THE SPIRALLING COST OF INDECISION
The financial impact of delaying infrastructure
Infrastructure is the ignition of our economic engine. When boarding a train, taking a flight, or driving to and from the office, most do not give a second thought to the importance of what they are doing for the economy and the prosperity of our nation. As the National Infrastructure Plan highlights, high quality, resilient transport networks mean more jobs, a more productive workforce and, as a consequence, greater overall productivity.

Following the global crash in 2008, the government invested heavily in infrastructure, and it was this that contributed to the UK weathering the storm and remaining relatively strong through years of uncertainty. Now as we enter uncertain times once again as a result of leaving the EU, our nation needs the same commitment - perhaps more so than at any other time in a generation.

In recent years, the government has acknowledged the role that infrastructure and its construction can play, and for some time the noises coming out of Whitehall have been extremely positive: promoting and allowing schemes to develop and committing funding to build the portfolio. The National Infrastructure Plan lists a multitude of programmes right across the country, from new power stations to state-of-the-art transport projects, new trains and road maintenance works, all promising a more prosperous future for the national and regional economies, particularly those in the Midlands and the North.

But since the referendum, government has been slow to recognise the importance of committing to infrastructure and when it comes to finally pressing the button and getting major schemes moving, the conviction appears to be lacking. One might argue that it is only fair to allow the new government time. However, with nervous financial markets and industry already suffering as a result of construction activity being at a seven year low, delaying existing projects or failing to commit to new ones is damaging.

Clearly there are a multitude of reasons for projects being delayed but, in light of Brexit, making strong, positive and timely decisions both as an industry and as a government would better reinforce investor confidence in UK infrastructure.

When it comes to getting things moving, the National Infrastructure Commission (NIC) is crucial. As the embers glow in the aftermath of the Brexit vote, the NIC needs comprehensive support. Statutory powers are critical but the opportunity to provide this power was recently missed. A NIC with the legal clout to identify the key investment priorities and hold the government to account over the delivery of the programme is something that needs to be readdressed. Without this, as well as a much more supportive voice from government, delays and cancellations will continue, schemes will end up costing much more and the nation’s economy will simply not benefit quickly enough.
PLACING A VALUE ON INDECISION

Arcadis, together with the Centre for Economics and Business Research (Cebr), has explored the impact of ongoing delays and cancellations on the UK’s infrastructure spending. The report compares the Infrastructure and Projects Authority’s 2015 and 2016 National Infrastructure Pipelines, worth a total of £293 billion across all sectors for the six years 2015/16 to 20/21.

To calculate these figures we have taken the delayed or cancelled spend between these documents and applied a multiplier effect of every £1 invested in infrastructure generating £1.30 for the economy, directly from its construction*. This gives the amount of forfeited GDP that would have been delivered had spending taken place at that time. However, we do not consider the delayed benefits from completed infrastructure projects – the main cost of indecision, which risks leaving the UK trailing behind and losing market share to competitor economies.

The analysis also considers how project costs can increase over time due to delays, resulting from increases in land, labour and material costs. The purpose of our research is to provide some quantum to what it costs the UK economy when infrastructure projects are delayed or cancelled. At the same time, by understanding these negative effects, it also highlights the potential economic benefit that an increase in investment could have.

FINDINGS AT A GLANCE

1. In 2015/16 infrastructure spending delays and cancellations amounted to £4.6bn
2. Had the proposed spending taken place in 2015/16 GDP would have been £6bn higher
3. These infrastructure delays and cancellations will amount to a cumulative £35bn of either deferred or missed GDP by 2020
4. A one month average delay in scheduled transport projects would lead to over £2bn in lost GDP over the coming five years, equivalent to £48,425 for every minute of delay
5. In addition, delay costs for transport projects worth £96 billion would rise by £241m over a period of five years.

* Cebr research for the Civil Engineering Contractors Association (CECA) estimates that every £1 spent on infrastructure boosts GDP by £1.30
PROJECT DELAYS AND CANCELLATIONS STEMMING FROM THE 2015/16 PERIOD WILL LEAD TO A CUMULATIVE £35BN OF MISSED GDP BY 2020.

WHAT WILL BE THE COST TO THE BRITISH ECONOMY IF THIS PATTERN OF DELAYS CONTINUES?
WHAT IS THE BRITISH ECONOMY MISSING OUT ON?

Infrastructure is about a great deal more than merely generating energy and moving people from A to B. With so many ambitious plans on the table, the associated benefits to the national economy resulting from projects that include rail electrification and the creation of our future power plants are huge. The long standing delays and cancellations associated with Hinkley Point alone have already cost the UK £960 million in missed investment-related GDP.

