

CONNECTED CITIES: THE LINK TO GROWTH

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RSA
2020 Public Services



ABOUT THE CITY GROWTH COMMISSION

Chaired by economist Jim O'Neill, the City Growth Commission was established in October 2013 to understand:

- how we can achieve complementary growth between London and our other cities
- what fiscal powers and governance arrangements are needed to deliver this, and
- how public service reform can start to make cities more fiscally sustainable

The ultimate objective of the Commission is to lay the foundations for a stronger UK economy through a significant power shift away from the centre and towards cities, and to show the next government, of whichever party, why this is needed and how it can be achieved. Our recommendations will set out

a road map for change; as the Commission seeks to influence all political parties in the run up to the 2015 UK General Election, and make the case for cities to take a new role in our political economy.

The Secretariat is hosted and run by the RSA, an organisation committed to finding innovative and practical solutions to today's social challenges through its ideas, research and 27,000-strong Fellowship.

The City Growth Commission is funded by the Mayor of London, London Councils, the Core Cities Group and the Local Government Association. Our partners include New Economy Manchester, the British Venture Capital Association, Universities UK and the Joseph Rowntree Foundation.

FOREWORD

BY JIM O'NEILL

It is so easy for me to say for each paper we publish that the topic we are writing about is the one that is most critical to the Commission's work and goals, and its importance links to all the other ideas we have. I said that for our skills report, and it was true. I am also saying it here for our connectivity report; it is true for both.

When I was considering the invitation to become Chair of the City Growth Commission, I asked those with the idea as to what they thought our stance should be on High Speed 2 (HS2). The answer I got was, 'we assume other ideas will be more important for the Commission'.

They were right about the specifics of HS2, but were not about the broader aspects. Like many trained macro economists, and when the country is so focused on preserving its credit rating through conservative fiscal policies, I had my doubts about the cost of HS2. But as soon as I became immersed in the role as Chair, I thought pretty quickly that the proposed second phase, and more broadly connectivity between the major northern cities via much faster train services, would be a key part of our thinking and ambitious goals. The notion of connecting lots of mid-sized cities to much faster (and affordable) transport is key to the idea of creating, from a commercial if not an administrative perspective, a metro area of comparable size to London. In this report, our research team spells out in detail why this kind of ambitious thinking is critical for

boosting the long-term growth potential of non-London metro areas.

However, better connectivity is not just about physical infrastructure. In this era, it is about so much more – especially digital connectivity. We have heard from our evidence building and other trips around the country in the last eight months since we started, upgrading, extending and expanding our technological connectivity so that all urban businesses and residents can do the same as the most advanced urban societies in the world can do is vital. This paper discusses this issue in detail and gives a flavour of the sorts of interventions we think necessary to make a positive difference.

Last, but certainly not least, housing. One of the foremost challenges of current and future times is the availability of housing for our urban residents so that people can truly benefit from the conceptual fruits of urban living. Without having a comfortable place to live and enjoy the benefits of a metro life, all the other conceptual benefits remain just that, conceptual. Our paper discusses the need for more housing supply and ways of boosting supply effectively.

All of these initiatives alone will not guarantee a sustained stronger rate of growth, but they are certainly necessary ingredients. With metros taking a stronger lead, enabled by greater flexibilities and freedoms to deliver, we stand the best chance of delivering city growth for the benefit of the whole UK.

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ABOUT THIS REPORT

This report is based on evidence received and research undertaken by the City Growth Commission. It has been informed by three regional hearings, subject specific seminars¹ and in-depth discussions with over 30 experts across local, city and national governments, academia, other think tanks and consultancies.

In this report, as with all reports in the City Growth Commission,² we use the concept of a metropolitan area as the relevant geography to understand city growth. Metros are not just about city centres. Their reach extends to suburbs and surrounding areas as places of work, leisure and retail. Many rural businesses, for example, depend upon metros for accessing urban markets, customers and the connectivity cities provide to the rest of the UK and the world. This report uses the terms metro, city and city-region interchangeably, to indicate this scale of analysis.

This paper argues that connectivity needs to encompass housing and land use planning, energy distribution and intercity transport. Similar arguments apply to metros' water, waste management and other utilities. For the sake of brevity, we focus on three key forms of infrastructure that arose from our research although similar systems-thinking would apply.

This research output, the Commission's third report, offers a bold alternative solution to the current inefficient centralised model. It does not presuppose that city-level

investment and decision making is always best, but instead aims to demonstrate the benefits that can exist in a metro-driven, systems-based approach to infrastructure and connectivity.

Acknowledgements

The authors would like to thank City Growth Commissioners Jim O'Neill, Bridget Rosewell and Peter Vernon for their guidance throughout the project. Alex Roy and colleagues at New Economy Manchester have also provided research support and policy insight throughout the process.

The practitioners and policymakers with whom we have consulted in this project are too extensive to mention here. However, particular thanks should be extended to a few individuals who have been particularly generous with their time and support: Damien Smith, Joe Manning and Andrew Sissons (Cabinet Office, Cities and Local Growth Unit); Jeremy Skinner (Greater London Authority); Karl La Ferla (Infrastructure UK, HM Treasury); Liz Stevenson (Connecting Cambridgeshire); Tom Flude (Transport for London); and colleagues at the Local Government Association. Thanks also go to those who responded to the City Growth Infrastructure Survey. These responses were especially helpful for framing the debate. Finally, we have drawn on written evidence submitted to the Commission, which is available to view online at www.citygrowthcommission.com.

1. Three relevant seminars were held on 1) Housing, Planning and Development; 2) Creating Global Connections for Growth; and 3) Megabyte Metros – how data and digital technologies can drive city growth. For more information please see <http://www.citygrowthcommission.com/events>

2. See our first two research outputs, "Metro Growth: The UK's Economic Opportunity" and "Human Capitals: Driving UK metro growth through workforce investment"

LONG-TERM CAPITAL INVESTMENT

Figure 1

SCOTLAND

- Devolved responsibilities include: rail, roads, local transport, water, flood and waste
- Real terms increase in capital budget
- New capital borrowing powers of £296m in 2015–16
- High Speed 2
- New InterCity Exoress rolling stock
- East and West Coast Mainline capacity upgrades
- Super-connected cities: Aberdeen, Perth and Edinburgh

NORTHERN IRELAND

- Devolved responsibilities include: rail, roads, local transport, water, flood and waste
- Real terms increase in capital budget
- Additional borrowing powers of £100m over two years to support investment in shared housing and education
- Super-connected city: Derry/Londonderry

NORTH WEST

- M60 J24–27 and 1–4, the M62 J10–12, the M56 J6–8, and the M6 J16–19 and 21a–26 managed motorway schemes £814m
- Mersey Gateway Bridge government investment and pre-qualification for a UK Guarantee
- High Speed 2
- Northern Hub rail link upgrade programme
- Manchester City Deal finalised
- Rebuilding 39 schools in poor condition as part of the Priority School Building Programme

WEST MIDLANDS

- Managed motorway schemes on M5 J4a–6 south of Birmingham, M1 J13–19 Rugby, M6 J2–4 and J13–15
- M54/M6 link road Wolverhampton
- High Speed 2
- Rebuilding 22 schools in poor condition as part of the Priority School Building Programme

WALES

- Devolved responsibilities include: roads, local transport, water, flood and waste
- Real terms increase in capital budget
- Exploring M4 funding options alongside response to Silk Commission
- Great Western Mainline Electrification extended from Cardiff to Swansea
- Welsh Valleys electrification
- New InterCity Expressrolling stock
- Construction of a new prison in north Wales
- Super-connected cities: Cardiff and Newport

SOUTH WEST

- Electrification of Great Western Mainline
- Capacity upgrade to Bristol Temple Meads station
- New Heathrow link from the Great Western Mainline
- Hinkley C Nuclear Power Station pre-qualification for a UK Guarantee
- Rebuilding 17 schools in poor condition as part of the Priority School Building Programme

NORTH EAST

- A19 Testos flyover construction
- A19/A1058 coast road near Newcastle improving access to Port of Tyne and major employment sites
- A1 upgrade Works Lobley Hill
- High speed 2
- Increased rail capacity on East Coast Mainline and Newcastle
- New InterCity Express rolling stock
- Rebuilding 31 schools in poor condition as part of the Priority School Building Programme

YORKSHIRE AND THE HUMBER

- A 63 Castle Street access improvements to the Port of Hull to relieve congestion and improve safety
- A160/180 Immingham dualing scheme
- Transpennine electrification
- Additional rail capacity in Sheffield and Leeds
- The 'electric spine' rail enhancement programme
- A1 Leeming to Barton – converting dual carriageway into 3 lanes
- Super-connected city: York
- UK Guarantee issued for Drax biomass conversion
- Rebuilding 36 schools in poor condition as part of the Priority School Building Programme

EAST MIDLANDS

- A38 Derby junction improvements
- M1 J24–25 managed motorway scheme at Long Eaton
- M1 J28–31 accelerated delivery pilot
- The 'electric spine; rail enhancement programme
- MIRA technology park – Automotive Research Centre*
- Super-connected city: Derby
- Rebuilding 28 schools in poor condition as part of the Priority School Building Programme

EAST OF ENGLAND

- A14 Huntingdon to Cambridge
- A5–M1 new link road
- M25 J30 improvement work
- Lower Thames Crossing
- Upgrade Barbraham Research Institute
- Alconbury Enterprise Campus*
- Super-connected city: Cambridge
- Rebuilding 15 schools in poor condition as part of the Priority School Building

LONDON

- Crossrail 2 examining funding and financing options
- Upgrades to Piccadilly and Bakerloo lines
- Gospel Oak and Barking electrification
- High Speed 2
- Thameslink upgrade
- Improvements to London Waterloo station
- Increased capacity across London, including at London Bridge, Victoria, and St Pancras stations
- Rebuilding 46 schools in poor condition as part of the Priority School Building Programme

SOUTH EAST

- M4 J3–12 London to Reading managed motorway scheme
- M23 J8–10 managed motorway scheme near Gatwick
- Managed motorway schemes on the M20 J3–5 Maidstone, M27 J4–11 and the M3 J9–14 near Southampton
- A21 upgrade Tonbridge to Pembury
- A27 Chichester Bypass improvements
- M20 J10a
- A2 Ebbsfleet Junction
- A2 Bean
- Lower Thames Crossing
- East-West rail project from Oxford to Bedford, via Milton Keynes and Aylesbury
- Upgrade Harwell Science and Innovation Campus
- Rebuilding 27 schools in poor condition as part of the Priority School Building Programme

Source: National Infrastructure Plan³

EXECUTIVE SUMMARY

High quality infrastructure is a critical driver of productivity and economic growth. Effective infrastructure enables agglomeration effects by increasing the density of economic activity, creating positive multiplier effects that increase the value of other types of investment.

