ICE’S MANIFESTO FOR INFRASTRUCTURE 2015

#Commit2Infrastructure
Foreword
ICE Director General Nick Baveystock

A catalyst for social inclusion and driver of balanced growth
Infrastructure, as the foundation of all modern societies, transforms, regenerates, creates connectivity and equips skills. As well as boosting GDP and job creation, it increases consumer choice. It enables people from all walks of life to participate fully in society, making it a catalyst for social inclusion and essential for the provision of services – from health to education.

Realising the UK’s potential
ICE, as the voice of the infrastructure sector, has called on all political parties to prioritise the long-term development of the UK’s economic infrastructure; our energy, flood defence, transport, ICT, waste and water networks. Since the financial crisis, increased political understanding of the importance of infrastructure has led to a range of schemes and initiatives being announced by all parties. Some welcome progress has been made. By supporting its development and keeping it high on the political agenda, policymakers can ensure the UK has the infrastructure that it needs to fully realise its economic potential. Failing to make it a priority - or instead opting for quick electoral wins will see the UK’s competitiveness and resilience reduce – and ultimately infrastructure will revert to its traditional ‘Cinderella status’.

#Commit2Infrastructure – join the debate
Our Manifesto for Infrastructure builds on our Commit To Infrastructure 5 Step Challenge to politicians, and on our suite of State of the Nation reports. It provides a comprehensive set of overarching goals for UK infrastructure – and the specific policy recommendations needed to achieve these goals. Whatever the result in May 2015, it is vital that the public benefit from a Government placing infrastructure at the heart of its economic plans. I hope you will join me in pledging to keep infrastructure in its rightful place at the top of the political agenda.

Nick Baveystock
ICE Director General

Whatever the result in May 2015, it is vital that the public benefit from a Government placing infrastructure at the heart of its economic plans.

In 2013 the UK construction industry contributed £92.4 billion in economic output – 6.1% of the total for that year.

It created 2.1m jobs – or 6.3% of the UK total.

Infrastructure goals and policy recommendations

The goal: To achieve a long-term vision for UK infrastructure and a framework that delivers cross party consensus

HOW?

- Build on the initiatives and progress achieved in recent years – avoid starting from scratch which risks losing momentum and shaking investor confidence.
- Create an independent infrastructure body locked in by legislation – ideally by restructuring existing Treasury body Infrastructure UK to reduce delay and uncertainty. Any independent body should fulfil four requirements:
  - **Strategy** – establish a long term, evidence based strategy for infrastructure.
  - **Plan** – adapt the National Infrastructure Plan into a rolling 10 year National Investment and Delivery Plan, delivered to Parliament at the start of each new administration and debated so political consensus on new projects can be achieved.
  - **Performance** – ensure the Plan is consistent with strategic objectives by evaluating the delivery status of projects in it and the performance of the networks.
  - **Public engagement** – embark upon a proactive programme of public engagement to replace the current reactive approach – increasing transparency and trust and reducing NIMBYism.
- Act swiftly and boldly on the recommendations from the Davies Commission and pave the way for delivery, avoiding further delay and uncertainty around the future of the UK’s aviation hub capacity.

The goal: To deliver value for money for consumers and infrastructure clients

HOW?

- Roll out smart technologies, such as smart electricity meters, which actively promote a change in consumer behaviour – reducing consumption and emissions.
- Implement universal water meters for billed customers in England and Wales complemented by social and discretionary tariffs (with Scotland and Northern Ireland encouraging their take-up as appropriate).
- Work with local authorities to establish a joint programme to clear the local road maintenance backlog and commit to a regime which moves from costly quick-fix work to planned, preventative maintenance – addressing road defects on a long-term basis and making better use of taxpayers’ money.
- Empower an independent infrastructure body to report to Parliament on the cost of infrastructure projects to consumers to determine their value for money, and prioritise projects that offer the greatest socio-economic benefits.
ICE’s Manifesto for Infrastructure 2015

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The goal: To embed resilience to climate change and the shift to a low carbon economy into infrastructure decision making

HOW?

