should all be tailored towards the efficient delivery of a cost effective rail network.

It is also important that given the extent of the changes proposed that funding certainty is considered with regards to the subsidy of the railways, and the increase in prices. Volatility in these areas creates uncertainty for investors and those companies operating in the market.

It should be stressed that an efficient cost effective railway does not mean that every project is always delivered under the scheme which has the smallest cost.

The report's recommendation with regards to the decentralisation of Network Rail could provide significant benefits, responding more proactively to specific issues within regional areas.

The challenge will be maintaining a national direction in terms of system integration and harmonisation and knowledge transfer between these decentralised entities. For the efficiency gains proposed to succeed the benefits should flow easily across the entire network.

A final key area in the report is that of overheads and administration, ACE has campaigned for significant improvements to be made in procurement and planning processes. ACE recommends government consults wider with stakeholders on these issues in detail given their potential for efficiencies.

Scottish Trip 2011

ACE Golfing Society News

The highlight of the ACE Golfing Society calendar is without doubt the Scottish trip where we play world class courses and this year was no exception

The “main event” was the singles game on the fabulous Royal Troon course, an Open Championship venue and a very beautiful example of links golf. It is noted for having a very testing back nine.

Western Gailes is an Open qualifying course that looks inviting and innocuous from the comfort of the timber lined lounge yet proved very challenging, particularly when trying to get out of the bunkers.

The third course played was Prestwick Links where the first Opens were played. This really is a venue steeped in golfing history and proved to be the most difficult of the courses.

The Society stays at quality accommodation on these events and The Marine Hotel at Troon lived up to all expectations, with fine wines and beers, quality food and typical Scottish welcoming hospitality. There was a fine selection of malt whisky for those wishing to sample local specialities.

Traditionally, the ladies join us on these events; some play golf whilst others just enjoy being spoiled in luxurious surroundings. During our stay, the royal wedding added extra interest this year with the hotel providing a champagne morning for the ladies to make the occasion more memorable and enjoyable.

The weather was warm and dry, the best in living memory. Scotland is not known for its good weather but on this occasion we were blessed with a warm sun and just a stiff breeze.

Winner of the men’s singles for the Crisp Trophy was Vice Captain, Alan Exley, with a fantastic 30 points. The ladies singles was won by Christine Sutcliffe (captain’s wife) who takes away the Logie Quaich.

In the passionately fought North versus South match for the Waterman Cup, the North won again; indeed, a comment was made that the only time in recent years the South prevailed was when then captain, Jack McKee, changed sides and played for the North!

If you have an interest in golf and enjoy playing quality courses, why not join? A warm welcome awaits you.

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ACE releases Find a Consultant 2011

ACE's member directory has been redesigned and rebranded to improve reader experience and to better promote members to clients

Premier source for finding engineers
Find a Consultant aims to become the premier source for finding the best consulting engineers of any size and specialism, and to ensure clients and developers use this product as a reference tool and the primary source for information on consultancy and engineering firms.

Read by clients
Find a Consultant will provide ACE members with a free platform to promote their company to over 80,000 client organisations and other stakeholders such as local and central government, public and private clients, contractors, legal practices and universities.

Improved categorisation and editorial
The printed directory showcases the best companies in the industry, increasing and enhancing members' profiles. It lists members by location and by sector to make it easy for clients to use. The excellent editorial on specific areas and activities of our sector will help to increase awareness of member businesses and strengthen understanding of the sector as a whole.

Accessible from anywhere and from any device
The web edition will feature a vastly improved search with geolocation and proximity searches and rich member premium profiles. This will be available from any device connected to the internet either via the browser or as a native application.