The UK has chronically underinvested in infrastructure, trailing that of other leading global economies. The impact of underinvestment is considerable; it is estimated that the UK experienced an average of five percent lower growth each year between 2000 and 2010 as a result.⁴

However, what is needed is not necessarily just *more* expenditure on infrastructure; it matters *where* this investment is made and *how* it meets current maintenance and future infrastructure needs within and between our city regions. There is no point having infrastructure if it does not create effective links, connecting businesses to trading partners, workers to jobs and people to the places where they live, socialise and build communities. Whether through broadband or energy distribution, connectivity of people, places and resources creates the networks needed to support economic and social productivity.⁵

A more strategic, whole-system approach is needed to capitalise on every additional pound spent on infrastructure. Metros need to be at the heart of this new approach, so that they can maximise the social and environmental productivity of their place. City leaders need also to work

with one another as part of a connected UK system of cities so that the value of the UK's system of cities is realised. In this respect, the Chancellor of the Exchequer's recent proposal for a connected 'Northern Powerhouse' is potentially gamechanging. This supports the City Growth Commission's frequently emphasis on the need to improve rail connectivity, particularly between northern metros where the marginal economic impact of investment could be considerable.⁶

However, the city voice is currently weak in national policy making. The UK economy relies upon connected networks but decisions are taken without sufficient consideration of the inherent interlinkages between different types of infrastructure and the importance of those interlinkages within and between metros. This generates problems with housing, transport, broadband, energy distribution, and other utilities. Metros should be allowed to contribute more to the planning and delivery of local, regional and national infrastructure.

But cities need to step up to the plate too. While the Chancellor recently acknowledged the trend that "global cities have powerful city governments", the reality in the UK is that our major metros lack sufficient city-region governance and/or powers to implement policies in the interests of their particular economies. While a few leading metros are breaking away from this trend with the establishment of integrated transport authorities (eg Transport for

4. CEBR (2013)

5. The RSA Public Services 2020 Commission argued that a new approach should be taken to public services, striving for 'social productivity' which focuses on the social value which is created through the interaction between public services and civil society (see Kippin, H. and Lucas, B. (2011)).

6. O'Neill, J. (2014)

Greater Manchester) and Combined Authorities, other metros should demonstrate their ability to take on these risks, petitioning for more direct responsibility for network management and major transport investment as a first step. Only then can the UK's metro-driven economy be greater than the sum of its individual parts.

The City Growth Commission argues that individual **cities need the freedom to operate as whole systems**, making decisions in the best interests of their metro, rather than relying upon national government's inherently centralised decisions on infrastructure investment. In turn, cities need to have the freedom to work together, enabling pan-regional investment for **a more productive system of cities** to facilitate and share in economic growth for the UK as a whole.

“Infrastructure should be a system of inter-connected parts that meet the needs of the local economy and enable it to grow in the context of national and international markets”

Newcastle

“Government growth incentives not accruing to the city”

Hull & Humber

In delivering effective infrastructure for truly connected cities, we need:

1. **Vision:** The UK needs a strategic investment framework to inform local and national-level decision-making, cutting across the siloes of transport, housing, or other areas to set a vision based on the interests of Gross Value Added (GVA) and connectivity. In deciding what infrastructure investment we should pursue as a country or as cities, we need to start from the premise of ‘what does this place need?’ and then devise a long-term strategy detailing pace of delivery based on affordability.
2. **Holistic, metro-wide growth:** Industrial strategies and national-level infrastructure plans need to be considered from the perspective of specific, metro-level

economic geographies. Infrastructure across sectors (eg rail, highways and digital) and its economic, social and environmental impact are inherently interlinked. Decision-making and finance for infrastructure need therefore to be administered in the round at city-level, to ensure the right priorities and sequencing of delivery to maximise economic and social productivity.

3. **Innovative finance:** Transformative projects with major direct public and private investment can bring about positive, additional economic benefits at a local-level. However, at the national-level, these benefits are too frequently dismissed as ‘mere displacement’ activity, an interpretation that severely limits infrastructure investment and serves as a self-fulfilling prophecy when places are then constrained from, and even disincentivised against, enabling growth. Earn Back and Gain Share schemes are two examples of early pilots where cities will retain some of the upside from the growth they create from additional economic activity. These schemes should be developed further with significant transfer of risk to those metros able to shoulder it.
4. **Coordination and forward thinking:** Delivery of major infrastructure investment projects can be disruptive and costly – when poorly timed or sequenced. For example, building works for the Northern Hub will be followed, after some delay, by Phase 2 of High Speed 2 (HS2), and ultimately, the next phase of the ‘Northern Super City’ network,⁷ operations that could otherwise have been coordinated through long-term planning and metro-centred decision-making. Planning over long-term investment periods enables lower cost delivery of new homes, retail and commercial sites based around existing transport capacity. France, for example, was able to build extra high speed rail connections with relative ease, because it thought ahead to build stations it knew it would one day need.

7. Osborne, G. (2014)

5. Better appraisal of transport investment:

The Green Book is an adequate way of determining the business case for individual projects, but a holistic investment strategy needs to determine how to prioritise schemes across the metro level. Taking a GVA and labour-market perspective, the question becomes not whether projects can be justified in and of themselves, but how to prioritise projects to maximise growth and job creation.

Summary of Recommendations

The following recommendations set out how the next government could deliver the above, creating a viable system of UK connectivity and enabling more sustainable, productive economic growth over the long term. These are expanded further on pages 32–39:

1. Develop a stronger, metro-focused Infrastructure UK (IUK)

We recommend the creation of a stronger, metro-driven IUK to recognise the importance of metros' infrastructure decisions for the UK. As the major drivers of growth, metros should be actively engaged in national decisions, particularly those that have a significant local impact (eg airports, new rail lines and energy generation). Infrastructure decisions of national importance are, in effect, decisions of importance for the system of cities. Over the long-term, this principle could be applied to other areas of national government policy, where metro leaders would assert greater influence over national policy decisions alongside further devolution to their own metros.

Metros need to set the high-level strategic objectives that can ensure greater connectivity between and within them, for the benefit of the UK as a whole. We recommend metros have the autonomy to:

- Plan, develop and deliver their infrastructure strategies where decisions impact within their boundaries;
- Collaborate at regional level, working with other city-regions and county

authorities to ensure efficient, effective connectivity across their boundaries;

- Assert their voice in national decision making, programme delivery and network management via metro leader representation on the IUK Advisory Council (eg replacing Departmental Permanent Secretaries). This will require metros to work together and prioritise investment programmes in the interest of an effective system of cities.

2. Create a fairer and more flexible funding system

We recognise the steps IUK has taken to develop a range of flexible and innovative funding and finance systems to ensure a strong pipeline of investment for future infrastructure plans. However, the UK must learn from high-performing international competitors, which typically allow metros much greater flexibility and long-term certainty of funding.

In our next report, the Commission will argue for a broad devolution of revenue-raising powers and substantial risk transfer to those metros able to shoulder it. With regards to infrastructure and connectivity, we argue that metros should be responsible for approving and securing finance to develop schemes within their boundaries. This means that metros would be free – should they determine it in the best interest of their place – to:

- Develop effective forms of tax increment financing
- Develop models such as Earn Back and Gain Share suitable to their own cities; and,
- Apply a range of 'user pays' and levy-based finance models.

This shift in control from the centre to the metro-level extends beyond accountability for resources and value for money. Like other American, European or Asian cities, UK metros should have the powers to identify opportunities in the best interest of their economy and find

innovative ways of financing these to meet current and future infrastructure needs. The cultural shift required in Whitehall and many metro governments will be significant.

3. Introduce a flexible and innovative planning system

Metros should take on planning authority powers, aggregating up decision-making to complement strategic investment across the city-region. Metros should have the power to convene relevant agencies and make planning decisions across all modes of transport; from traffic orders on local roads, to building a new railway, or closing a pathway to enable major developments to get ahead. In addition, they should be free to:

- Designate housing zones;
- Make greater use of Compulsory Purchase Order (CPO) powers;
- Create an open register of public sector land at the metro level; and
- Reclassify poor quality Green Belt and promote Green Belt swaps.

In addition, we recommend Government review the insufficiency of fibre connectivity in key parts of cities (especially final connections to businesses and households), in light of what seems to be insufficient competition in the high-speed broadband market. The Government's review would consider why this is the case and how it might be resolved.

4. Follow a measurement system that accurately reflects the costs and benefits of infrastructure investment

Interpretation of the Treasury Green Book by central government departments often elevates the economic and financial considerations above other the aspects of the five business case model. This means the full suite of potential economic impacts, such as the interlinkages of infrastructure with other place-based policy and metros' contribution to

regional and national economic growth, are not routinely taken into account.

To enable better infrastructure appraisal at national, metro and local level, we recommend HM Treasury, IUK and the Department for Transport:

- Ensure appraisal methodology (and its application by other government departments) takes account of the importance of place;
- Ensure other emerging techniques of appraisal are taken into account, continually pursuing improvements in appraisal methodology across the board; and,
- Work with ONS and other data rich bodies to publish better local and metro level connectivity data.

5. Enable metros to rise to the challenge

The UK's highly centralised system of government has contributed to an erosion of local government capacity. Some leading metros are breaking away from this trend with the emergence of Combined Authorities. Some are also starting to focus on developing internal capability and capacity to deliver robust appraisals, strategic plans and long-term collaborations with other cities, regions, agencies and the private sector.

To support these moves we recommend:

- Private sector swaps between metro officials and private sector experts to learn from and share expertise, especially risk management and finance;
- Similarly, public sector swaps between local and national government officials to build expertise and experience;
- Greater collaboration between cities, including through sharing services or creating centres of excellence to serve groups of cities in eg procurement; and,
- Metro-level skills planning for a more targeted skills system, discussed in the City Growth Commission report, *Human Capitals*.

KEY TAKEAWAYS FOR LONG-TERM METRO GROWTH

- As a counterbalance to London and South East, investment in connectivity between northern cities (via the Northern Hub, HS2 'Phase 3' or other schemes) should be prioritised.
- Metros need to improve and demonstrate their capacity to identify and manage risks, following the lead of a few UK city-regions in developing innovative, place-based approaches to financing investment.
- Metros should take on planning authority powers, aggregating up decision making to facilitate strategic investment across the city-region.
- Government should commission a comprehensive review on how our current and future needs for digital infrastructure can be met, especially in the face of strict EU State Aid rules and a highly concentrated high-speed broadband market in which major players such as BT and Virgin can constrain supply and market competition.
- Metro leaders should influence infrastructure decisions of national importance, which are decisions of importance for our system of cities. Over the long-term, this principle could be applied to other areas of national government policy, alongside further devolution to the metro level.