- Ensure the availability and resilience of our networks – and the “domino effect” across them when one fails – embedded in the criteria used to make decisions on which infrastructure projects go ahead so that new infrastructure is “future proofed”.

- Implement the recommendations in the Infrastructure Carbon Review swiftly to incentivise the shift to a low carbon economy.

- Fully implement Energy Market Reform smoothly with changes kept to a minimum.

- Establish an Office for Resource Management within Government to entrench a “circular economy” ethos across all departments and promote resource management as a driver of economic growth.

- Acknowledge the long term challenge flooding poses to communities, business and infrastructure, by committing to a long term maintenance investment programme which complements the six year capital commitment.

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The goal: To empower and resource city regions to manage infrastructure – unlocking economic potential and rebalancing growth across the UK

HOW?

- Accelerate the process for devolution of transport powers so they are located closer to those who actually use the transport systems – delivering greater focus, investment and better decision making.

- Create fully integrated city region transport authorities with much greater responsibility for road infrastructure and all public transport, supported by an overarching national transport strategy for England.

- Introduce more flexibility to Government funding – with less competitive bidding for one-offs, less allocations rigidly linked to Whitehall-led themes and the end of annual allocations of funds.

- Ensure Westminster and devolved administrations continue, and where appropriate, deepen collaboration on the long-term issues that go beyond borders, such as shared decarbonisation targets.
The goal: To upskill our existing workforce and grow a talent pool of engineers to meet our future infrastructure needs

HOW?

- Ensure that Ofsted rigorously inspects schools’ careers guidance so that the range of modern STEM paths available, including vocational and technician roles, are communicated to students.

- Work with the built environment and engineering communities to implement the recommendations from the Perkins Review and support industry in attracting and retaining a diverse pool of entrants.

- Ensure apprenticeships remain available to all ages, focusing on quality not quantity, and continue to support Trailblazer apprenticeships.

- Utilise the infrastructure project pipeline effectively to assess and plan for future capability needs, ensuring the UK is equipped with a highly skilled workforce.

- Take a pragmatic approach to migration – grow a domestic workforce while recognising that engineering is a global industry and the UK must learn from other countries’ experience and expertise.

Engineer employers are projected to need 1.82 million people with engineering skills from 2012-2022 – this means we will need double the number of engineering apprentices and graduates entering the industry.²

A framework for 22nd Century Infrastructure

Since the financial crisis, both Government and Opposition parties have sought to adopt a more long-term approach to infrastructure policy-making. Initiatives such as the National Infrastructure Plan (NIP) and ‘top 40’ infrastructure projects and programmes have helped improve the environment for infrastructure delivery.

Unfortunately, despite these efforts, the long-term strategic case for infrastructure still requires attention, the evidence base behind projects is often easily contestable, there is no authoritative method for evaluating the performance of our networks and public engagement around projects is often reactive and parochial.

Sir John Armitt’s independent review of long-term infrastructure planning in the UK, commissioned by the Labour Party, has articulated the challenge and has made the case for a National Infrastructure Commission. While there is not universal agreement on this specific proposal, a well-argued solution to our infrastructure governance issues has been put on the table. There is also now a growing coalition of industry and business voices supporting some form of independent body. ICE calls on other parties to now debate this issue and take a position.

Don’t throw the baby out with the bathwater – build on momentum achieved

ICE agrees with the Armitt Commission’s fundamental analysis of the issues holding back UK infrastructure development. The need for an independent body and the proposed Commission’s remit rightly centres on a set of solid, UK-wide infrastructure goals - however, ICE believes the goals could also be achieved by building on existing arrangements, rather than creating an entirely new entity. Restructuring HM Treasury’s Infrastructure UK into an independent infrastructure body, established through an Act of Parliament, would have the benefit of it being operational more quickly, reducing transition time. It would build on the infrastructure policy foundation already laid to avoid losing momentum.

Making infrastructure decisions stick

Any independent body that is established must quickly establish credibility, trust and integrity through a transparent process. In order to deliver timely and practical advice to policymakers, it should establish an evidence-based, integrated infrastructure strategy, deliver a rolling 10 year National Investment and Delivery Plan that packages projects with clearly identified funding streams, assesses the status of the projects and monitors the performance of networks. The plan would be delivered to Parliament at the start of each new administration, to be voted upon.

