

ICE submission to Budget 2020

About ICE

Established in 1818 and with over 95,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global chartered membership.

Overview

The Government has made a public commitment to significantly increase investment in infrastructure as part of an 'infrastructure revolution'. Beyond the headline figures, this new investment is important as it offers an opportunity to catalyse the improvement in how infrastructure is delivered and maintained in the UK.

Within that context, the focus for Budget 2020 on infrastructure should be to:

- Deliver a national infrastructure strategy to address, in a sustainable way, the impacts of a population growing to 75 million in the coming decades
- Build up regional strategic planning capability to ensure no part of the UK is held back due to lack of infrastructure investment
- Take tangible steps to target low productivity in infrastructure delivery
- Support the evolution of funding models so that the future infrastructure system pays for itself

The measures outlined in this submission are focused on achieving the outcomes above. Our recommendations for Budget 2020 are:

- Deliver a joined-up, evidenced-based National Infrastructure Strategy based on the National Infrastructure Assessment
- Devolve funding to focus on immediate priorities such as asset maintenance
- Put in place the institutional framework to identify long-term regional strategic need and priorities
- Take tangible steps to target low productivity in infrastructure delivery including offsite construction and Project 13
- Support the evolution of funding models so that the infrastructure system pays for itself in the future
- Support the levelling up agenda by creating a UK financial institution to replace access to the European Investment Bank

Deliver a joined-up, evidenced-based National Infrastructure Strategy based on the National Infrastructure Assessment

Our National Needs Assessment, a long-term look at infrastructure requirements to 2050, forecast that by that decade, the UK population will have reached 75 million and will have aged dramatically¹. The latest ONS population projections confirm that trajectory, indicating a population 'projected to pass 70 million by mid-2031'². This growth in population, without a change in how our society uses infrastructure and a change in how it is delivered, will see a rise in carbon emissions, a reduction in capacity (particularly in urban areas) and a reduction in overall quality of life.

The UK will need to embed sustainability – economic, environmental and social, into policy decisions in the future, more so than at present. Investment in new and renewed infrastructure will play a core part in achieving that outcome. According to a UNOPS study, 72% of the UN Sustainable Development Goals, globally recognised measures of human sustainability, can be achieved through infrastructure³.

The Government is fortunate to inherit a clear strategy to address infrastructure need. The National Infrastructure Commission's, Infrastructure Assessment, a long-term investable plan to address carbon, capacity and congestion, needs a strategy to make it live. ICE has been calling on the Government to publish an infrastructure strategy that is long-term, holistic and evidence-based using the National Infrastructure Assessment as its framework⁴. The Assessment sets out clearly how the UK can achieve a more sustainable society, take steps towards the net-zero carbon emissions target and adapt to the effects of new extreme weather patterns through:

- Nationwide full-fibre broadband by 2033
- An energy mix that is 50% renewables by 2030
- Recycling three-quarters of all plastic packaging by 2030
- A pathway for stable long-term transport funding for cities
- Taking steps to prepare for 100% electric vehicle sales by 2030
- Ensuring resilience to extreme drought and
- Adopting a standard national approach to flood resilience by 2050

Meeting the net-zero carbon emissions target by 2050 is important. The National Infrastructure Assessment is a major step in that direction recognising that both adapting to the effects, and staving off a rise in global temperatures, are important. Later this year the Committee on Climate Change will publish further advice on steps towards 2050 and 'ICE's 2020 State of the Nation report will also outline advice to government on policy levers that can be used to achieve net-zero. The second National Infrastructure Assessment will also outline a path to net-zero with detailed and independent advice on the role of infrastructure in meeting the target. There is, no excuse for inaction in delivering the recommendations of the first National Infrastructure Assessment at this Budget.