INFRASTRUCTURE IS GOOD FOR UK GROWTH:

– INFRASTRUCTURE BOOSTS GDP BY **£1.30**
FOR EVERY **£1** INVESTED⁸

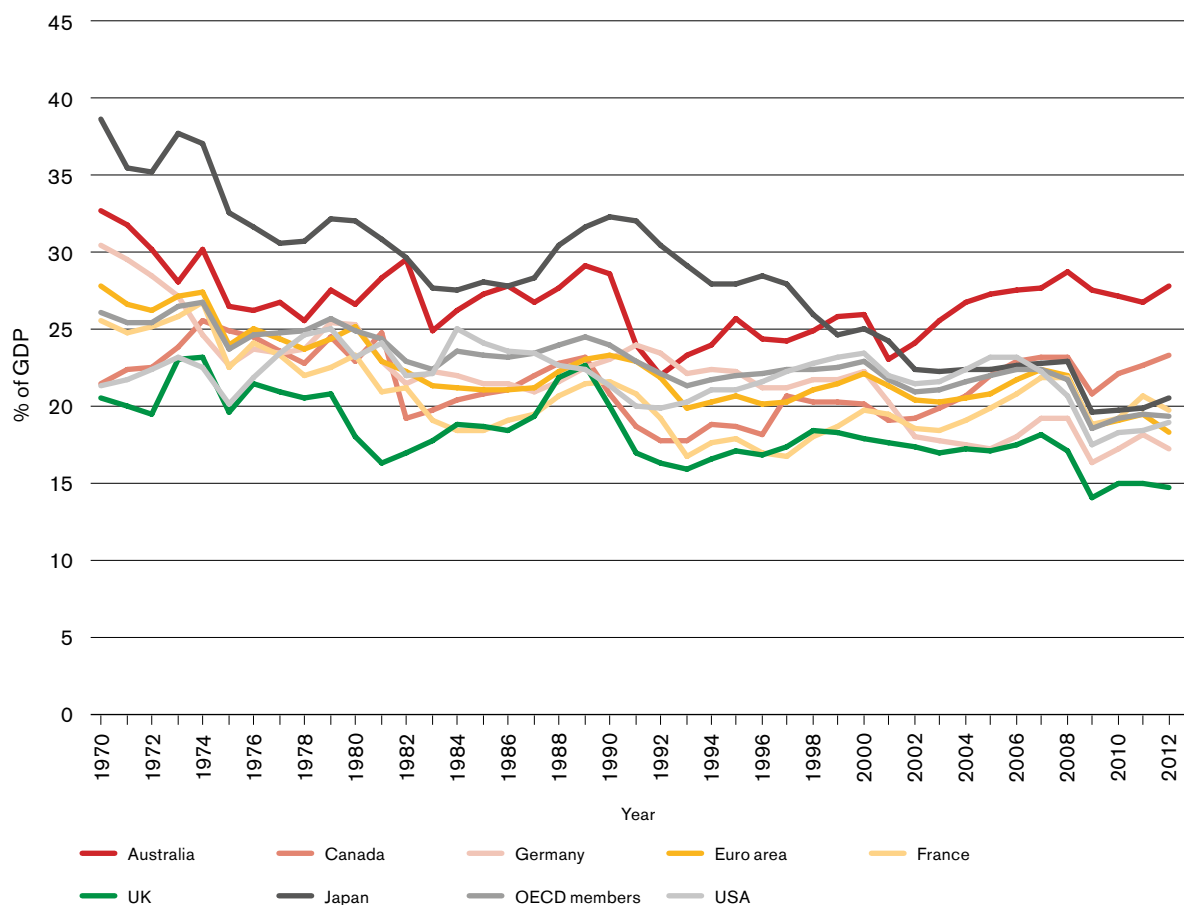
BUT WE'VE NOT INVESTING ENOUGH:

– UK GDP COULD HAVE BEEN FIVE PER CENT HIGHER,
ON AVERAGE, EACH YEAR BETWEEN 2000 AND 2010
IF ITS INFRASTRUCTURE HAD MATCHED THAT
OF OTHER LEADING GLOBAL ECONOMIES

8. CEBR (2013)

LONG TERM UNDERINVESTMENT BY UK IN INFRASTRUCTURE⁹

Figure
2



Source: World Bank¹⁰

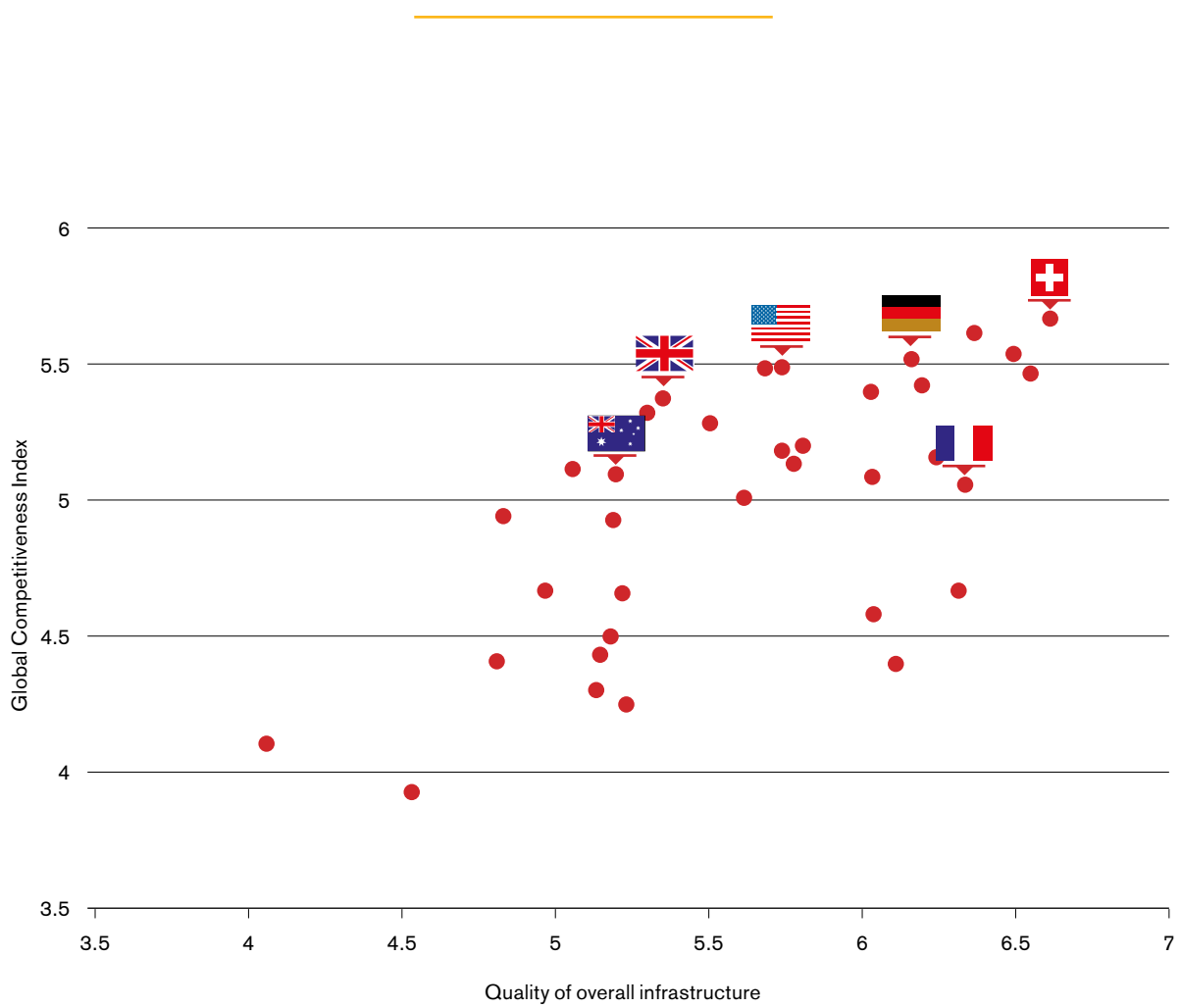
– IF UK INFRASTRUCTURE IS NOT BROUGHT UP
TO THE STANDARD OF OTHER DEVELOPED
ECONOMIES, THIS COULD CREATE AN ANNUAL LOSS
TO THE ECONOMY OF **£90 BILLION** BY 2026¹¹

9. Note: it is difficult to measure the current stock and future need, although work by the International Centre for Infrastructure Futures and i-BUILD, led by consortiums of UK universities as well as efforts by Infrastructure UK, aim to move us closer to a more accurate analysis. Other proxy measures, such as gross fixed capital formation, also suggest we continue to fall behind our international competitors. The World Bank defines Gross Fixed Capital Formation, a National Accounting measure, to include land improvements; plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings.

