ice
Institution of Civil Engineers

STATE OF THE NATION 2016:

Devolution

President's **foreword**

In this year's State of the Nation report we review the risks and opportunities for infrastructure in an age of devolution to nations, cities and regions.

The relocation of power away from the centre has major implications for the built environment and, in turn, society. As the voice of infrastructure, ICE intends to play a central role in shaping and informing the debate about how these powers can most effectively be used.

ICE supports the goals of devolution – of driving local growth and rebalancing the economy. The devolution of infrastructure policy has many potential benefits. Decisions can be based on an understanding of local needs, integration of services is easier to deliver on a local scale and securing vital public support for projects more achievable when it is the same community that benefits. Devolution of infrastructure can therefore help not just the economy's recovery but also improve quality of life and the environment.

This report sets out a number of steps we consider are necessary to ensure the devolution agenda impacts positively on our local, regional and national infrastructure networks. They are the product of evidence gathering from regional workshops and focus groups, stakeholder interviews and a public opinion survey. The expertise of ICE's knowledge panels has also been drawn upon to arrive at the report's recommendations.

I would like to thank all of those who have contributed, particularly the members of the project Steering Group, the authors of the report and this year's President's Apprentices. Each has given a considerable amount of time to help analyse evidence to form our conclusions. If nothing else, their hard work exemplifies the value ICE and its members can contribute to society.

> "Devolution of infrastructure policy can help not just the economy's recovery but also improve quality of life and the environment."

Sir John Armitt
ICE President and Commissioner,
National Infrastructure Commission

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Executive **summary**

The Government's devolution agenda is positive and has potential but it could be improved and go further. A few key policy changes will ensure it works for people, the economy, and the environment.

Following the devolved nations and London, combined authorities such as West Midlands and Greater Manchester and new transport bodies like Midlands Connect and Transport for the North are being created. These new bodies will have powers over infrastructure – deciding what's needed, where and when: as the devolved nations and London show, this can positively transform infrastructure strategy and delivery.

Enabling devolution

Devolution is mapping new geographies onto existing areas. For effective outcomes, at the start of the devolution bid process, advice to provide clarity is required. Similarly, in reaching settlements, while accountability and leadership are essential, models to achieve devolution should reflect each area's unique identities and preferred approaches.

To ensure the new arrangements provide for people's needs, it is important to understand what infrastructure is required where and when. Alongside local devolution, regional infrastructure strategies should be developed to decide priorities for economic growth and realise wider social and environmental improvements.

Devolution delivery

Without a skilled workforce to build it, there's little point in devolving powers on infrastructure. Regional infrastructure pipelines should be created alongside the regional strategies. The pipelines should be used to improve skills provision and to help guide investment and procurement.

While combined authorities have the will and powers, their financial means are limited. To allow devolved bodies to do what they've been created for, red tape should be cut, allowing flexible but prudential approaches to attracting investment.

All infrastructure is interconnected, therefore systems approaches will be essential to developing the regional strategies. Digital infrastructure in particular has significant cross-sectoral potential in enabling devolution to realise its aims: its development and delivery should be at the centre of devolution agreements.

Effective outcomes

To date, devolution settlements are focussed on economic growth. This is of course welcome, but there is an opportunity to go further. The overall aim should be sustainability: enriching people's lives is not only about increasing their incomes but also improving their living environments.

Recommendations

Enabling devolution

Accountability and leadership are essential but models to achieve it should not be imposed.

- Central government should provide advice on the devolution submission process in England to ensure effective outcomes
- Authorities seeking a devolution deal should demonstrate a clear model for leadership and accountability

Understanding the infrastructure needed will help shape devolution's new economic geographies.

- Regional strategies should be developed to identify infrastructure need, ensuring the devolution of infrastructure policy in England is most effective
- Appropriate approaches to identify infrastructure need should be developed in Northern Ireland, Scotland, Wales and London

Devolution delivery

Skills are critical to delivering infrastructure-driven growth.

- Regional infrastructure pipelines should be developed to identify upcoming projects and provide foresight on skills requirements
- Devolution settlements should ensure combined authorities provide the joined-up approach to skills needed to deliver future infrastructure

New powers should be matched by greater control over funding and financing.

- Devolution settlements should include access to flexible but prudential approaches to attracting investment for infrastructure

A systems approach to managing the linkages between infrastructure sectors is essential.