Delivering a National Infrastructure Strategy, based on well-evidenced need will help to ensure more effective outcomes from spending. Evidence from our global study⁵ of strategic infrastructure planning show these outcomes to be:

- Ensuring packages of investment equate to more than the sum of their parts
- Improving public confidence in the process
- Growing investor and supply-chain confidence to improve delivery capability and
- Improving the affordability of future investments by supporting sustainable economic growth

¹ ICE (2016) [National Needs Assessment](#)

² ONS (2019) [National population projections: 2018-based](#)

³ UNOPS (2018) [Infrastructure: Underpinning Sustainable Development](#)

⁴ ICE (2019) [What should be in the National Infrastructure Strategy?](#)

⁵ ICE (2019) [Enabling Better Infrastructure](#)

Research conducted for ICE⁶ shows that the public want investments to be made strategically, with more people concerned with the impact of infrastructure on regenerating communities, along with its long-term effects on economic growth, as opposed to the overall cost of constructing projects. The need for a strategy is also not lost on the public, with 75% of the GB public agreeing with the statement “The UK is in need of a new national strategy for infrastructure”. Delivering a National Infrastructure Strategy that is holistic, joined-up and evidenced-based should, therefore, be a priority for Budget 2020.

Devolve funding to focus on immediate priorities such as asset maintenance

Britain's pothole problem is a well-documented challenge⁷, successive governments have taken a piecemeal approach to fixing the problem allocating funding which is below the required level and typically issuing this through annual bidding rounds. Budget 2020 is an opportunity to change this approach.

What is needed is a strategic approach that sustainably addresses the problem through programmes of work for roads and other infrastructure networks at the regional and local level. Targeting asset maintenance will help to pump-prime regional supply chains for coming investment while providing the second-order benefit of strengthening major project delivery across the country.

Put in place the institutional framework to identify long-term regional strategic need and priorities

The second step that the Government should take at the regional level is to mandate the creation of regional infrastructure strategies, that include housing. Taking this step will create a clear plan of action. Mandating the creation of regional strategies, before investments are made, is important. Taking this will ensure projects are delivered against evidenced need, leading to better outcomes.

The UK government should evolve the role of subnational transport bodies in England to incorporate other economic infrastructure and their interactions with housing, to create subnational infrastructure bodies. These bodies should then be tasked with creating integrated regional infrastructure strategies that include housing.

Requiring regions to go through this process will also increase regional strategic capability, to support them in determining their priorities and making a case for investment in decades to come. Fundamentally this will also help to achieve the 'government's objective for sustained levelling up through infrastructure.

The Government has indicated its intention to rewrite the Green Book to boost investment outside London and the South East. ICE analysis shows that the UK model for cost-benefit analysis of investment, as part of the Green Book, is well regarded internationally and used as a model for other countries⁸.

The focus on rewriting the Green Book guidance is not the right one. If the argument is that Green Book guidance disadvantages some regions over others, then this is a misrepresentation of the full model that sits at the heart of the

⁶ ICE (2019) [What should be in the National Infrastructure Strategy?](#)

⁷ ALARM (2019) [Annual Independent Survey](#)

⁸ ICE will be publishing an insight paper into alternative ways of appraising infrastructure procurement on 11th February 2020.

guidance, the five-case business model. Only one of the five cases is related to value for money (the economic case); the strategic case is where arguments on priorities are placed. As noted by others, "alignment with the Government's policy priorities, outlined in the strategic case for a project, is usually the main reason for going ahead with a project."⁹ Ultimately, Ministers decide whether investment should or should not go ahead, guided by the overall business case.

How the model is currently used sees it fail in two areas. The first is where projects are signed off because of policy priorities of one Government, which are not subsequently the priorities of a succeeding Government. This mismatch in priorities leads to project reappraisal to satisfy a new Government that the case is valid (e.g. High Speed 2). The second area where how the model is used sees it fail is where the evidence for the strategic case for a project is limited, greater focus will naturally be placed on the more quantitative economic case (with its benefit-cost ratio).

In both instances, the problem can be solved through more robust strategic infrastructure planning. At the national level, the creation of infrastructure strategies based on a thorough assessment of need can solve much of the problem. Strategic need doesn't change with a change in government, therefore being disciplined in deciding projects based on well-evidenced need (e.g. from the National Infrastructure Commission) will see major projects transcending political cycles.

Effectively the strategic case in the five-case model becomes more strategic and less political. This also comes with the added benefit of making infrastructure decisions more transparent to the public, reducing public opposition to proposals.

To support more regional investment and 'levelling up' through the five-case business model, what is needed is more robust evidence of regional infrastructure need. Regions empowered with regional infrastructure strategies, and greater clarity on how regional infrastructure systems operate as part of one system will be able to make stronger strategic cases for investment to Ministers (or support Ministers in making the case). This should be the focus, rather than an arbitrary rewrite of Green Book guidance, to ensure changes are woven into the fabric of strategic infrastructure decision making for decades to come.