10. World Bank Data (Accessed June 2014)

11. CEBR (2013)

FALLING BEHIND OUR COMPETITORS



Source: World Economic Forum¹²

BUSINESSES AREN'T CONFIDENT OF CHANGE:

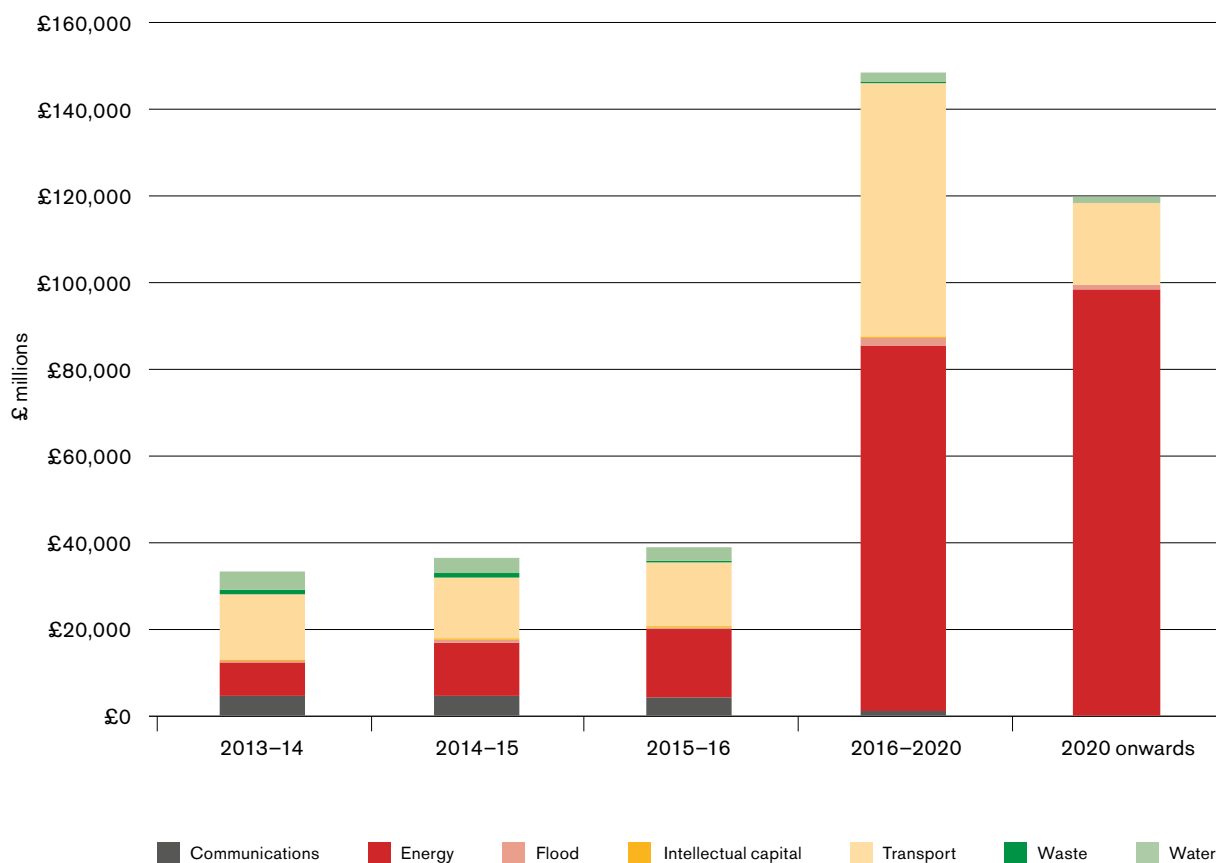
- ONLY **35%** OF FIRMS THINK THAT GOVERNMENT POLICIES WILL IMPROVE INFRASTRUCTURE ON THE GROUND OVER THE NEXT 5 YEARS¹³

12. World Economic Forum (2013)

13. CBI (2014)

THE PLANNED UPLIFT IN THE INFRASTRUCTURE INVESTMENT IS WELCOME

Figure
4



Source: HMT National Infrastructure Pipeline¹⁴

IT'S QUICKER TO TRAVEL THE **283 MILES** FROM LONDON TO PARIS BY TRAIN THEN IT IS TO TRAVEL LESS THAN HALF THAT DISTANCE BETWEEN LIVERPOOL AND HULL:¹⁵

- LEEDS-MANCHESTER: **49 MINS** (36 MILES)
- LIVERPOOL-MANCHESTER: **32 MINS** (31 MILES)
- HULL-LEEDS: **55 MINS** (31 MILES)

14. HMT (2013)

15. National Rail enquires via BBC article (2014) referring to Osborne, G. (2014)

1. CONNECTED CITIES:

THE LINK TO GROWTH

The UK is regularly criticised for its historic under-investment in infrastructure. Recent analysis by the World Economic Forum ranked the UK as 28th for overall quality of infrastructure, behind France, Japan, the United States, Canada and our Scandinavian rivals. This works against our effective regulatory environment and flexible labour market, dragging down our overall competitiveness, where we just scrape into 10th place.¹⁶

This can be partly accounted for when we think about the relationship between infrastructure investment and connectivity; infrastructure is only maximising productivity when it is connected to the wider system. There is no point having investment unless it leads to efficient networks, connecting people, places and communities with markets and resources – within and between cities, nationally and internationally.

While the Coalition has attempted to re-prioritise investment,¹⁷ many UK metro-areas lack sufficient connectivity to serve the needs of their people and businesses. Only 35 percent of firms believe current policy will improve infrastructure on the ground over the next five years,¹⁸ and as the Chancellor of the Exchequer noted in his recent speech on the economic potential of our northern cities: “Manchester and Sheffield are just 38 miles apart – yet it takes over one hour 20 minutes to travel by car. In that time you can get from Southampton to Oxford, which

is twice the distance.”¹⁹ Without a focus on fast, efficient connectivity between and within metros, we risk hindering long-term, sustainable economic growth.

It is increasingly recognised that clusters of economic activity can support higher productivity and growth.²⁰ Acknowledging Richard Florida, Chuka Umunna, Shadow Business Secretary, recently referred to cities as the economic “growth machines of the 21st century”, powered by diverse and “self-reinforcing networks of knowledge, suppliers and support”.²¹

Sustainable cities need to be places where people want to live and work, and this depends as much on aesthetic considerations as it does on opportunities afforded by the labour-market in supporting, for example, ‘power couple’,²² dual career families. Metros need to offer a range of opportunities and cultural experiences to continue to attract high skilled talent, investment and jobs. The RSA’s work with British Land further considers the role of place-shaping and social and economic productivity at local level (see below).

Individuals, communities, firms and civil society organisations need to be connected within their own metro boundaries to enable individual cities to maximise their social, economic and environmental productivity. As complex systems, cities need to be able to respond flexibly to local needs so that investment is efficient and effective in creating value – both public and private – that also

16. World Economic Forum (2013)

17. HM Treasury (2014)

18. CBI (2014)

19. Osborne, G. (2014)

20. Florida, R. (2006)

21. Umunna, C. (2014)

22. Costa, D. L. and Kahn, M. E. (2000) cited in Cheshire, P.C., Nathan, M. and Overman, H. G. (2014)

BRITISH LAND AND RSA: DEVELOPING SOCIALLY PRODUCTIVE PLACES

In April 2014 The RSA brought together over 100 professionals from a wide range of organisations to discuss planning and the built environment. Gathering innovative examples emerging across the UK The RSA's research – in association with British Land – concluded:

- **Socially productive places require a system of physical assets** – homes, streets, open spaces, shops, workplaces and community facilities – which serve the networks of people who will use them to live and work, strengthening relationships.
- **Networks operate at multiple scales**, from next-door neighbours supporting one another; to commuting patterns and business supply chains, which stretch across cities and regions. Networks of human interaction depend on trust and are the operating system of social and economic activity.

- **Planning can be a catalyst for forging community identity** and participation, but community engagement must focus on the place itself not the technicalities of traditional planning documents. It must also communicate clear principles for development, emphasise high-quality design and ensure development of physical and social infrastructure goes hand in hand, working across local authority departments (e.g. housing, transport, education and healthcare).

Socially productive places build community capacity to benefit from growth and increase resilience. Planning should therefore be conceived of as a frontline service, which can enhance the value of other public sector activities and pro-actively strengthen relationships between the private sector and civil society. For more information, see the forthcoming report available at www.thersa.org

promotes future sustainability. Connectivity between metros is also vital, enabling wider regions to share the benefits of 'trade' across labour and consumer markets. Where distances are smaller, for example between the major city-regions of Manchester, Liverpool and Leeds, agglomeration effects can be intensified by better connectivity.

Speaking in Manchester in June, the Chancellor declared: "We need a Northern Powerhouse... not one city, but a collection of northern cities – sufficiently close to each other that combined they can take on the world."²³ Better connectivity is at the heart of this vision, and its delivery will require significant change within central and local government.

City dominance:

- By 2030 5 billion people (60% of world's population) will live in cities, up from £3.6bn today; urbanisation is a global trend and the uk is experiencing a similar shift in population.²⁴
- In the last 10 years core cities grew by 9.6% against overall population growth of 7.6%.
- Cities with populations between 200,000 and 2 million had 7% of global population in 2007, but are forecast to generate 19% of all global GDP growth through 2025.²⁵

23. Osborne, G. (2014)

24. United Nations, Department of Economic and Social Affairs (2011)

25. McKinsey Global Institute (2011)

2. WHAT'S HOLDING

CITY CONNECTIVITY BACK?

History has influenced how we currently plan and invest in infrastructure and connectivity; the role of central- and local government has fluctuated over time. In the 19th century the UK was a world leader in developing municipal water, waste and transport systems. Throughout the 1950s to 1970s there was significant expansion of national infrastructure under state control including motorways and North Sea oil and gas. By the 1980s, the UK emerged as an early leader in privatisations across infrastructure types signifying a shift to market-driven decisions on infrastructure.

While this crude account of infrastructure policy masks various complexities and nuance, it is clear that the UK has since moved further along the road of market provision, pioneering new forms of private sector engagement including Public Private Partnerships (PPPs) and Private Finance Initiatives (PFIs) of varying success in the 1990s, leading to today where a large majority of investment in infrastructure relies upon private-sector finance.

The evolution of infrastructure finance and decision making has arguably generated some of the issues we're faced with today. With so many different combinations of public and private control across different forms of infrastructure, it is little wonder that – once set within a siloed, highly centralised system of national government – the interdependencies of infrastructure are lost.

In a world where resources are limited and the demands of urbanisation and population growth are increasing,²⁶ making the most out of each time a digger hits the ground

is vital for keeping the UK on the path to prosperity. The need for cities to plan for resilient, connected infrastructure cannot be overemphasised.

Cities themselves are aware of the importance of strategic planning to aid efficient investment and future resilience.²⁷ Population growth, climate change and an ageing population pose some of the biggest future pressures to the resilience of cities' infrastructure, with extra demand to be felt most strongly on maintaining current infrastructure, broadband and transport connectivity, affordable and private housing, and education and health facilities.

However, cities feel that they are currently inhibited from making and delivering these future plans because of the inflexibility, and lack of, funding and the dominance of central government control. These issues are compounded by a frequent lack of metro-level power, which works as a disincentive to investing in the capacity of metro officials and in collaborating with other cities, regions, the private sector and agencies.

While cities may have detailed visions of future infrastructure investment, they are not always able to convene the necessary partners (public or private) or funding streams, let alone realise the benefits of collaborating with other cities for the benefit of the UK as a whole. This is due in part to the fact that most investment funding is allocated by central government and on the basis of competition rather than collaboration. While Local Growth Deals aim to take a small step away from siloed funding arrangements to promote some collaboration, these too are based

26. United Nations, Department of Economic and Social Affairs (2011)

27. Inferences taken from the City Growth Commission City Infrastructure survey

INFRASTRUCTURE UK

In 2009 the then Labour Government created Infrastructure UK (IUK). This new body, now based in HM Treasury, represented a step towards greater strategic thinking in national infrastructure policy in the UK. IUK aimed to bring decision making on infrastructure investment into one place in central government, with a view to develop long-term plans and identify priorities, improve delivery and bridge finance gaps. Oversight and scrutiny were established via an expert advisory council of Whitehall Department Permanent Secretaries and external private sector specialists.