Print edition

- Detailed information about ACE, our projects, staff and future plans
- Excellent editorial on specific areas and activities of our members
- A Who's Who of the consulting and engineering industry
- Top strategic thoughts about the future of our industry.
- A photo competition to showcase high quality work by the industry
- Detailed alphabetical, geographical and classification listing of members
- A complete list of the ACE Affiliates and their services
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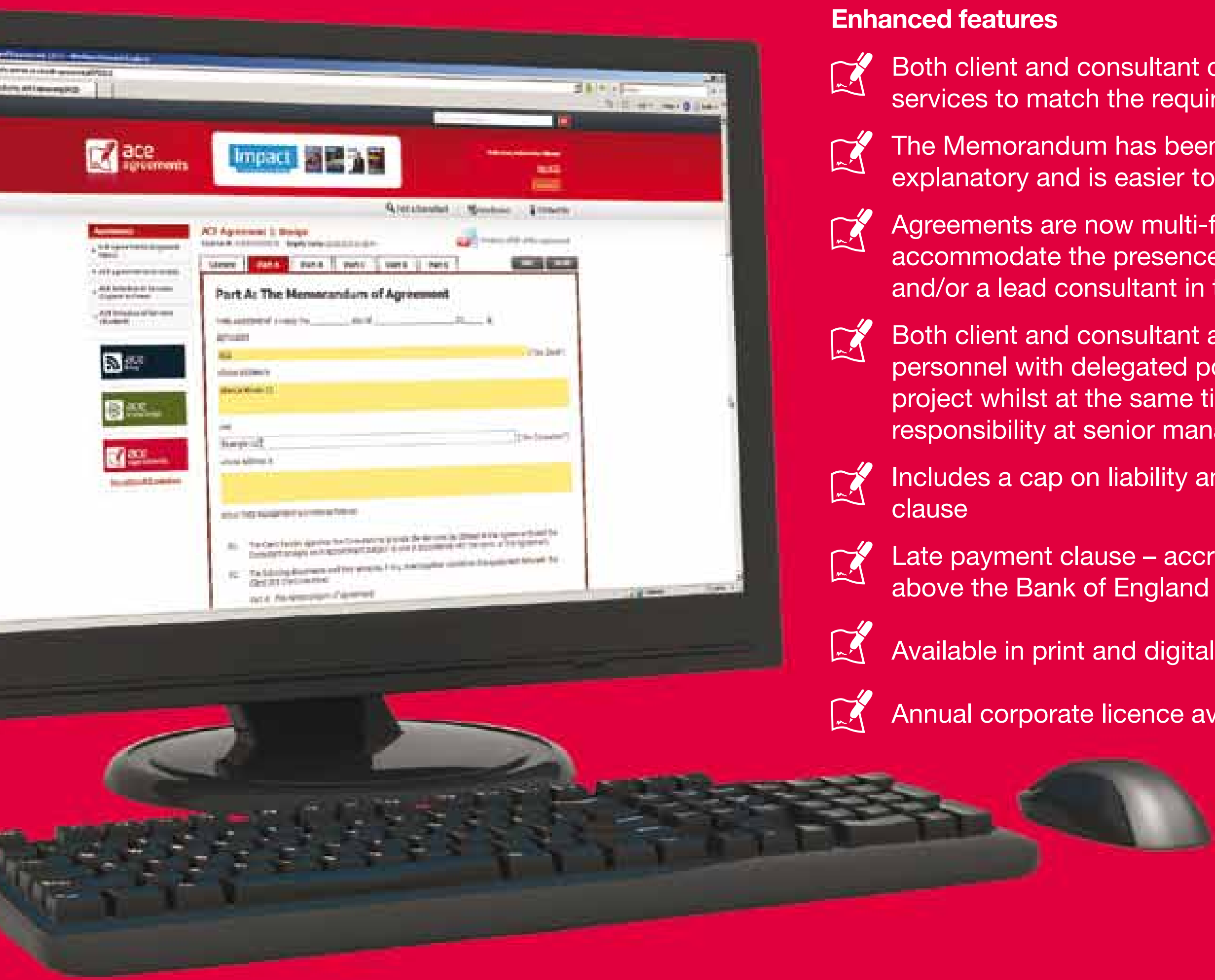

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