It is important that all political parties accept the outcome of the process. While it is neither possible nor desirable to remove the politics from infrastructure, an independent body would work to achieve a shared long-term vision for infrastructure and reduce the negative impact of short-term electoral cycles. The delay and indecision around how to resolve the UK’s aviation capacity needs is one example of why this is so important. Whoever is in Government when the Davies Commission makes its recommendation must act decisively and pave the way for delivery.

Be smarter at engaging the public

Public engagement around infrastructure projects often occurs after a decision has already been made, making it a reactive tool to placate affected communities. ICE advocates a proactive programme of engagement involving communities to ensure the benefits of projects are communicated from the outset. Some projects will inevitably be divisive and can adversely affect local communities. To manage this, an independent infrastructure body should advise government departments and local authorities on suitable compensation packages.
The long-term case for infrastructure still requires attention: the evidence base behind projects is easily contestable, there is no method for evaluating the performance of our networks and public engagement is reactive and parochial.

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Paying for infrastructure

The scale of the challenge
The ability to attract private finance into UK infrastructure is critical in delivering the infrastructure we need. The NIP has outlined a pipeline of projects with a total value estimated at £327 billion – 21% of the investment is entirely publicly funded, 14% represents a mix of public and private funding and financing, and 65% is purely privately financed.

Who pays for it?
This new investment will either have to be paid for by taxpayers, some form of user charging, or a combination of both. The consumer group Which? states that between 2003/4-2012, the biggest driver of an increase in utility spending was energy, rising by 52%, followed by water, up by 38%. The former was caused mainly by price increases rather than increased consumer demand.

The required levels of new investment in infrastructure mean that bills and charges are likely to continue to increase. As the Public Accounts Committee has observed, the impact of funding decisions on consumers need to be better understood and more clearly communicated. Yet there is no single individual in Government charged with assessing the overall impact of this investment on consumer bills and whether consumers shall be able to afford to pay.

Striking a balance
It is important that investment in new infrastructure projects and management of existing assets does not disproportionately affect users of services. An independent infrastructure body should undertake transparent and regular assessments of the cost of infrastructure projects and report to Parliament on their likely financial cost to consumers to ensure value for money, prioritising those offering the greatest socio-economic benefits.

The management of our local roads also presents an opportunity to demonstrate better value for money. ICE believe there is scope for a more ambitious joint central and local government programme to clear the maintenance backlog, and going forwards, commitment to a regime which moves from costly quick-fix work to planned, preventative maintenance – addressing road defects on a long term basis and making better use of taxpayers’ money.

Changing behaviour and driving efficiency
Politicians must also do more to drive consumer energy, water, waste and transport efficiency and manage demand. Smart technologies which actively promote a change in consumer behaviour and reduce consumption and emissions – such as the smart electricity meters programme – should be rolled out. Current schemes such as the Green Deal are failing to change behaviour or consumption. In addition, universal water meters should be implemented for billed customers in England and Wales, complemented by social and discretionary tariffs (with Scotland and Northern Ireland encouraging their take-up as appropriate).

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3 http://www.ice.org.uk/State-of-the-Nation
6 http://www.publications.parliament.uk/pa/cm201415/cmselect/cmpubacc/406/40602.htm
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We only consume two thirds of energy generated - a quarter is lost in transmission and distribution with the remainder used in production.7

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Extreme weather poses tougher challenges
Provisional figures show that 2014 was the UK’s warmest and fourth wettest year in records dating back to 1910. Eight of the UK’s top ten warmest years have happened since 2002, and five of the UK’s top six wettest years have happened since 2000.  
A growing population – the UK population is projected to increase by 15% by 2037 – and changing weather patterns caused by climate change are the two factors that will place the greatest pressure on our infrastructure in both the short and long term. As the 2013/14 winter floods showed, many of our infrastructure networks are simply not resilient – they are unable to withstand this kind of disruption. Average flood damage costs are currently £1.5 billion per year.

One-off cash injections to repair defences following severe storms are welcome, but flooding is not a one-off event, it is a long-term challenge. ICE believes Government should therefore commit to a long term maintenance investment programme, which complements the current 6 year capital commitment.

