

Digging deep for growth

BRIDGING THE INFRASTRUCTURE GAP



Scape Group



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THE THREAT OF BREXIT

The possibility of a no-deal Brexit remains uncomfortably high. Contractors interviewed by Scape consider the likelihood of a no-deal outcome¹ to be between 40 per cent and 75 per cent.

This carries enormous risks for the economy and the construction sector in particular.

Previously, Mark Carney has said a no-deal scenario would mean “disruption to trade as we know it”. The Bank of England governor also warned of higher prices and disruption². A ‘no-deal’ scenario would curtail free movement limiting the supply of low-cost migrant workers.

Brexit is also expected to weaken the pound further against the euro. That is likely to make work in the UK less appealing, reducing the availability of skilled workers. Furthermore, culturally, the UK will increasingly be seen as a less welcoming environment for migrants. That will further contribute to the skills shortage.

The price of imported materials will rise above the rate of inflation and may be pushed up further by additional tariffs (i.e. a tax or duty to be paid on imports) on goods and services. Exports may be more readily traded in alternate markets which may therefore cause issues with supply and demand.

There is a real concern that the delivery of imported goods, plant and materials will experience severe delays outside of a Customs Union. This risk links to the potential delays at border crossings and goods import yards, where new and less fluid customs arrangements may be imposed.

There is also a risk of reduced funding and investment for projects delivered by the UK construction industry. Access to grant funding schemes for UK local authorities and the public sector³ could be removed. Both funds are used to invest in and regenerate the built environment, to stimulate economic growth.

As an open market economy, Britain has also benefitted significantly from overseas investment, as well as from migrant labour. This will all be disrupted as the UK leaves the EU Customs Union.

There is an urgent need to be better prepared for global competitiveness – to get the UK ‘match fit for a post-Brexit Britain’.

¹ Britain leaving the European Union with no formal agreement on the terms of UK's withdrawal or new trade relations. ² Mark Carney says risk of a no-deal Brexit is 'uncomfortably high', The Guardian, Damien Gayle, 3 August 2018. ³ Including European structural and investment funds and the European Regional Development Fund.

PROPOSED BRIDGES OFFER UNSUITABLE SOLUTIONS

In the face of these threats, two large infrastructure projects have been put forward as ways to boost trade and help mitigate the impact of Brexit on the UK.

The Celtic Crossing or Irish Sea Bridge was championed by former foreign secretary, Boris Johnson in January 2018⁴. This would be a combined road and rail crossing between Portpatrick in Dumfries and Galloway and Larne in Northern Ireland. Johnson said he wanted to create a 'Celtic Powerhouse' driven by an increase in trade between the two countries⁵, and the increase in investment from the construction of the project. The approximate cost would be £20bn⁶.

Boris Johnson has also suggested building a bridge across the English Channel⁷. This is, in theory, possible. The new 34-mile sea bridge-tunnel system linking Hong Kong and Macau consists of a series of three cable-stayed bridges and one undersea tunnel connected by two artificial islands⁸. That would cost £12bn⁹.

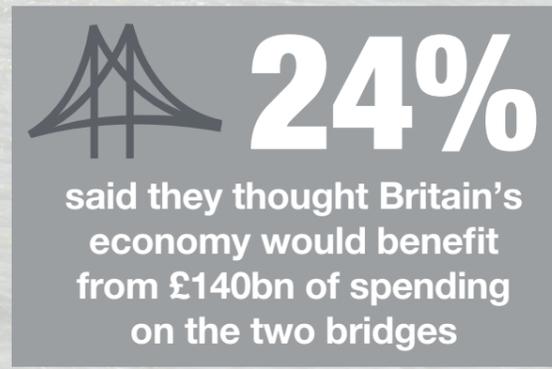
However, that project included no regulation, processes or health and safety and used much cheaper Chinese labour¹⁰. Furthermore, a bridge over the English Channel would also need to factor in space for more shipping. The Channel is the busiest shipping lane in the world, with around 500 vessels trying to safely pass through it every single day¹¹.

Building a bridge would force vessel traffic into smaller lanes to safely pass under the bridge. State-of-the-art satellite systems are already needed to monitor all vessels over 300 tonnes¹². Some of the world's largest vessels pass through the Channel, so the minimum height requirements would be substantial. The design would also need to consider the turbulent weather conditions that notoriously plague the Channel. Professor Alan Dunlop, who teaches architecture at the University of Liverpool, estimated it would cost £120bn¹³.

The British public are sceptical about the advantages these two bridges would bring to the economy.