The Coalition Government added political clout to this arrangement with the creation of a Cabinet sub-Committee, the Economic Affairs (Infrastructure) Sub-Committee, chaired by Danny Alexander MP the Chief Secretary to the Treasury. This committee brought together ministers from relevant central government departments.

The Coalition Government also introduced the 'Top 40' in 2011, a rolling list of schemes picked by importance

according to their potential contribution to economic growth, national significance, and their ability to unlock significant private investment. This list is reviewed regularly by Cabinet Committee members and officials and updated annually with the publication of the National Infrastructure Plan.

While the City Growth Commission does not take a view on which projects have been given the stamp of Top 40, it is interesting to consider this centrally-determined prioritisation exercise. As a list of individual projects across the country, the IUK model does not move us closer to taking full advantage of the interdependencies of infrastructure. Arguably, it simply compounds issues previously experienced in this space, especially the inherently political nature of such large-scale public expenditure with visible local level impact. A balance is needed between achieving political buy-in and moving beyond electoral timetables. The City Growth Commission argues that metro representation should be central to systems-based, long-term decision making in the interest of growth.

**“THE MOST IMPORTANT FUNCTION OF INFRASTRUCTURE,
BOTH PHYSICAL AND SOCIAL, IS TO PROVIDE A PLATFORM
FOR COMMUNITIES, BUSINESS AND VISITORS TO THRIVE”**

– LONDON COUNCILS

on single Local Enterprise Partnerships (LEPs) competing for resources, and strong identities (political and cultural) can make it difficult to realise joint ambitions. As George Osborne, the Chancellor, alluded to in his recent speech, cities need to help themselves too, working to break these barriers to take advantage of beneficial collaboration between metros: “The cities of the north are individually strong, but collectively not strong enough. The whole is less than the sum of its parts.”²⁸

Improving collaboration with other cities was a popular policy proposal amongst respondents to the City Growth’s survey on infrastructure and fiscal devolution. This survey sought the views of 40 cities, the Core Cities and Key City groups²⁹, the Greater London Authority (GLA) and London Councils, of which 18 cities responded.

The aim of the survey was to identify the major issues impacting cities’ infrastructure investment and connectivity, as reported by cities large and small. The key results are set out below, with finance and investment approval processes being major themes that cut across individual policy areas, such as transport and digital infrastructure. Note that some cities acknowledged that they might also need additional resources to bolster their capability and capacity.

“Increased possibility for joint investment with public sector and government agencies at a cross-city/ regional level without having to refer to central government accountability and funding would allow for increased risk sharing with the private sector and would allow for local innovation”

Manchester

28. Osborne, G. (2014)

29. The Core Cities are a self-defining group of the 8 largest cities in England by population size: Bristol, Leeds, Sheffield, Birmingham, Newcastle, Manchester, Liverpool and Nottingham. The Key Cities are a self-defining group of a further 23 mid-sized English cities.

CITY GROWTH INFRASTRUCTURE SURVEY

The City Growth Infrastructure Survey aimed to use the unique opportunity created by the City Growth Commission to get direct information from 40 cities plus the Core and Key City groups,³⁰ the Greater London Authority and London Councils, on the main barriers to developing and delivering city infrastructure plans and to test policy solutions on how to overcome these barriers.

We had 17 responses from Core and Key Cities across the country³¹ and a collective response from London Councils, taking the total to 18 responses. The dominating theme from the survey was cities' desire and ambition to have greater financial control, governance and accountability. Cities saw the current system as holding them back from delivering their plans for growth and prosperity for their citizens. Some of the key findings include:

- 89% of respondents had an infrastructure plan; five percent had plans in development.
- Maintenance of current infrastructure (89%), population growth (83%), climate change (78%) and an ageing population (67%) are the key future pressures on infrastructure in their cities.
- These future changes will lead to extra demands on infrastructure – cities identified the key areas as: transport connectivity (56%), broadband connectivity (72%), affordable housing (50%), private housing (44%) education (44%) and health facilities (44%).
- If money were no object, 52% of cities would prioritise investment

in transport connectivity over anything else – much higher than education facilities (12%).³²

- 72% of cities tell us that a lack of funding is the key thing holding them back from delivering their city infrastructure plan. Funding is also the key thing identified by cities as greatly inhibiting them from meeting future demands – 94%.
- 61% of cities thought the current methodology for measuring costs and benefits holds them back from delivering their city infrastructure plan.
- Too much government control (50%) and a lack of city-level governance (39%) could help explain why 39% felt there are insufficient incentives to invest.
- Cities felt cooperation would increase if there was a move away from the current balance of city and central accountability and funding – 39% thought cooperation would increase between regions; 39% thought cooperation would increase with other cities; 44% thought cooperation would increase between agencies and 33% thought cooperation would increase with the private sector.
- Popular policy changes advocated by cities included: devolution of financial instruments to city level (80%); devolution of accountability structures (60%); devolution of planning system to city level (45%); improving collaboration with other cities and private sector (both 55%); updating the current methodology for measuring costs and benefits (60%) and improving capability/capacity of the city (40%).

30. The Core Cities are a self-defining group of the 8 largest cities in England by population size: Bristol, Leeds, Sheffield, Birmingham, Newcastle, Manchester, Liverpool and Nottingham. The Key Cities are a self-defining group of a further 23 mid-sized English cities.

31. Birmingham, Bristol, Hull & Humber, Kirklees, Leeds, Liverpool, Manchester, Milton Keynes, Newcastle, Nottingham, Peterborough, Plymouth, Portsmouth, Preston, Sheffield, Stoke-on-Trent and Wolverhampton.

32. In most questions, cities were able to pick more than one option. For this question, cities were asked to pick only one out of a list of different types of infrastructure. The option for 'other' was also chosen by 12% of respondents who commented that green infrastructure and leisure and health facilities were where they would prioritise investment.

3. THREE CONNECTIONS TO PLACE-BASED GROWTH

This section focuses on three aspects of infrastructure policy – transport, housing and broadband.³³ During the course of our inquiry, these areas emerged as key to holistic, place-based city growth and should be central to the development of city-regional devolution.

Transport connectivity

Transport connectivity is vital to realising the ambitions for an efficient city system and a productive system of cities. Without effective, integrated transport connectivity, cities limit the size of their labour markets, risk the competitiveness of their businesses in connecting to trading partners, and undermine the ability of people to access public services and build social capital. The UK currently loses billions of pounds every year as a result of congestion and poor connections between cities.³⁴ UK productivity and growth is being held back.

Transport connectivity is also critical in enabling agglomeration effects within and between places. A good example is Manchester and Leeds – two cities that are as far apart as London and Reading, but it takes twice as long to travel between them.³⁵ This Commission has spoken previously about the importance of connectivity between cities in the north to capitalise on the agglomeration potential of the wider region. We therefore welcome David Higgins', the new chair of HS2 Ltd, emphasis on the importance of Phase 2 of HS2 and the Chancellor's backing of connectivity in driving economic growth

within the 'Super-city' region: "step one in building the Northern Powerhouse is a radical transport plan so that travelling between cities feels like travelling within one big city."³⁶

Jim O'Neill, Chair of the Commission, has previously referred to a future 'tube system for the north'³⁷ and its role driving economic growth. While connectivity to our global capital is vital, northern connectivity is in a dire state. **As a counterbalance to London and South East, investment in connectivity between northern cities (via HS2 'Phase 3' or other schemes) should be prioritised.**

More broadly, the Commission supports Lord Deighton's focus on integration between national high speed and local, integrated transport networks as key opportunities for growth. The challenge for many metros will be to make the most of these new connections between and within their city regions, so enabling them to maximise growth and create jobs.

Critical for delivering this strategic vision of connectivity is getting the governance right at the metro level, to develop a coherent plan for the long-term which takes account of how transport can link up with other forms of infrastructure and economic activity. Without this, project costs and rationale can seem unpalatable when thought of in isolation, even when they may well deliver far-reaching and valuable benefits.³⁸ The right metro governance allows transport to be a key part of the wider vision

33. Although we recognise important areas of infrastructure stretch far beyond these

34. See European Commission (2012) and Eddington, R. (2006)

35. National Rail enquires via BBC article referencing Osborne, G. (2014)

36. Osborne, G. (2014)

37. O'Neill, J. (2014)

38. Royal Town Planning Institute (2014)

HIGH SPEED 2

High Speed 2 (HS2) has been a project steeped in controversy since its inception in 2009. The proposed high speed rail between London, the West Midlands and possibly, in its earliest consideration, to Glasgow/Edinburgh, was designed to meet rising demand for passenger and freight rail services, as well as a way of cutting journey times.

Plans for Phase 1 of the project between London and Birmingham have been largely finalised, after many years of economic, legal and planning considerations. Phase 2, from the West Midlands to Leeds and Manchester, is less advanced in finalising its route and timetable, but David Higgins, new chair of HS2 Ltd, has emphasised the importance of completing this phase from the

perspective of economic growth. It is possible that construction of Phase 2 might be brought forward to accelerate the realisation of these economic benefits to cities in the north – and to the UK as a whole.

In addition to Phase 2, the Chancellor recently spoke of the need to improve East/West connectivity – so called HS2 Phase 3 – to improve links between northern cities. This announcement is a strong signal that agglomeration economics and the role of multi-modal connectivity in enhancing productivity, jobs and growth – especially outside London – are increasingly recognised by central government.

UK LOSES **£BNS** IN OUTPUT TO TRANSPORT COSTS EVERY YEAR:

- A **5%** REDUCTION IN TRAVEL TIME FOR ALL BUSINESSES AND FREIGHT TRAVEL ON THE ROADS COULD GENERATE AROUND **£2.5BN** OF COST SAVINGS³⁹
- IRELAND, UK, POLAND AND HUNGARY HAVE THE HIGHEST URBAN CONGESTION IN THE EU⁴⁰
- AT **24.5BN** EUROS, THE ANNUAL COST OF CONGESTION TO THE UK IS THE HIGHEST IN THE EU⁴¹

39. Eddington, R. (2006)

40. European Commission (2012)

41. European Commission (2012)

for the whole metro, driven by the interests of economic, environmental and social productivity.