The “domino effect”
The silo approach to managing infrastructure assets contributes to a lack of resilience and causes a “domino effect”, where the failure of one asset undermines the operation of another. Resilience should be embedded into the decision-making process around priority infrastructure projects, so new infrastructure is “future-proofed”, as well as maintaining our current infrastructure assets. This approach requires politicians, regulators and operators to proactively plan resilience into networks and assets rather than reacting to the impacts of events.

24/7 infrastructure – is it practical?
With increasingly extreme weather events on the horizon, it will become more difficult to operate all infrastructure networks, at all times, in all conditions. It may also not be cost effective. Infrastructure providers and politicians should focus more on plans to restore services after a major event, rather than trying to keep them running at all costs, with priority given to the running of our critical transport networks, so that as many areas as possible are accessible and the busiest routes still operational.

Getting on the front foot
Cities such as New York, Rotterdam and Vancouver that are vulnerable to flooding events and sea level rises have recognised the importance of both climate change mitigation and adaptation. Tailored adaptation plans for cities and regions that take into account their existing systems, structures and demographics should be further developed here in the UK.

A low carbon future
Government should implement all the recommendations in its Infrastructure Carbon Review to incentivise the shift to a low carbon economy and deliver the smooth transition of Energy Market Reform to entrench political support for decarbonisation.

Turning waste into growth
The concept of a “circular economy” – where maximum value from waste can be extracted and drive economic growth – should be at the centre of resource management policy across departments, overseen by an Office for Resource Management.

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9 http://www.ons.gov.uk/ons/dcp171776_355182.pdf
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Five of the UK’s top six wettest years have happened since 2000

15% increase in UK population

£1.5 billion Average flood damage cost per year
The momentum for devolution
All of the main Westminster parties have endorsed decentralisation of authority and powers – and Westminster and Whitehall control is no longer assumed to be the best option. The many success stories – such as the devolved nations, London and most recently Greater Manchester – have shown how locating power close to those it affects can lead to economic growth and prosperity, thanks to greater policy focus, investment and ultimately better decision-making. Devolution of political powers can also help rebalance our economy – vital at a time when there is still huge disparity between the economic performance of London and some of our city regions.

Transferring transport powers
ICE has argued that further devolution could work particularly well when it comes to decision making affecting transport infrastructure. Local transport governance is often fragmented, with inadequate investment. London has shown how effective transferring substantial transport powers and investment to a city can be. There is no ‘one size fits all’ model when it comes to cities’ ability to assume greater powers – however there is a lot that can be learned from London and Manchester and applied elsewhere.

The development of city region transport strategies should be supported and guided by a comprehensive national transport strategy for England, complementing existing plans in the devolved nations.

Reform needed to empower cities
This could be achieved through the creation of properly resourced local transport authorities, with responsibility for road infrastructure, including investment and maintenance, as well as all local public transport. The development of city region transport strategies should be supported and guided by a comprehensive national transport strategy for England, complementing existing plans in the devolved nations. There should also be more flexibility to Government funding, with less competitive bidding for one-off funds, less funding allocations rigidly linked to Whitehall-led themes and the end of annual allocations of funds.

Collaborate more with devolved nations on big picture issues
Long-term challenges – such as decarbonisation of our energy supplies and the shortage of engineers – transcend borders and narrow national interests. Deeper collaboration between Westminster, Holyrood, Stormont and the Senedd on major long-term issues would improve how we manage and prepare for them in future.

The goal:
To empower and resource city regions to manage infrastructure – unlocking economic potential and rebalancing growth across the UK.