- Future devolution agreements should include funding provision for digital infrastructure to enable a collaborative approach to systems management that benefits service users
- Systems approaches should be central to regional infrastructure strategies to ensure infrastructure networks are integrated and resilient

Effective outcomes

The overall aim of devolution should be improved quality of life and sustainability.

- Devolution agreements should prioritise improving quality of life and the environment alongside driving economic growth

Devolution **in context**

Devolution in its most basic sense is the transfer of power and decision-making closer to people.

The UK Government's aim is to "rebalance the economy between different areas and different sectors of the economy" with services "responsive to the people they serve – held to account by citizens and their elected representatives"[1].

Devolution in the UK is multi-layered. It refers both to the range of powers transferred from Westminster to the devolved administrations and the powers passed down to regional and local government. It is also asymmetric, differing in breadth and depth.

The devolved administrations

Recent attention to devolution followed the creation of separate legislatures in Scotland, Northern Ireland and Wales, which now control many aspects of infrastructure policy[2]. In each case – but to a varying degree – flood risk management, water and waste policy are devolved matters. Small-scale energy generation and largely internal transport operations also fall into this category.

The UK Parliament reserves powers over areas of infrastructure policy deemed to be nationally significant, as defined by the Planning Act 2008[3]. Reserved areas of policy include large-scale transport and energy matters, such as airports, inter-city rail, nuclear energy, and oil and gas.

ICE considers the gradual nature of devolution to Northern Ireland, Scotland and Wales has and continues to improve decision-making over key areas of infrastructure policy.

The Scotland Act 2016 and the 2015 Draft Wales Bill both followed strategic reviews documenting the requirements of further devolution and the potential implications – the Smith Commission[4] and the Silk Review[5] respectively. The provisions to take greater control over energy and transport matters are the result of structured dialogue and public engagement: there are opportunities to learn from the Scottish and Welsh experiences (see Section 7).

Recent examples of regional and local devolution

Beyond the devolution settlements to Scotland, Wales, Northern Ireland and to a lesser degree London, there have been examples of regional and local devolution. In England, this has predominantly been through the establishment of combined authorities and sub-national transport bodies, where a range of powers over significant areas of transport, planning and skills policy have been passed from central government via the pooling of local government responsibilities.

Devolution deals and settlement dates[6]:

Combined authorities:

- East Anglia (2016)
- North East (2015)
- Greater Lincolnshire (2016)
- Greater Manchester (2014)
- Liverpool (2015)
- Sheffield (2015)
- Tees Valley (2015)
- West of England (2016)
- West Midlands (2015)

County:

- Cornwall and Isles of Scilly (2015)

Box 1: West Midlands Combined Authority

Selected settlement terms

- A new directly elected mayor for the West Midlands
- Devolution of powers over transport with a multi-year settlement to be agreed
- A £36.5m per year funding allocation over 30 years to drive economic growth
- Responsibility over franchising bus services
- Planning powers conferred to mayor to drive housing delivery and improve existing stock

1. Cabinet Office (2014) 'The Implications of Devolution for England'
2. Cabinet Office (2013) 'Devolution of Powers to Scotland, Wales and Northern Ireland'
3. HM Government (2008) 'The Planning Act 2008'
4. The Smith Commission (2014) 'The Smith Commission Report'
5. National Assembly for Wales (2014) 'The Silk Commission and Wales Act 2014'
6. Local Government Association (2015) 'Devolution Deals'; HoC Library (2016) 'Combined Authorities'

Note. Final agreement for devolution settlements is subject to the legislative process, local council approval and public engagement

1: Devolution proposals, leadership and accountability

- Central government should provide advice on the devolution submission process in England to ensure effective outcomes
- Authorities seeking a devolution deal should demonstrate a clear model for leadership and accountability

ICE believes devolution of decision-making over infrastructure provision and service delivery is desirable for four key reasons:

1. Local organisations including local government and businesses – are better placed to adopt integrated approaches to transport, land-use planning and economic activity that meet people's needs
2. Local and regional service providers often have a superior understanding of infrastructure networks in their area and can scale services more effectively
3. Devolution can empower democracy by bringing local people closer to the important decisions that impact their everyday lives
4. It can work. On a cross-infrastructure basis, devolution has had positive impacts in London, Northern Ireland, Scotland and Wales

> "Devolution is mapping new geographies onto existing areas. For effective outcomes, greater clarity at the start of the process with devolution bids is required."