Transport for London (TfL) demonstrates the importance of enabling appropriate governance structures to take advantage of infrastructure interdependencies. For example, devolving the former Silverlink Metro franchise (now London Overground) to TfL and integrating it onto the Tube map has generated a 70 percent increase in passengers carried per km between 2007 and 2014. The whole London Overground network now connects up 21 of London's 33 boroughs and has particularly benefitted areas of London previously lacking in high-quality connectivity (eg East London). Greater Manchester has also made considerable strides in enabling strategic investment via its single fund, allowing otherwise fragmented funding streams to be pooled and leveraged. Its overarching organisation, Transport for Greater Manchester, works closely with the 10 boroughs that comprise the Combined Authority.

At a national level, engaging metros early in the decision making process should be considered vital. Early engagement ensures metros can influence and buy into projects, enabling citizens to more readily see the direct impact on, and potential benefits for, their city-region. It also allows leaders to prepare for, and maximise the value of, national schemes. As Lord Deighton's HS2 Growth Taskforce has underlined, the benefits of national infrastructure are greatest when they connect and enhance local networks.⁴² Currently, metros are not part of the national project feasibility and decision-making process, limiting the degree to implementation to serve the best interests of city growth.

Housing and the built environment

Several major UK cities face a huge undersupply of housing. There are both social and economic consequences of this,

mostly felt in London, the South East and certain parts of other city-regions (eg Bristol, West Yorkshire). Barriers to home ownership are driving up wealth inequalities within and between generations, impacting on individual wellbeing and social cohesion. Similarly, office space is at a premium in UK cities, with evidence suggesting that even in medium-sized cities such as Birmingham, the cost of office space is more than 40 percent higher than in Manhattan.⁴³ In certain areas, these issues are impacting on firms' location and investment decisions.⁴⁴

While increasingly part of monetary policy considerations, housing and the built environment are commonly missed out of the debate on infrastructure and the operation of cities as systems. Yet without appropriate housing, people cannot be connected to where they are able to work most productively; nor are businesses able to locate where they can most easily take advantage of agglomeration economies. The issues are so problematic and stark that they cannot be omitted from this report.

In terms of public policy, housing has faced a mixed history. Recent government attempts to boost demand (eg Help to Buy equity loan and mortgage guarantee schemes) are under close scrutiny by policy-makers given the impact on price inflation and risks around leverage that were exposed in the 2008 crisis, and the financial industry itself is tightening access to funds (eg imposing a cap on borrowing by certain multiples of household income).

While the market has picked up again since the recent and protracted crash, there is no sign that supply has begun to respond to need. The result is that London (and other areas over time) could start to price out its young talent and start-up businesses, squeezed by unaffordable rents. Government intervention is needed to instigate long term supply side structural change.

There are some innovative examples of change at the local level. For example, Greater Manchester and Abu Dhabi United

42. The HS2 Growth Taskforce brings together key leaders of cities/LEPs across the proposed HS2 route. Led by Lord Deighton it aims to ensure cities and local areas are able to realise the benefits of HS2 through aligning policies and plans and take full advantage of the potential economic benefits of HS2.

43. Cheshire, P. and Hilber, C. (2007)

44. CBI (2013)

ALL OUR MAJOR METROS EXPERIENCE HIGH CONGESTION⁴⁵

| RANK | CITY | CONGESTION 2013 | CONGESTION 2012 |
|------|----------------|-----------------|-----------------|
| 1 | Belfast | 36% | 35% |
| 2 | London | 34% | 32% |
| 3 | Edinburgh | 34% | 34% |
| 4 | Bristol | 32% | 33% |
| 5 | Brighton | 31% | 30% |
| 6 | Manchester | 26% | 26% |
| 7 | Leeds-Bradford | 26% | 29% |
| 8 | Sheffield | 26% | 22% |
| 9 | Liverpool | 25% | 25% |
| 10 | Nottingham | 25% | 23% |
| 11 | Leicester | 25% | 22% |
| 12 | Newcastle | 23% | 23% |
| 13 | Birmingham | 23% | 22% |
| 14 | Portsmouth | 22% | 20% |
| 15 | Cardiff | 22% | 21% |
| 16 | Glasgow | 22% | 22% |
| 17 | Southampton | 20% | 19% |

Note: Percent represents the percent time longer a journey took than if traffic had been free flowing.

JOURNEY TIMES ARE LONG, PARTICULARLY IN THE NORTH,
AND ON SOME ROUTES IN THE UK, RAIL JOURNEYS
ARE NOW SLOWER THAN IN VICTORIAN TIMES⁴⁶

45. TomTom (2014)

46. Leach, B. & Malnick, E. (2012)

Group (ADUG) recently agreed a £1bn deal to create the 'Manchester Life Development Company' which will oversee a 10-year project to create more than 6,000 new homes in once rundown parts of Manchester. However, much more needs to be done to enable supply across a mix of housing types and tenures. In some places, availability of land is not necessarily an issue but metros still need the ability (and sometimes resource) to remediate land for development.

One of the most important issues to be tackled is the timely delivery of public service and transport infrastructure, linking homes and offices to labour markets, retail and other economic, social and cultural opportunities. This requires coordination at the metro level, promoting a holistic, place-based approach to growth.

THE ISSUES AROUND HOUSING AND THE BUILT ENVIRONMENT ARE STARK:

– **124,720** HOMES WERE BUILT IN 2012–13, BARELY HALF PROJECTED ANNUAL HOUSING REQUIREMENTS FOR THE NEXT 20 YEARS.⁴⁷

– VALUE OF LAND INCREASES **600–700** FOLD ONCE IT HAS PLANNING PERMISSION TO CHANGE USE FROM AGRICULTURAL TO RESIDENTIAL LAND.⁴⁸

– EVEN IN MEDIUM-SIZED CITIES SUCH AS BIRMINGHAM, THE COSTS OF OFFICE SPACE ARE MORE THAN **40%** HIGHER THAN IN MANHATTAN.⁴⁹

47. Home Builders Federation submission to the City Growth Commission call for evidence (Jan 2014)

48. Government Office for Science (2010)

49. Cheshire, P. and Hilber, C. (2007)



Photo credit: Transport for London, 2014

BARKING RIVERSIDE

As a 445-acre brownfield site along the Thames in East London, the 'Barking Riverside' development is part of the London Riverside Opportunities Area and, should it secure final planning approval, has the potential to provide nearly 11,000 new homes and 6,000 new jobs.

The site has full planning consent and an initial phase of 1,000 homes has been a huge success. However, building is set to halt once a further 200 have been completed unless the development of

new public transport links is started, as per a requirement of the original planning permission.

An extension to London Overground to Barking Riverside would unlock this growth, but securing approval from central government and numerous other stakeholders has so far failed to progress. Green lighting the extension would permit work to start on 3,000 new homes and 7,000 more would become viable once the extension opens.

Broadband connectivity

Huge technological changes over the last few decades have transformed the way we live, work and communicate. Digital connectivity is as important as physical connectivity in the modern economy, and the UK has one of the highest rates of internet use in the world.⁵⁰ While urban connectivity across the country is far faster than rural connectivity – average download speeds were found to be almost three times that of rural areas in November 2013⁵¹ – broadband variability within urban areas is a key concern, evidenced recently by Ofcom, who found that there are still significant gaps in availability of standard

and super-fast broadband services across UK cities.⁵²

The key issue raised by cities is that current provision of broadband infrastructure does not match urban requirements for high speed, super-fast connectivity. It seems private suppliers do not have the incentives to invest in network and last-mile infrastructure, especially to meet the demands of small start-ups that require lower-cost, flexible packages of super-fast broadband. Supply is delivered to the point that it is most profitable in the short run, rather than in the interests of long-term city growth. The end result being that infrastructure investment is inconsistent

CONNECTING CAMBRIDGESHIRE

Some cities have also taken innovative steps to further enhance national programmes. Cambridgeshire City Council has introduced the Connecting Cambridgeshire programme. This integrates all work across the city region relating to digital inclusion and broadband infrastructure – to ensure their citizens and businesses are receiving the fastest digital connectivity possible and have the skills to access that connectivity – and on future-proofing their city region – taking advantage of the interdependencies of infrastructure to ensure their city is prepared for future change and growth. Programme funding comes

from BDUK, Cambridgeshire and Peterborough County Councils and through a contracted partnership with BT, who were tendered through a competitive process.

By 2015, 98% of homes and businesses across the city region can expect to have access to fibre-based broadband, estimated to bring an additional £500 million to the local economy within 5 years of completion.

Unfortunately, similar schemes are not available for larger metros, classified as urban areas; here State-Aid rules apply much more restrictively.

50. Information Geographies at the Oxford Internet Institute

51. Ofcom (2013)

52. Ofcom (2014). This research tested availability in sample cities across the UK: London, Birmingham, Manchester, Cambridge, Exeter, Glasgow, Inverness, Cardiff, Bangor, Belfast and Derry-Londonderry.

and often inadequate. Compounding this private sector issue (heightened due to the concentration of the market in one or two players – BT and Virgin), metros are further constrained by European State-Aid rules, which prohibit public investment in infrastructure where private sector investment already exists or is planned to exist.

National government policies have been put in place to try and alleviate these issues across rural and urban areas. For example, the creation of Broadband Delivery UK (BDUK)⁵³ aims to tackle poor rural connectivity and the SuperConnected⁵⁴ cities programme has distributed £150m across 10 cities as part of the government's £780m

investment in digital infrastructure across the country. This programme includes the creation of connection vouchers, which help alleviate the costs of connections to super-fast broadband for small companies.

While European State-Aid rules are designed to ensure public investment does not carry deadweight and does not interfere in the operation of efficient markets, the definition of 'existing' infrastructure and how adequate that infrastructure is for the 21st century, limits the freedom of metros to help enhance the quality of supply above and beyond that provided by private firms, in the interest of economic and social productivity.

| CITY | PROPORTION OF CONNECTIONS WITH SPEEDS LESS THAN 2MBIT/S | | CURRENT AVAILABILITY OF NGA INFRASTRUCTURE FROM BT AND/OR VIRGIN MEDIA | |
|-------------------|---|------|--|----------|
| | 2012 | 2013 | 2012 | 2013 |
| UK | 10% | 8% | 65% | 73% |
| London | 5% | 4% | 88% | 88% |
| Birmingham | 6% | 4% | 89% | 91% |
| Manchester | 8% | 6% | 86% | 86% |
| Cambridge | 4% | 3% | 94% | 96% |
| Exeter | 7% | 6% | 90% | 90% |
| Glasgow | 8% | 6% | 63% | 67% |
| Inverness | 10% | 8% | 0% | 2% |
| Cardiff | 10% | 8% | 92% | 92% |
| Bangor | 7% | 5% | 85% | 95% |
| Belfast | 5% | 4% | 97% | 98% |
| Derry-Londonderry | 12% | 9% | 99% | 99% |
| Chicago | | | | 98% |
| Hamburg | | | | 95% |
| Milan | | | | 55% |
| Seoul | | | | over 90% |
| Warsaw | | | | >95% |

Sources: Ofcom (2014).⁵⁵ NGA stands for next-generation access broadband coverage. In the UK the infrastructure for NGA is from BT and/or Virgin Media. Data for Chicago, Hamburg, Milan, Seoul and Warsaw is only available for NGA coverage in 2013.