The development of city region transport strategies should be supported and guided by a comprehensive national transport strategy for England, complementing existing plans in the devolved nations.
Road traffic in England is forecast to grow by

19% in the next 10 years

43% from 2010 to 2040

Addressing the skills and STEM gap

The goal: To upskill our existing workforce and grow a talent pool of engineers to meet our future infrastructure needs

Tackling the STEM education drop off
Maths and Physics are gateway qualifications for engineering, but students, particularly females, choose subject options at 14 and 16 years which hamper their ability to follow engineering careers.12 This situation is exacerbated by shortages of Physics and Maths teachers13 and limited subject choices in schools with small sixth forms.14

Schools careers education and guidance is inadequate.15 Ofsted should rigorously inspect and monitor it, so that teachers communicate the full range of STEM career paths available to all students. The Tomorrow’s Engineers programme is critical to this and should be a central plank in Government education policy. Government should also continue to work closely with the built environment and engineering communities to implement the recommendations from John Perkins’ Review of Engineering Skills and support industry in attracting and retaining a diverse pool of entrants.

Boosting apprenticeships and technicians
As the economy recovers, employers are starting to report shortages of people with the required civil engineering skills.16 This is set to worsen – with an ageing workforce, increased numbers of engineers will retire but will not be replaced due to a 9% fall in the numbers of 18 year olds with the educational qualifications to enter the profession between 2012 and 2022.17

There has been strong support for apprenticeships from across the political spectrum, but the debate often centres on the number on offer rather than the quality. Apprenticeships should remain available to all ages, as part of re-skilling the existing workforce, and Government should continue to support employer-led apprenticeships such as the Trailblazer scheme – a high quality qualification with a strong practical element.

Between 2012 and 2022, engineering enterprises will need to recruit around 56,000 engineering technicians per year.18 Apprenticeships form an important part of meeting this demand. Government’s emphasis should be on increasing progression to Level 3 (advanced) technician apprenticeships – the EngTechNow campaign, which is led by ICE, IMechE and IET, aims to deliver 100,000 technicians by 2020.

Capturing the value of infrastructure
The continued recovery of the UK construction industry in 2015 will stretch employers’ ability to source sufficient labour to meet the available work. Engineering is a global industry and politicians should take a pragmatic approach to migration, growing a domestic workforce while recognising that the UK must learn from other countries’ experience.

UK universities have a strong global reputation and benefit from the recruitment of talented overseas students. These students are a valuable resource to universities and potentially to UK-based employers and it should be made easier for UK employers to recruit them, particularly specialists with postgraduate qualifications.

The NIP pipeline offers the opportunity for the assessment of current and future skills needs, ensuring the UK has a skilled workforce ready to deliver the infrastructure we need. We support the establishment of the Tunnelling and Underground Construction Academy to deliver the tunnelling capabilities and capacities that Crossrail, HS2 and Thames Tideway Tunnel will require and to the approach being taken to deliver the nuclear new build programme.

12 According to Joint Council for Qualifications (JCQ) data from 2012, 447,327 students sat Physics or Additional Science at GCSE, but this translated into only 36,701 entries for Physics A Level. Of these, only 21% were female. Females also made up only 39% of those taking Maths A Level.
13 http://www.universitiesuk.ac.uk/highereducation/Documents/2014/impactOfITTreformsOnEnglishHEIs.pdf
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Apprenticeships should remain available to all ages, as part of re-skilling the existing workforce, and Government should continue to support employer-led apprenticeships such as the Trailblazer scheme.
Join the debate

Ahead of the General Election, ICE calls on all policymakers to sign up to our Manifesto for Infrastructure 5 Pledges:

1. To achieve a long term vision for UK infrastructure and a framework that delivers cross party consensus.
2. To deliver value for money for consumers and infrastructure clients.
3. To embed resilience to climate change and the shift to a low carbon economy into infrastructure decision making.
4. To empower and resource city regions to manage infrastructure – unlocking economic potential and rebalancing growth across the UK.
5. To upskill our existing workforce and grow a talent pool of engineers to meet our future infrastructure needs.

You can also support our campaign by:

• Retweeting our General Election campaign #, #Commit2Infrastructure, to be part of the debate – and encouraging your followers to do the same.
• Adding a link to our Manifesto for Infrastructure animated video on your website.

Follow us @ICE_engines
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About ICE

Established in 1818 and with over 85,000 members worldwide, ICE is a leading source of expertise in infrastructure and engineering policy and is widely seen as the independent voice of infrastructure. ICE provides advice to all political parties and works with industry to ensure that civil engineering and construction remain major contributors to the UK economy.