Putting regions in the driving seat through regional infrastructure strategies leads to the better outcome of regional ownership of trade-offs, capability development across regions, cooperation across regions leading to more aligned projects and programmes and the development of regional construction pipelines. These provide more certainty against which construction firms can invest in capital equipment. The ambition from a renewed focus on regional investment should be to make regions masters of their destiny, similar to what has happened in London since the reintroduction of London government.

Take tangible steps to target low productivity in infrastructure delivery including offsite construction and Project 13

The low levels of productivity in the construction sector, compared to the wider economy, is well documented. Workers remain the main contributor 'to overall unit 'productivity' compared to other industries where automation and capital utilisation is more important."¹⁰ Adopting the recommendations set out earlier for both national and regional infrastructure strategies, that feed associated infrastructure pipelines, will help in giving the supply chain much-needed certainty to invest. However, beyond this, tangible actions are needed through practical solutions such as offsite construction and supporting the global change in approach to delivery, through models such as Project 13.

The Government, as a lead client, can play a big role in driving change, through projects such as HS2 and Northern Powerhouse Rail pioneering uptake of offsite manufacturing for construction as a lead client, by implementing the previously announced presumption in favour of offsite construction. The steps needed to achieve this include understanding commonality between department standards; bringing supply chains together through models such as the

⁹ Institute for Government (2017) How to value infrastructure

¹⁰ Farmer Review (2016) [The Farmer Review of the UK Construction Labour Model](#)

Infrastructure Client 'Group's Project 13; and establishing a mandate, similar to BIM Level 2, to drive the use of offsite in public sector financed projects – including the use of trailblazer government projects¹¹.

Separately, Project 13, an industry-led approach, continues to be recognised as a game-changer in how infrastructure projects can be delivered. The Project 13 approach to infrastructure delivery seeks to transform current behaviours concerning procurement, risk allocation, innovation and skills investment – helping to support productivity improvements and ensure better outcomes for the public.

International recognition of Project 13 continues to grow, with Sydney Water in Australia becoming an 'Early Adopter' in 2019. More recently, a Community Paper from the World Economic Forum highlighted that 'Project 13 and other collaborative methods, need to be 'introduced'¹². The Government should set out support for the principles of Project 13 to help drive their adoption throughout the infrastructure sector; leading to the more efficient delivery of projects and programmes.

Support the evolution of funding models so that the infrastructure system pays for itself in the future

A well-functioning infrastructure system not only supports sustainable economic development but should also pay for itself. One of the key outcomes targeted from any significant increase in infrastructure investment should be a financially sustainable infrastructure system – ensuring the future infrastructure system pays for itself, with Budget 2020 being the down payment.

Budget 2020 should look to unlock new funding streams by supporting the transition from tax-funded operation to user funded operations through front-loaded investment in schemes to support transition, such as public transport investment in cities to support the introduction of congestion charging, or pilot studies to make Pay As You Go a reality on the UK's busiest roads.

Support the levelling up agenda by creating a UK financial institution to replace access to the European Investment Bank

In deciding on a UK institution as part of the Infrastructure Finance Review, the government should look to replicate the functions, purpose and mission of the EIB in a UK context. This includes supporting development:

- In less economically developed regions, or where the cost-benefit analysis might be low in economic terms, but high in social or environmental terms – assisting with the governments' levelling 'up' objectives
- In innovation, by investing in projects with higher risk profiles, or untested technologies – such action may be needed to support the rollout of bold new technologies to achieve the net-zero carbon emissions target
- To crowd-in finance for "good" projects, by serving as an anchor investor, ensuring ready capital is available for a wide array of projects across the country

¹¹ ICE (2019) [Submission to Infrastructure and Projects Authority on proposal for new approach to building](#)

¹² World Economic Forum (2020) Rebalancing Risk Allocation in Infrastructure: A collective effort to improve collaboration between the public and private sectors (forthcoming publication)

The Government should seek to replicate the functions, purpose and mission of the European Investment Bank through a UK financial institution to support investment in regions and technologies that can provide a game-changer in levelling up across the UK.

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