53. <https://www.gov.uk/broadband-delivery-uk>

54. Department for Culture, Media and Sport (2012)

55. Ofcom (2014)

4. HOW CONNECTIVITY

CAN ENGINEER FUTURE GROWTH

In delivering effective infrastructure for truly connected cities, we need:

- 1. Vision:** The UK needs a strategic investment framework to inform local and national-level decision-making, cutting across the siloes of transport, housing or other areas to set a vision based on the interests of GVA and connectivity. In deciding what infrastructure investment we should pursue as a country or as cities, we need to start from the premise of ‘what does this place need?’ and then devise a long-term strategy detailing pace of delivery based on affordability.
- 2. Holistic, metro-wide growth:** Industrial strategies and national-level infrastructure plans need to be considered from the perspective of specific, metro-level economic geographies. Infrastructure across sectors (eg rail, highways and digital) and its economic, social and environmental impact are inherently interlinked. Decision-making and finance for infrastructure need therefore to be administered in the round at city-level, to ensure the right priorities and sequencing of delivery to maximise economic and social productivity.
- 3. Innovative finance:** Transformative projects with major direct public and private investment can bring about positive, additional economic benefits at a local level. However, at the national level, these benefits are too frequently dismissed as ‘mere displacement’ activity, an interpretation that severely limits infrastructure investment and serves as a self-fulfilling prophecy when places are then constrained from, and even disincentivised against, enabling growth. Earn Back and Gain Share schemes are two examples of early pilots where cities will retain some of the upside from the growth they create from additional economic activity. These schemes should be developed further with significant transfer of risk to those metros able to shoulder it.
- 4. Coordination and forward thinking:** Delivery of major infrastructure investment projects can be disruptive and costly, when poorly timed or sequenced. For example, building works for the Northern Hub will be followed, after some delay, by Phase 2 of HS2, and ultimately, the next phase of the ‘Northern Super City’ network,⁵⁶ operations that could otherwise have been coordinated through long-term planning and metro-centred decision-making. Planning over long-term investment periods enables lower cost delivery of new homes, retail and commercial sites based around existing transport capacity. France, for example, was able to build extra high speed rail connections with relative ease, because it thought ahead to build stations it knew it would one day need.
- 5. Better appraisal of transport investment:** The Green Book is an adequate way of determining the business case for individual projects, but a holistic investment strategy needs to determine how to prioritise schemes across the metro level. Taking a GVA and labour-market perspective, the question becomes not whether projects can be justified in and of themselves, but how to prioritise projects to maximise growth and job creation.

5. RECOMMENDATIONS

“Government policies and funding arrangements are fragmented and inconsistent and in combination, they tend to inhibit growth rather than facilitate it”

Milton Keynes

The following recommendations set out how the next government could deliver the above, creating a viable system of UK connectivity and enabling more sustainable, productive economic growth over the long term.

1. **Develop a stronger, metro-focused Infrastructure UK**
2. **Create a fairer and more flexible funding system**
3. **Introduce a flexible and innovative planning system**
4. **Follow a measurement system that accurately reflects the costs and benefits of infrastructure investment**
5. **Enable metros to rise to the challenge**

I. A stronger, metro-focused Infrastructure UK (IUK)

The longevity of IUK, created under the previous government and evolved under the current administration, demonstrates how far the UK has moved in the right direction to prioritise national strategic infrastructure investment. However, despite best intentions, IUK is still subject to short-term national political timetables and ministerial demands which

can disincentivise long-term strategic decision making.

This system has led many to call for independence on infrastructure decisions, including the most recent Armitt Review of Infrastructure.⁵⁷ An independent body is an attractive policy option, but given the ever emerging demand for more and higher quality infrastructure, the limited resources – including finance and skills – available to deliver competing projects and the level of local impact, infrastructure investment decisions are inherently political.

To ensure the best possible result for city-level and UK wide growth, metros should be actively engaged in national decision-making early on, particularly regarding projects that have a significant local impact (eg airports).⁵⁸ It also ensures citizens and businesses can understand the merits and costs of proposals and how their metro will benefit; getting buy-in early can help to smooth the way for making difficult choices at local and national level.

Metros need to set the high-level strategic objectives that can ensure greater connectivity between and within them, for the benefit of the UK as a whole. For that we recommend:

- **Metros should be allowed to function as place-based systems** – metros should be able to control their own destiny; to plan, develop and deliver their infrastructure strategies

57. Armitt, Sir, J. (2013)

58. Recent NAO work demonstrated that in a world of greater devolution, better communication between local and national is needed to avoid the high risk of waste and ‘optimism bias’ that can result in the failure of programmes. NAO (2013)

where decisions impact within their boundaries. This requires transfers of powers, accountability and risks down to metro-level for those sufficiently able to shoulder this;

- **Metros should collaborate at regional level** – to ensure efficient, effective connectivity across metro-boundaries, metros should collaborate at regional-level, working with other city-regions and county authorities;
- **Metro-level representation on IUK** – metros should have the autonomy to assert their voice in national decision-making, programme delivery and network management via metro-leader representation on the IUK Advisory Council (eg replacing Departmental Permanent Secretaries). They would sit alongside external experts from planning, development, design and engineering, as in the current Council, to ensure decisions are taken in light of key information from leading sectors. Metros would be required to work together at the national-level to ensure decisions are fully informed of current and future infrastructure needs and existing delivery plans to create a more efficient connected system of cities;
- **Stronger metro representation in national infrastructure decision-making** – over the long-term, this principle could then be applied to other areas of national government policy, where metro leaders assert greater influence over national policy decisions, alongside governing further devolution to their own metros.

This isn't going to be easy. We do not wish to advocate another bureaucratic layer of government that becomes unwieldy and ineffective. To avoid

an unwieldy council, metro representation would have to come from the largest metros in terms of population and economic might, rather than every metro across the UK. This would mean metros would need to collaborate with smaller cities in their vicinity but also with other metros represented in IUK to ensure more effective strategic planning for the UK as a whole.

The newly modelled IUK will require an increase in strength. Formal and informal networks will need to be created across Whitehall to ensure that the long-term, strategic decisions are adhered to by departments.

2. **A fairer and more flexible funding and finance system**

We recognise the steps IUK has taken to develop a range of flexible and innovative funding and finance systems to ensure a strong pipeline of investment for future infrastructure plans – with the introduction of UK Guarantees (2012),⁵⁹ the Green Investment Bank (2013)⁶⁰ and the Pensions Infrastructure Platform (PIP) (2014).⁶¹ However, while these recent steps demonstrate flexibilities at the national level,⁶² metros have been severely constrained in their ability to respond to the needs and opportunities of their places in the interest of holistic, metro-wide connectivity and growth.

Evidence of what works well abroad can show us how to improve investment certainty in the UK over the long-term. For example, Australia and Canada have two of the most innovative finance systems in the world, using a flexible array of models to suit different infrastructure needs at local, regional and national levels.⁶³

Throughout the course of the City Growth Commission's inquiry, we have

59. Announced and given statutory backing by the Government in 2012 – provides financial guarantees from government for planned infrastructure projects whilst private sector investors are sought.

60. The Green Investment Bank was set up to acknowledge the significant risk of a gap emerging in the provision of equity capital to support the large scale investment in infrastructure needed in the low-carbon sector. It operates on a commercial basis backed by public and private financing.

61. The first of its kind in the UK, the PIP was the result of a Memorandum of Understanding between Government and UK pension funds to develop a facility to help UK pension funds invest more in infrastructure assets.

62. The most recent assessment showed 19 percent (£73 bn) of investment in the infrastructure pipeline will be publicly funded, 17 percent (£63 bn) represents a mix of public and private funding and 64 percent (£240bn) is purely privately funded (not all of this is secured) - HM Treasury (2014)

63. Inderst, G. & Della Croce, R. (2013).

heard from cities that the level and inflexibility of (often siloed) funding streams is the key barrier keeping them back from delivering their city infrastructure plans and securing long-term finance. In our next report, the Commission will argue for a broad devolution of revenue-raising powers and substantial risk transfer to those metros able to shoulder it.

“Uncertainty around quantity and timing of funding availability restricts the extent we are able to meet future infrastructure demands”

Stoke-on-Trent

With regards to infrastructure and connectivity, we argue here that metros should be responsible for approving and securing finance to develop schemes within their boundaries, drawing on private expertise and finance to create investable joint-vehicles to secure investment and expertise. This means that metros should be free – should they determine it in the best interest of their place – to:

- **Develop effective forms of Tax Increment Financing (TIF)** – based on reinvesting a proportion of an area’s future business rates back into infrastructure and related development. Although not suitable for all schemes, it is a first step towards allowing metros to have greater financial autonomy to invest in local infrastructure plans;
- **Develop models similar to Earn Back and Gain Share suitable for the city** – based on TIF but extended beyond business rates to the wider tax base. These models are not suitable for all cities, but those that demonstrate the capability to manage the financial risks could be given greater flexibilities to invest for growth;
- **Apply a range of ‘user pays’⁶⁴ and levy-based models at the metro level**, where appropriate.

3. A more flexible and innovative planning system

“The planning system needs to be reconnected with delivery and commerciality”

Wolverhampton

Planning is a critical supply-side driver of growth and it can shape markets to a considerable degree.⁶⁵ While long-term certainty is vital, the planning system needs to be flexible enough to allow markets to grow and innovation to flourish. It also needs to encourage long-term resilience in infrastructure networks and the built environment, helping to reduce future costs.