Scape Group polled 2,000 adults living across the UK on their attitudes towards big infrastructure projects. Less than a quarter (24 per cent) said they thought Britain's economy would benefit from £140bn of spending on the two bridges.

When we asked the public if they thought the two bridges were 'vanity projects', over half (58 per cent) thought they were (including almost two thirds of Scots – 63 per cent). Only 17 per cent thought they were not 'vanity projects' and that the bridges were proposed with an eye to creating real value.



⁴ Fresh calls for bridge to connect Scotland and Ireland, The Scotsman, Alison Campsie, 22 January 2018. ⁵ Top architect insists Scotland - Northern Ireland bridge 'is feasible', BBC News, 22 January 2018. ⁶ Bridging the gap for a Celtic powerhouse? Infrastructure Intelligence, Ryan Tute, 18 May 2018. ⁷ Boris Johnson Suggests Building a Bridge from U.K. to France, New York Times, Richard Pérez-Peña, 19 January 2018. ⁸ A tour of the Hong Kong-Zhuhai-Macau mega bridge, South China Morning Post, Lea Li, 1 October 2018.

⁹ China plans ambitious £5billion cross-sea traffic link for megatropolis 35 times the size of London, Daily Mail, Tracey You, 30 April 2018. ¹⁰ Boris Johnson's Channel bridge could cost £120bn, The Times, Jonathan Morrison, 19 January 2018. ¹¹ Link between Scotland and Ireland would be a 'bridge too far', Herald Scotland, Jody Harrison, 23 January 2018. ¹² English Channel Bridge: Could We Do It and How Much Would It Cost?, Huffington Post, Thomas Tamblin 19 January 2018. ¹³ Boris Johnson's Channel bridge could cost £120bn, The Times, Jonathan Morrison, 19 January 2018.



ALTERNATIVE ROUTES

Our findings suggest the two bridges are not popular with the public. But the public is not necessarily set against spending on infrastructure projects in general. The two bridges are not the only options. There are other, less glamorous projects that should take priority – projects that offer real world solutions to serious problems. They would also be more popular with the British public.

As of 1 January 2018, our largest competitors in the EU by population are Germany (83m), France (67m), Italy (60m) and Spain (47m). The basic infrastructure systems that these countries operate far exceed those in the UK (66m)¹⁴.

Within the UK and our closest European peer group, there are 54 globally important cities¹⁵. A global city, also called a ‘world city’, is a primary node in the global economic network.

The Globalization and World Cities Research Network think tank studies the relationships between world cities in the context of globalisation. It categorises world cities into “Alpha”, “Beta”, “Gamma” and “Sufficiency” tiers, based upon their international connectedness¹⁶.

Alpha++ cities	London and New York stand out as clearly more integrated than all other cities and constitute their own high level of integration
Alpha+ cities	Other highly integrated cities that complement London and New York, largely filling in advanced service needs for the Pacific Asia
Alpha / Alpha- cities	Very important world cities that link major economic regions and states into the world economy
All Beta cities	Important world cities that are instrumental in linking their region or state into the world economy
All Gamma cities	World cities linking smaller regions or states into the world economy, or important world cities whose major global capacity is not in advanced producer services
All Sufficiency cities	Cities that have sufficient services so as not to be overtly dependent on world cities. Two specialised categories of city are common at this level of integration: smaller capital cities, and traditional centres of manufacturing regions

THE GaWC CLASSIFICATION OF WORLD CITIES¹⁷

London is classified as Alpha++, a city most integrated with the global economy – the only one in Europe.

Alpha+ cities are highly integrated cities, filling advanced service needs. Paris is classified as Alpha+ (again, the only one in Europe).

World cities link major economic regions and states into the world economy and are classified as Alpha and Alpha-. They include: Frankfurt, Madrid, and Milan (Alpha); and Barcelona, Munich and Rome (Alpha-).

Important world cities that are instrumental in linking their region or state into the world economy are classified as Beta. These include: Dusseldorf and Hamburg (Beta+); Berlin (Beta); Birmingham, Edinburgh, Lyon, Manchester, Stuttgart and Valencia (Beta-).

