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# Meeting demand

**Adrian Coy, local authorities director at URS and vice president of the Institution of Civil Engineers (ICE), discusses the challenges around delivering infrastructure and explains why giving engineers the freedom to innovate can help**



**The speed at which the UK construction industry has moved from recession to the cusp of a boom presents us all with exciting opportunities and challenges.**

Projects such as Crossrail, the infrastructure for the London 2012 Olympic and Paralympic Games and HS2 have captured the public's imagination. Politicians recognise that infrastructure investment will deliver growth.

The National Infrastructure Plan (NIP) now details investment programmes worth some £383 billion and is attracting international attention.

Highways are central to this investment. Structural changes to the Highways Agency are coupled with a long-term investment programme to transform the strategic road network. Local highway authorities are beginning to deliver Growth and City Deal programmes. Initiatives such as pinch-point funding are contributing to economic growth.

There also seems to be the prospect of investment in local road maintenance, provided highway authorities embrace strategic asset management principles. Cycling infrastructure is becoming a priority.

The challenge of delivering these infrastructure programmes is demanding. In addition, industry leaders have committed, through the Construction 2025 strategy, to reduce costs by 33 per cent and to halve the time for construction, whilst reducing emissions by 50 per cent.

The case for infrastructure investment has been accepted by all the major political parties in the UK. The NIP has its detractors but for the first time, it provides a transparent pipeline that

means industry can invest; confident of stable programmes of work.

This is good news for civil engineering. Our colleges and universities can invest in courses for engineers and technicians. Employers can invest in recruiting and training the future leaders of our industry.

But how will the improvements needed to deliver these programmes be made? Advances in technology will help, but it is skilled people that will initiate change. Do we carry on doing what we've always done, or is a step-change needed in our knowledge, practices and behaviours if we are to deliver infrastructure faster, cheaper and more sustainably?

## Finding solutions

If we are to deliver demanding infrastructure programmes and attract talented young people into a stimulating and challenging profession, we need to encourage ingenuity to find new solutions that meet the infrastructure needs of society.

In pursuit of the radical programmes the Highways Agency has been charged to deliver, it is encouraging its consultants, contractors and wider supply chains to work collaboratively to harness innovation that will deliver quality outcomes faster and more cost effectively.

Demanding 'Accelerated Delivery' targets are driving the smart motorways programme. Through proactive collaboration during the early phases of the M6 J10a-13 project, URS was able to complete detailed design in line with the Accelerated Delivery target, allowing construction to commence some 14 months ahead of the original programme. A cost saving of 49 per cent was achieved at target cost stage.

**"Prescriptive contracts and out of date standards constrain ingenuity"**

**Adrian Coy**

One of the keys to this success is the freedom to innovate. Prescriptive contracts and out of date standards constrain ingenuity. This leads to 'engineering by numbers' that fetters the art of the civil engineer. Proactive risk informed engineering, and enlightened client processes, provide the environment in which solutions deliver greater efficiency and effectiveness.

Clients may fear that a buoyant pipeline of opportunity will lead to construction inflation that pushes up tender costs. There is also a risk that in the face of the opportunities open to young engineers, clients fail to recruit and retain the talent they need to manage their programmes.

These risks must be balanced by the opportunities that the efficiencies being driven through the Construction 2025 Strategy will bring. The leaders of tomorrow will learn from the experiences of today.

Effective public/private sector collaboration and involvement in the ICE and other institutions provides the potential to cascade learning from high-profile major projects to smaller scale schemes and sustainable asset management. Local highway programmes and local growth projects will benefit from a buoyant construction sector provided that clients, contractors and consultants all embrace the opportunities for change. ➔