The Brexit vote demonstrated in the strongest possible terms that prosperity needs to be spread more evenly right across the UK. The government understands the impact that infrastructure investment can have in this regard. As became apparent during the downturn of 2008, increased spending was seen as a way of generating prosperity through jobs at a time when the country badly needed it. This is precisely what our economy needs right now. However, based on our assessment and despite major commitments to the likes of the Northern Powerhouse and the need to boost aviation capacity, during the 2015/16 financial year infrastructure spending delays and cancellations amounted to £4.6 billion.

The delays were caused by many reasons including planning, purchasing and the reprioritisation of programmes. However, regardless of the cause our analysis shows that the cumulative impact of these delays is significant. Had all the planned infrastructure spend for 2015/16 taken place during that period, GDP would have been around £6 billion greater; an increase of 0.3 percent.

Cumulative delay is a significant but insidious challenge to the delivery of UK infrastructure. Our assessment shows that an aggregate one month delay on current plans would lead to a cumulative GDP loss of £4.3bn per month, based on today’s prices. If the average delay rises to six months, the GDP loss increases to a staggering £25.8bn.

Cumulative missed GDP from a one-month delay in overall infrastructure spend, £m 2016/17 prices (comparing 2015 and 2016 Infrastructure Pipeline)
Regardless of Brexit, the nation’s problems around mobility, capacity, growth and productivity persist. With market uncertainty threatening to cloud our economy, investors, businesses and communities need to know that every effort is being made to equip our nation with the right transport infrastructure to sustain growth and prosperity.

However, persisting indecision at this critical time could have a significant impact on the fortune of the nation.

Based on planned spend of £293 billion, a one-month delay in the spending on earmarked transport projects now, would lead to over £2 billion of missed GDP over the next five years. To put this into context, this is the equivalent of over £48,000 for every minute of delay. The current cycle of indecision (airport capacity and Transport for the North) illustrates how delaying these decisions can create significant impact further down the line.

£48,425 OF MISSED GDP PER MINUTE OF DELAY

A one-month average delay on current transport spending plans would lead to a £2bn GDP loss over the next five years, equivalent to £48,425 for every minute of delay.

<table>
<thead>
<tr>
<th>DEPARTURES</th>
<th>TRANSPORT PROJECTS</th>
<th>MISSED GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:10</td>
<td>AIRPORTS</td>
<td>5.2k</td>
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<tr>
<td>09:15</td>
<td>LOCAL AUTH MAJORS</td>
<td>259m</td>
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<tr>
<td>09:20</td>
<td>LONDON</td>
<td>282m</td>
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<tr>
<td>09:25</td>
<td>ROADS</td>
<td>396m</td>
</tr>
<tr>
<td>09:30</td>
<td>RAIL</td>
<td>1.1bn</td>
</tr>
<tr>
<td>09:35</td>
<td>TOTAL TRANSPORT</td>
<td>2.09bn</td>
</tr>
</tbody>
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Cumulative missed GDP from a one month average delay in transport projects, 2016/17-2020/21 based on 2016/17 prices

*airports figure excludes decision on additional aviation capacity in south east England.
TIME FOR A REVISED INDUSTRIAL STRATEGY?

“Getting things moving in terms of building the infrastructure the nation needs can undoubtedly help us revise the UK industrial strategy. We need to sustain the progress of development and, while issues around labour constraints are likely to become ever more pertinent in the wake of Brexit, technical solutions such as off-site manufacturing or new technologies, as well as supporting skills, employment and education and greater diversity will play an increasing role. We need to get the industry moving. Add to this a defined long term pipeline, and a transparent timeline by when decisions need to be made and we have a system capable of delivering what the nation needs in a more timely, accountable way.”

Chris Pike, Infrastructure Client Development Director
INDECISION AND PROJECT COSTS

When it comes to designing and building infrastructure, such as transport hubs and major energy programmes, time is money. In a growing market where aggregate demand for construction is increasing, as time wears on, so will the inflation of construction prices. As a result, any delays to the procurement and commencement of projects or pauses during implementation will mean the price paid for delivery is likely to increase as inflation takes effect over the duration of the delay.

Getting a major project off the ground involves significant levels of investment which can come under much public scrutiny in terms of the cost and benefit analysis. However, our high level assessment shows that even a one-month average delay in the national infrastructure pipeline over five years would see project costs potentially rise by £625 million, as the effect of tender price inflation adds to the overall price tag. This sheds light on why infrastructure projects can appear to overspend and consequently why the benefits envisaged at the planning stage do not materialise.