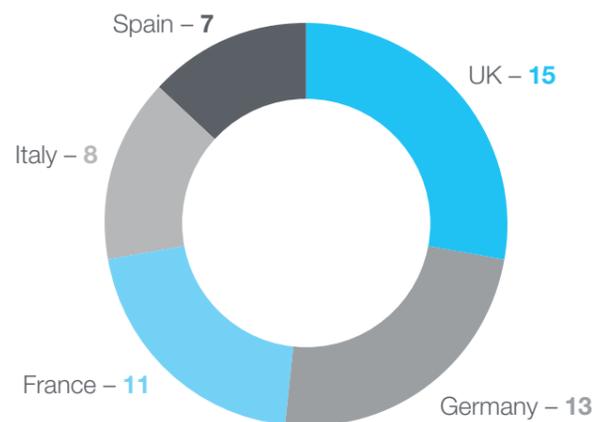
Gamma cities are world cities linking smaller regions or states into the world economy or important world cities whose major global capacity is not in advanced producer services. They include: Glasgow (Gamma+); Belfast, Bilbao, Bristol and Turin (Gamma); and Cologne and Nantes (Gamma-).

Sufficiency cities are not overtly dependent on world cities. They generally consist of smaller capital cities and traditional centres of manufacturing regions. There are eight Sufficiency level cities in France; six in Germany; five in Italy; and three in Spain. There are eight in the UK: Leeds and Southampton (High Sufficiency); and Aberdeen, Cardiff, Leicester, Liverpool, Newcastle, and Nottingham (Sufficiency).

Of the 54 world cities with Alpha++ to Sufficiency status, 15 are in the UK.

There are 13 in Germany and 11 in France. Italy and Spain are home to 8 and 7 respectively¹⁸.

¹⁴ Eurostat - Tables, Graphs and Maps Interface (TGM) table. ¹⁵ The World According to GaWC 2018. ¹⁶ GaWC World Basics. ¹⁷ The World According to GaWC. ¹⁸ The World According to GaWC 2018



UK / EU PEER GROUP – CAWC 2018 WORLD CITIES

On the world stage, the UK is, perhaps, punching above its weight. Britain is home to 28 per cent of the world cities in our European peer group. There are as many global cities in the UK as Spain and Italy combined. But it is harder to conduct business within those UK cities.

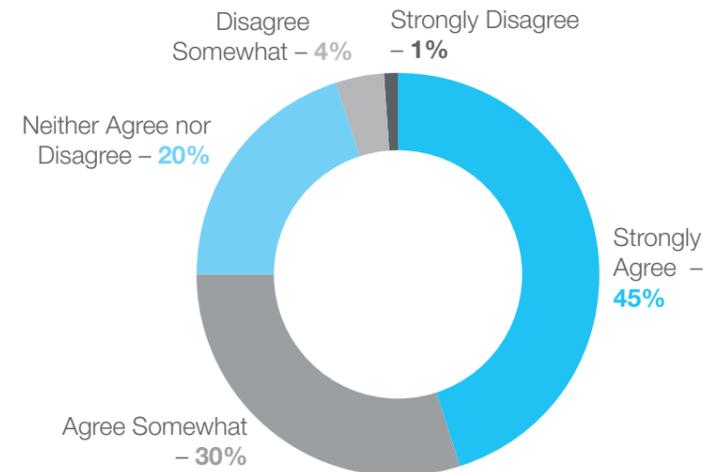
Our competitors have more underground transport systems facilitating commerce in those cities. The problem is that global cities in the UK lack mass transit infrastructure.

While the UK has 15 globally important cities, only 4 have underground systems (London, Glasgow, Liverpool and Newcastle). That means just 27 per cent of our world cities have metro systems. More than half (54 per cent) of the global cities in our peer group are home to metro systems. But across Germany, France, Italy, and Spain, almost two-thirds (64 per cent) have underground networks.

Of the 7 Spanish cities on the list, 6 have underground networks (86 per cent). Of the eight Italian cities on the list, 6 have underground systems (67 per cent). Of the 13 German cities on the list, 8 have underground systems (62 per cent) and of the 11 French cities on the list, 5 have underground systems (45 per cent).

At least London can boast 52 miles of genuine underground track¹⁹. But Glasgow, Newcastle and Liverpool have just 17 miles of underground track between²⁰ them, meaning those Britain does have are not substantial.

The British public clearly think that spending on underground systems is far too heavily weighted in London's favour. Three-quarters (75 per cent) of respondents agreed that the UK's spending on metro systems is too focused on London.



METRO SYSTEM FUNDING IN THE UK IS TOO CONCENTRATED ON LONDON

The lack of mass transit metro systems may go some way to explaining why, outside the south east of England, cities in the UK perform worse than their peers in France and Germany²¹.

Poor internal connectivity outside of London and the south east of England contributes to imbalances in economic and productivity performance²².