Since March 2012, local authorities in England with responsibility for planning have followed the National Planning Policy Framework (NPPF), which was introduced to consolidate and streamline existing guidelines and thereby improve the efficiency of the planning process. House builders and policy experts have spoken positively about the NPPF to the City Growth Commission, and it has been found to have made an early and successful impact on granting permissions.⁶⁶

However, to support more efficient city systems, planning responsibility needs to be set at the right scale to ensure strategic (and sometimes difficult) decisions are taken in line with the promotion of economic growth. Local authority responsibility is not the right scale for making many of these decisions, especially those with wider economic impact. Crucially, local politics and parochialism make it difficult to pursue strategic and long-term objectives in the interests of the city-region. To enable effective connectivity planning, metros should take on planning authority powers, aggregating up decision-making to complement strategic investment across the city-region. For example, metros

64. User-pays models eg capital recycling, leverage the value of existing assets to increase the capacity to invest

65. Adams, D., & Watkins, C. (2014)

66. Savills (2013)

should have the power to convene relevant agencies and make planning decisions across all modes of transport: from traffic orders on local roads, to building a new railway, or closing a pathway to enable major developments to go ahead.

In addition, they should be free to:

- **Designate housing zones** across metros, incorporated into Neighbourhood Plans to enable community engagement in strategies for meeting housing needs across metro areas;
- **Make greater use of Compulsory Purchase Order (CPO) powers**, an estimated 200,000 individuals own about two-thirds of UK land,⁶⁷ which can restrict land supply. Greater use of compulsory purchase powers by metros could help work against this;
- **Create an open register of public sector land** at metro-level (aggregated at national-level), enabling metros to leverage these assets flexibly, helping also to improve transparency of the land market; and,
- **Reclassify poor quality Green Belt and promote Green Belt swaps**, where applicable, engaging with local people to create buy-in for more flexible arrangements for enhancing economic, social and environmental value.

“The planning system is not fit for purpose; the delivery mechanism can inhibit councils”

Newcastle

In addition, we recommend Government review the insufficiency of fibre connectivity in key parts of cities (especially final connections to businesses and households), in light of what seems to be insufficient competition in the high-speed broadband market. The Government’s review would consider why this is the case and how it might be resolved. In particular:

- The **national interest case for having fully fibred systems** in dense urban areas;

- Whether open access matters and if so **what would be needed to drive real price and service competition** and innovation into the fibre/ducting level;
- Whether the **structure and regulation of the market** are holding back the development of the above; and,
- The **impact of the current state aid rules** and how options for addressing them.

4. **Follow a measurement system that accurately reflects the benefits of infrastructure investment**

Robust analysis and appraisal are needed to underpin political decisions in allocating infrastructure investment at both the metro and national-level.

The Treasury Green Book provides a trusted and authoritative source of appraisal guidance for assessing the relative merit of investment in different infrastructure projects. It is used by many across and within local and national government, by academics and external consultancies. However, cities tell us that the current methodology is holding them back from delivering on their future infrastructure ambitions, largely as a result of the application of that guidance by central government departments in granting project approval.

The Green Book advocates use of its Cost Benefit Analysis (CBA) tool for demonstrating the economic and financial case for investment alongside other information and evidence as part of the five business case model. However, its application by many government departments is often the only method used to judge the relative case for investment in projects. This means the full suite of potential economic benefits are not routinely taken into account:

- **Metros’ contribution to economic growth** – although ‘wider economic impacts’⁶⁸ are taken into account in Green Book appraisal, these are largely limited to estimated productivity gains rather than the potential

67. Norton-Taylor, R., (1982) and Home, R. (2009)

68. Wider economic benefits including agglomeration impacts, competition impacts and connectivity improvements, which capture the effects of investment on supply, competition and labour.

EUSTON AREA REGENERATION PROJECT

Developed by the London Borough of Camden and the GLA, the Euston regeneration project aims to take advantage of the benefits afforded by the HS2 station at Euston. There is little brown-field land for redevelopment in the area, so maximising floor space within the station is vital for creating additional jobs, homes and GVA.

Economic plans from the Borough and GLA for a 'Euston Area Economic Vision', based on an alternative station design, estimate up to 13,500 additional jobs and GVA of over £950m per annum. This

compares to the estimates for 7,000 jobs and £270m GVA per annum based on the current HS2 Euston station design.⁶⁹

Designing major infrastructure projects, such as HS2, without due consideration of place, and the wider potential economic benefits that those places might generate, means the proposal is not always the best possible option for regeneration. The Higgins' Review has highlighted the issue and called for a change in station design to unlock these potential extra benefits,⁷⁰ but recognition of 'place' is too rare at present.

JUBILEE LINE EXTENSION

Initial appraisal of the Jubilee Line Extension estimated the BCR to be less than 1 (0.95:1), which would typically deem the project unviable. However, a political decision was taken on the grounds the extension was vital for the Docklands regeneration project and should go ahead despite the low BCR.

Later, an updated methodology was used to complete a CBA appraisal ex-post CBA, which gave a BCR of 1.75:1. Inclusion of non-transport economic benefits, such as additional land value uplift took the BCR closer to 2.75:1 – indicating strong, positive economic viability.⁷¹

69. Atkins (2014)

70. Higgins, D. (2014)

71. Estimated total property value increase around Southwark and Canary Wharf Stations is over £2.1 billion, which is solely attributable to the impact of the Jubilee Line Extension. Banister, D. (2007)

growth opportunities afforded from investment in metros (eg land value uplift). Moreover, they are often only appraised as a sensitivity test – an afterthought, rather than a primary benefit of a scheme. When appraisal is the main element of decision-making, this approach could undermine the level and nature of investment.

- **Interdependencies of infrastructure** – while much has been done to improve appraisal so that it is viewed within a wider local and national context, opportunities to combine, sequence or collaborate between projects are not taken advantage of (eg planning transport infrastructure investment alongside upgrades to the telecoms network). This undermines metros’ attempts to design and deliver a holistic strategy in the interests of city growth.

The importance of thinking beyond a simple reliance on current CBA models cannot be stressed enough. While it is inherently difficult to estimate the true additional impact of any intervention before it is installed, and there is a risk of capturing deadweight in the appraisal,⁷² headway is being made in this area⁷³ – there is an increasing number of models that allow for a more accurate assessment of the potential benefits rather than just the known cost.

Ultimately, infrastructure investment appraisal only goes so far in helping to make decisions that often carry high levels of uncertainty and risks. Advances in appraisal methodology demonstrate that a seemingly low (or high) Benefit Cost Ratios (BCR) at one time might not always be so. CBA should be used as one facet in a range of evidence and information – a fact acknowledged by the Green Book’s five business case model itself.⁷⁴

To enable better infrastructure appraisal at national, metro and local level, we recommend HM Treasury, IUK and the Department for Transport:

- **Ensure appraisal methodology (and its application by other government departments) takes account of the importance of place** – steps have been taken in the right direction with the publication of supplementary Green Book guidance to help support appraisal at the local level, based on the Manchester New Economy model.⁷⁵ But this could go further, building on additional data and information on wider economic benefits;
- **Ensure appraisal methodology takes account of the interdependencies of infrastructure** – learning from Frontier Economics⁷⁶ work (commissioned by HM Treasury/IUK) to assess the economic value of infrastructure interdependencies. This should be applied across appraisal methodologies to ensure that the value of interaction effects between new and existing infrastructure is captured;
- **Ensure other emerging techniques of appraisal are taken into account** – building, for example, on the Department for Transport’s planned improvements to its WebTag guidance, following an independent review of its current methodology in assessing economic benefit.⁷⁷ Here again, government departments could go further, including through consistently conducting project evaluation and assessments ex-post to feed those findings into future appraisal;
- **Continually pursue improvements in appraisal methodology across the board** – HS2 Ltd has incorporated risk-based analysis, previously unused in transport appraisal, into their methodology to get a better sense

72. Deadweight represents something that would have happened even without the intervention. The aim is to find the additional benefits of an intervention (i.e. minus deadweight).

73. HM Treasury (2014)

74. HM Treasury (2013)

75. HM Treasury (2014)

76. Frontier Economics (2012)

77. Department for Transport (2013)

KEY TAKEAWAYS FOR LONG-TERM METRO GROWTH

- As a counterbalance to London and South East, investment in connectivity between northern cities (via the Northern Hub, HS2 'Phase 3' or other schemes) should be prioritised.
- Metros need to improve and demonstrate their capacity to identify and manage risks, following the lead of a few UK city-regions in developing innovative, place-based approaches to financing investment.
- Metros should take on planning authority powers, aggregating up decision making to facilitate strategic investment across the city-region.
- Government should commission a comprehensive review on how our current and future needs for digital infrastructure can be met, especially in the face of strict EU State Aid rules and a highly concentrated high-speed broadband market in which major players such as BT and Virgin can constrain supply and market competition.
- Metro leaders should influence infrastructure decisions of national importance, which are decisions of importance for our system of cities. Over the long-term, this principle could be applied to other areas of national government policy, alongside further devolution to the metro level.

of the potential distribution of BCRs and the probabilities of different outcomes. Use of innovative methods on top of Green Book appraisal should be encouraged and evaluated;

- **Work with ONS and other data-rich bodies to publish better local and metro-level connectivity data** – better estimates of the likely impact of infrastructure investment will hinge upon the collection of more and better data. While metros and local authorities might choose to publish supplementary data (in an open format to allow for third-party analysis and dissemination) there is scope for the Office of National Statistics (ONS) and other data rich bodies to improve their economic data at the local and metro-level. Experimental statistics on productivity by Local Enterprise Partnerships (LEPs) is a step forward and the City Growth Commission has elsewhere emphasised the importance of LEPs in providing high quality analysis to advise local authorities and metro-areas.

5. **Enable metros to rise to the challenge**

The UK's highly centralised system of government has contributed to an erosion of local government capacity. While some leading metros are breaking away from this trend with the emergence of Combined Authorities and a greater focus on developing internal capability, metros need to demonstrate greater capability to deliver robust appraisals, strategic plans and long-term collaborations

with other cities, regions, agencies and the private sector. To support these moves we recommend:

- **Private sector swaps** – seconding in private sector expertise into the city-region level (and vice versa for officials) across a range of sectors to create and deliver holistic plans for city growth (eg planners, developers, designers, strategists and economists). This could enable both private and public sector organisations to build better relationships and share expertise, most importantly on risk management and finance, and for cities to demonstrate capability to national government and achieve better outcomes in the interest of place.
- **Public sector swaps** – similarly, swaps between city-regional and national government officials can build expertise and share experience.
- **Greater collaboration between cities** – including sharing services or creating centres of excellence to serve groups of cities in (eg) procurement, ticketing systems, bus contracting and access to sophisticated forms of finance (eg bond issues).
- **Metro-level skills planning** – a more targeted metro-level skills system (see City Growth Commission report, Human Capitals) would allow for greater local planning to meet demand from employers, including the public sector, to alleviate private and public sector skills mismatch.

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