Inflation is clearly a significant challenge, but while the costs associated with infrastructure are always high and cost performance always a function of a complex mix of factors, keeping delays in decision making and project starts to a minimum can be one way to avoid unnecessary cost increases. Governance and value for money are essential, but commitment to deliver on programmes from all parties involved is also imperative.

Clearly, this does not mean we should push ahead without proper planning or due process, but making strong commitments from the very outset are powerful and symbolic and, quite simply, have the potential to save money.

INCREASES IN PROJECT COSTS BY MONTH

12 months / £7.5bn
2 months / £1.3bn
4 months / £2.5bn
5 months / £3.1bn
6 months / £3.8bn
1 month / £625m
3 months / £1.9bn

Growth of project costs between 2016/17 and 2020/21 stemming from a one-month delay in total infrastructure spend, £m 2016/17 prices
EMPOWERING THE NATIONAL INFRASTRUCTURE COMMISSION

“We need a strong, independent legislative body that is empowered to oversee and co-ordinate key projects. Failure to give such statutory powers to the National Infrastructure Commission is akin to going into battle with a wooden spoon. It’s clear from the challenges in committing to vital infrastructure post-Brexit we desperately need an empowered body that can provide a long-term planning perspective.”

Chris Pike, Infrastructure Client Development Director
KEEPING TRANSPORT PROJECT COSTS ON TRACK

Rarely a day passes without Britain’s transport networks making the news for the high cost of travel and peak time overcrowding. Such is the extent of the issue that rail travel, in particular, is rapidly creeping up the political agenda. The state of the nation’s rail network has found its way into many an electoral pledge and questions are raised in the House of Commons with increasing regularity.

It has been widely reported that UK train travel is amongst the most expensive in Europe.

One way of addressing the issue of rising costs is by minimising the financial outlay involved in bringing projects to fruition. As with the overall infrastructure pipeline, transport project costs grow significantly the longer they take to get started. With the transport pipeline worth £96 billion over the next five years, a mere one-month delay in commissioning these spending programmes can see costs grow by over £241 million. This translates to approximately £8 million for every single day decisions are delayed.

For post-Brexit Britain to reap the full benefit of its planned infrastructure spend, along with the inevitable bounce effect that will result, the government needs to send a clear message to the world that Britain is open for business by progressing vital infrastructure projects at the earliest opportunity, without compromising safety or security. Equally, infrastructure owners and industry need to work together to deliver on these commitments and build investor confidence.

DELAY COSTS £8 MILLION EACH DAY OF INDECISION

A one-month delay on transport spending would see costs involved in delivering all transport projects in the pipeline rise by £241 million over five years, or £8 million for every day of delay.

<table>
<thead>
<tr>
<th>TRANSPORT PROJECTS</th>
<th>DELAY COSTS</th>
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<tbody>
<tr>
<td>Ports</td>
<td>2 M</td>
</tr>
<tr>
<td>Airports</td>
<td>12 M</td>
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<tr>
<td>Local Auth Majors</td>
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<tr>
<td>London</td>
<td>34 M</td>
</tr>
<tr>
<td>Roads</td>
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<tr>
<td>Rail</td>
<td>126 M</td>
</tr>
<tr>
<td>Total Transport</td>
<td>241 M</td>
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</tbody>
</table>

Increase in planned spending from a one month average delay in transport projects, 2016/17-2020/21
Infrastructure investment worth a total of £293 billion across all sectors, as detailed in the 2015 and 2016 National Infrastructure Pipeline documents, has been analysed for the six years 2015/16 to 20/21.

Previous work by Cebr and CECA identified an economic multiplier effect for infrastructure investment of every £1 invested in infrastructure, £1.30 is delivered into the economy.

Based on our analysis, hypothetical assessment of increased project costs as a result of delays and cancellations have been extrapolated to identify the impact of inflation associated with progressing plans at a later time using inflation forecasts prepared by Arcadis.

Disclaimer
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The infrastructure investment profiles of the two plans have been compared and contrasted and it has been assumed that reduction or slippage identified between the 2015 and 2016 plans is likely to be the result of delay or cancellation of infrastructure spend; articulated in both time and monetary terms.

This research takes the delayed or cancelled spend identified and applies this multiplier effect to articulate the direct cost to the economy as a result of the delay or cancellation of infrastructure spend in the given period.

The analysis excludes impacts encompassing the wider benefits delivered by infrastructure investment related productivity gains or international competitiveness. For this reason, the total economic impacts are likely to be more significant than identified in this study.

Authorship and acknowledgements
This report was commissioned by Arcadis and produced by Cebr, an independent economics and business research consultancy established in 1992, for Arcadis. The views expressed herein are those of the authors only and are based upon independent research by them.

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