Poor connectivity can affect skills supply. Employers in northern cities draw workers from smaller areas than in the south, holding back wages and productivity. Most people travel a maximum of one hour to work, so minimising travel times is important.

According to the Confederation of British Industry (CBI), for every 1m extra people within 60 minutes of travel time of a postcode area, an additional £0.50 in GVA²³ per hour is generated in productivity gains²⁴. In 2011, almost half a million commuters travelled over 30km to work in London, double the number that travelled the same distance to work across all six major city regions in the north²⁵.

Reducing journey times by road (for instance by getting more people onto credible public transport alternatives and easing congestion) could have productivity benefits of up to 14 per cent, particularly in cities such as Leicester and Liverpool where many workers live in the surrounding area²⁶.

¹⁹ Fascinating TfL and London Tube map shows exact geography of transport network, Ella Wills, Evening Standard, 21 May 2018. ²⁰ Glasgow Metro – 6.5 miles of underground track; Tyne & Wear Metro – 6.5 miles; Merseyrail – 4 miles. ²¹ European Metro Monitor, London School of Economics, 2014. ²² Growing Together – Cities & Regions Collaborating on Shared Priorities, London First, February 2018.

²³ In economics, gross value added (GVA) is the measure of the value of goods and services produced in part of an economy. ²⁴ Unlocking Regional Growth – Understanding the Drivers of Productivity Across the UK's Regions, CBI, March 2017. ²⁵ IET Northern Powerhouse (NPH) Consultation, IET Manufacturing Network, 22 November 2018. ²⁶ Unlocking Regional Growth – Understanding the Drivers of Productivity Across the UK's Regions, CBI, March 2017.



ONE POSSIBLE SOLUTION

Might £140bn be better spent on improving the mass transit infrastructure in Edinburgh, Manchester, Birmingham, Belfast, Bristol, Leeds, Southampton, Aberdeen, Cardiff, Leicester, and Nottingham?

While these are important global cities (ranking from approximately Beta- to Sufficiency according to the Globalization and World Cities Research Network), none of them have an underground system.

While a geological assessment of these cities would need to take place to ascertain whether it would be feasible to build an underground system in each, the benefits would not be limited to increased access to talent for businesses or creating jobs for potential employees.

There would be more opportunity for commercial developments i.e. more business for shops and restaurants, and increased land desirability where housing could be erected quickly (via Modern Methods of Construction) as well as reductions in air and noise pollution.

Metro systems save time – fewer cars on the road would translate to less congestion and shorter journeys for remaining motorists, which is particularly important given the significant impact congestion has on reducing productivity.

By 2030, road commuters are forecast to spend 299 hours a year in traffic (the equivalent of 40 working days), up from 250 hours now²⁷.

In our poll, the number of people who agreed businesses based in globally important cities within mainland Europe would be better placed to capitalise on Brexit than those in the UK outnumbered those who disagreed by almost 4:1.



GIVEN MORE EUROPEAN CITIES HAVE METRO SYSTEMS, DO YOU THINK BUSINESSES ON THE CONTINENT ARE BETTER PLACED TO CAPITALISE ON BREXIT THAN THOSE IN THE UK?

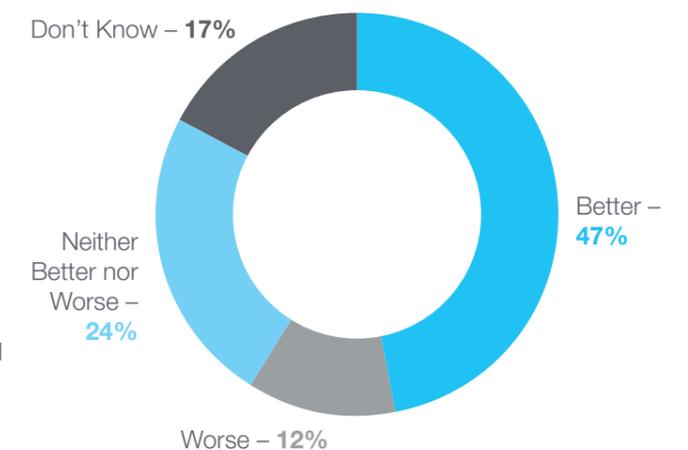
While this appears ambitious, it would not cost the earth. Each network need not be a carbon-copy of the London Underground. London enjoys the benefits of a complex underground network that has been running since 1863. There are 11 lines²⁸, running through 270 stations²⁹, along 250 miles of track in total³⁰ (above and below ground) – approximately 1,400,000,000 passenger journeys are made on the London Underground every year³¹.