Adding clarity to the devolution bidding process in England

The devolution agreements reached in England to create new combined authorities have been hailed as part of a 'devolution revolution'; a UK Government agenda aimed at addressing the economic imbalance between the north and south of England[7].

ICE supports the devolution of decision-making powers over infrastructure policy but has concerns around the scope and quality of some devolution bids made to the Spending Review in September 2015[8].

It is unclear what assistance prospective combined authorities were given in order to compile their submissions, for example around which policy areas were for negotiation and red lines[9]. As these bids set the path for the creation of combined authorities, there is a need for Government to provide advice on the submission process in England.

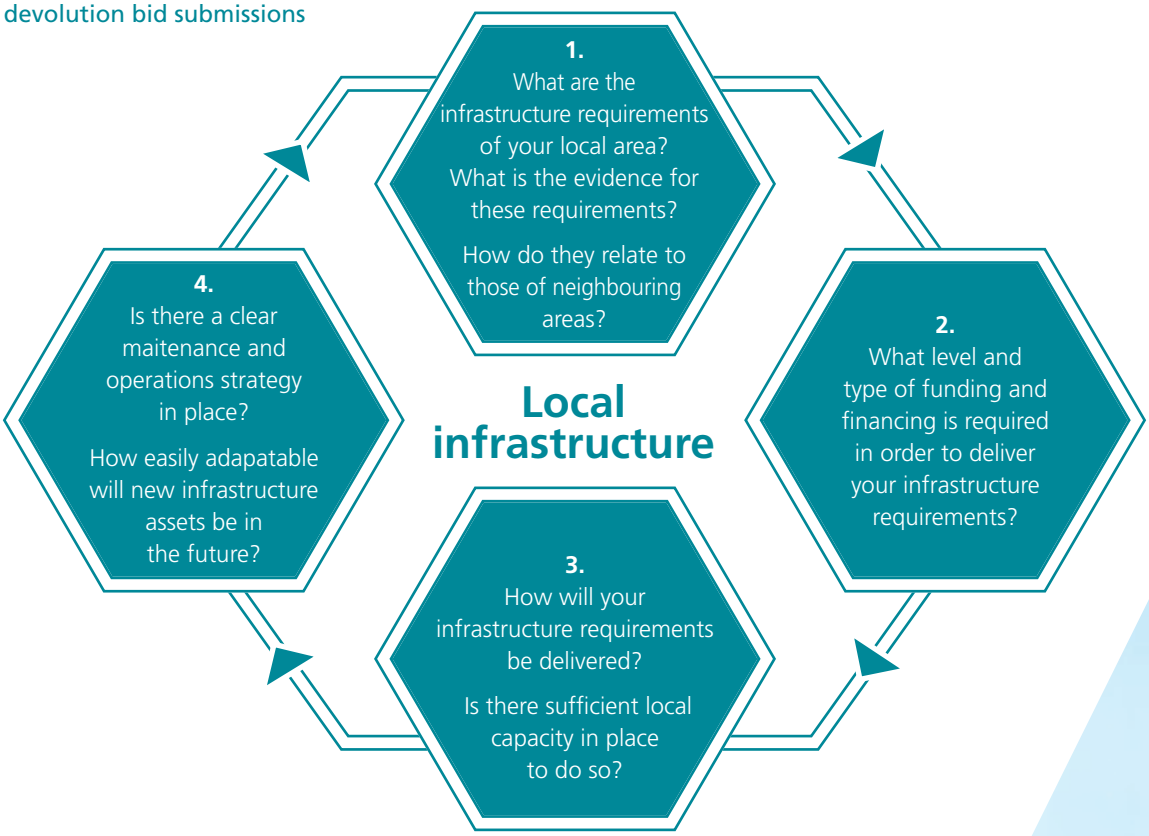
Each devolution agreement should reflect the area's unique needs and circumstances. ICE supports the 'no one size fits all' approach that Government is taking, but from beginning to end a clear method should be in place to promote best practice between areas seeking devolution deals.

ICE welcomes proposals for a guide[10] for helping to ensure devolution is effective for both those seeking devolution deals and central government. Key parts are assessing the extent an area is ready for devolution and the benefits for the local economy, environment and infrastructure a devolution agreement should lead to.

Prior to devolution bids and entering into negotiations with central government, the infrastructure system requirements of an area, its interconnectivity with others and position in the wider national picture should be considered. Specifically, prospective bidders should be able to demonstrate they have considered key infrastructure life-cycle criteria as part of any bid (see Figure 1). To enable this central government should provide pre-submission advice.