However London has a metropolitan population of over 14m. The average metropolitan population of the 11 global cities unserved by metro systems is only 1.6m – Aberdeen has a metropolitan population of fewer than 240,000 people. Put simply, these systems do not need to be on the same scale as London's to make a difference to local business. A small metro system in each city, comparable to that of, say, Seville (metropolitan population of: 1,519,639³²) would be a good start.

Metro de Sevilla is an 11-mile light metro network serving Seville and its metropolitan area across 21 stations. Currently, it is the fifth biggest metro company in Spain³³ and carried 16m passengers in 2017³⁴. Work on the system started in late 2003 and was completed in April 2009. Tunnel boring machines, cut and cover and viaducts were all used to construct the line. The cost was approximately €673m in 2013 which equates to approximately €700m today – or £630m. It might not be a perfect blueprint for the construction of metro systems across the UK. It suffered from some poor design and the discovery of archaeological remains.

That increased time and costs and it was finished more than two years after the initial planned completion date. It also overran its initial estimated cost of €428m. Despite this, Metro de Sevilla shows that underground projects need not come with a Crossrail-esque £18bn price tag³⁵.

We surveyed the public on whether they thought building modest underground systems for the major cities in the UK (that do not already have systems) would be a better way to spend £140bn. Almost half (47 per cent) agreed it would be a better way to spend the money, as opposed to one in eight (12 per cent) who thought it would be a worse way to spend the money.



WOULD BUILDING MODEST UNDERGROUND NETWORKS FOR THE MAJOR CITIES IN THE UK THAT DO NOT ALREADY HAVE METRO SYSTEMS BE A BETTER WAY TO SPEND £140BN?

²⁷ Growing Together – Cities & Regions Collaborating on Shared Priorities, London First, February 2018. ²⁸ "How many tube lines does London have?" Jonn Elledge, CityMetric, 30 June, 2017. ²⁹ London Underground: What we do, Transport for London. ³⁰ 150 London Underground facts (including the birth of Jerry Springer in East Finchley station), Daily Telegraph, 9 January 2017. ³¹ Investing in Seville, Seville City Council' Office of Strategic Planning and Business Development, October 2013. ³² Transport for London Annual Report and Statement of Accounts 2016/17. ³³ By number of passengers. ³⁴ Passenger Transport Statistics: Metropolitan Transport. ³⁵ Delayed Crossrail could cost almost £3bn more than planned, Gwyn Topham, The Guardian, 10 December 2018.

CONCLUSION

The risks that Britain faces as we leave the EU make it more important than ever to rebalance the economy so that every part of the country can benefit from business growth – to make the UK ‘match fit for Brexit’.

At the same time, the government recognises the challenge of addressing regional disparities. As the “Industrial Strategy: Building a Britain fit for the future” White Paper noted;



The UK has greater disparities in regional productivity than other European countries. This affects people in their pay, their work opportunities and their life chances. Every region in the UK has a role to play in boosting the national economy. We will build on the strong foundations of our city, growth and devolution deals and continue to work in partnership with local leaders to drive productivity.



If we improve the conditions for local enterprise as well as international competitiveness, we are more likely to boost the British economy. If all British cities were able to be as productive as the greater south east region, the national economy would be over £200bn larger, according to the CBI.

The UK needs robust investment to drive business growth, create jobs and support our society for years to come. It is time for a step change in the provision of the UK’s infrastructure and skills to enable growth.

We need to focus not on vanity projects, but on investing in viable investment projects that will improve our national infrastructure.

That is the only way we are going to ensure Britain remains competitive on the global stage.

METHODOLOGY

The consumer poll of 2,000 adults in the UK was undertaken by research agency, OnePoll. The survey was conducted using an online interview administered to members of the OnePoll panel who have agreed to take part in surveys. The fieldwork was undertaken between 10 December – 11 December 2018. OnePoll are members of ESOMAR and employ members of the MRS.

Scape Group

Level 2, City Gate West, Tollhouse Hill, Nottingham NG1 5AT

T: +44 (0)115 958 3200

E: general@scapegroup.co.uk

scapegroup.co.uk

 [@Scape_Group](https://twitter.com/Scape_Group)  [/scape_group](https://www.linkedin.com/company/scape_group)



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For press enquiries, please contact:

Scape Group: 0115 958 3200

Matt Carrington-Moore
Chief Marketing Officer
mattcm@scapegroup.co.uk

Instinctif Partners: 0207 866 7854

Laura Taylor
Senior Account Manager
laura.taylor@instinctif.com