As shown in Figure 1, each area should consider their long-term infrastructure requirements, capacity and resource. The focus on maintenance and operations raises the potential for combined authorities to encourage and enable the joint procurement of commodities to achieve economies of scale, plus common standards and specifications to enable supply chain efficiency.

Figure 1:
Key infrastructure life cycle criteria for devolution bid submissions



7. HM Treasury (2015) 'Spending review and autumn statement 2015'
8. Local Government Association (2015) 'September Submissions'
9. Political Studies Research Commission (2016) 'Examining the role of 'informal governance' on devolution to England's cities'
10. Institute for Government (2016) 'Making devolution deals work'

> Devolution agreements should reflect the unique needs and circumstances of different areas.

A flexible approach to leadership and accountability models in England

The majority of devolution agreements reached so far have been contingent on establishing directly elected mayors to assume responsibility over infrastructure and other policy areas.

The London mayor is accountable for transport, planning and regeneration and has helped to ensure an integrated and consequently successful solution for the capital[11]. However, the London system with an elected assembly is different to that proposed for combined authorities, which in the main will operate with cabinets made up of local council leaders.

The Cities and Local Government Devolution Act 2016[12], effectively the guiding legislation for setting up combined authorities in England, enables the establishment of directly elected mayors but stops short of enforcing their adoption. Instead, it is possible – as seen with Cornwall and the Isles of Scilly – to have alternative governance arrangements including electoral boundary reviews and increased overview and scrutiny arrangements[13].

In May 2015, George Osborne stated "…with these new powers for cities must come new city-wide elected mayors who work with local councils. I will not impose this model on anyone. But nor will I settle for less"[14]. The East Anglian combined authority is finding this to be the case, as reservations around a mayoral model for the region are resulting in delays to reaching a final agreement[15]. Similar difficulties are being experienced by the West of England Combined Authority, with North Somerset Council having voted against a directly elected mayor[16].

Nevertheless, it is clear some form of leadership is required for combined authorities to work together as one unit. By pooling existing governance and regulatory structures, for example through a cabinet or executive committee, a combined authority should be able to develop an effective system of accountability without the need for imposition: a directly elected mayor should not be a prerequisite for securing a devolution agreement.

Regions throughout England are unique; therefore, combined authorities should have as much freedom as practical to negotiate the way accountability is apportioned. This view is supported by an opinion poll commissioned by ICE (see Section 6) that shows only 33% of English adults support devolution being contingent on directly elected mayors[17].

So far, only one of 10 combined authorities will not have a directly elected mayor.

11. IPPR (2015) 'Transport for the North: A Blueprint for Developing and Integrating Transport Powers in England'
12. HMG (2016) 'Cities and Local Government Devolution Act'
13. HoC Library (2016) 'Combined Authorities'
14. George Osborne (2015) 'George Osborne offers devolution route to cities with elected mayor'
15. BBC (2016) 'Talks on 'flawed' plans for directly-elected mayor continue'
16. Mercury: Weston, Worle & Somerset (2016) 'North Somerset Council votes against 'unwanted' mayor'
17. ComRes (2016) 'ICE State of the Nation Devolution Survey'

2: Identifying infrastructure need

- Regional strategies should be developed to identify infrastructure need, ensuring the devolution of infrastructure policy in England is most effective
- Appropriate approaches to identify infrastructure need should be developed in London, Northern Ireland, Scotland and Wales

Key infrastructure stakeholders should develop regional infrastructure strategies on a cross-sector basis. The strategies' aim should be to determine ongoing infrastructure need to coincide with aspirations to build major new economic regions in the Midlands and the North of England. While they should have regard to the National Infrastructure Commission's (NIC) work, they should not duplicate it, but focus on appropriate regional infrastructure for delivery by bodies including combined authorities, sub-national transport bodies and local councils.

For regional infrastructure strategies to be produced across England, as devolution progresses and further combined authorities and sub-national transport bodies are created, a similar approach should be pursued in other regions.

Strategic recommendations for infrastructure planning set out by ICE London[18], Northern Ireland[19], Scotland[20] and Wales[21] respectively should be taken forward by the devolved administrations.

Determining the appropriate level of decision-making in England

Infrastructure networks transcend political boundaries. Determining where public interest begins and ends can be challenging, as can agreeing the appropriate levels of government.

ICE believes consideration should be given to the strategic significance of infrastructure decisions, recognising the various levels they take place and the impact each has on different layers of society.

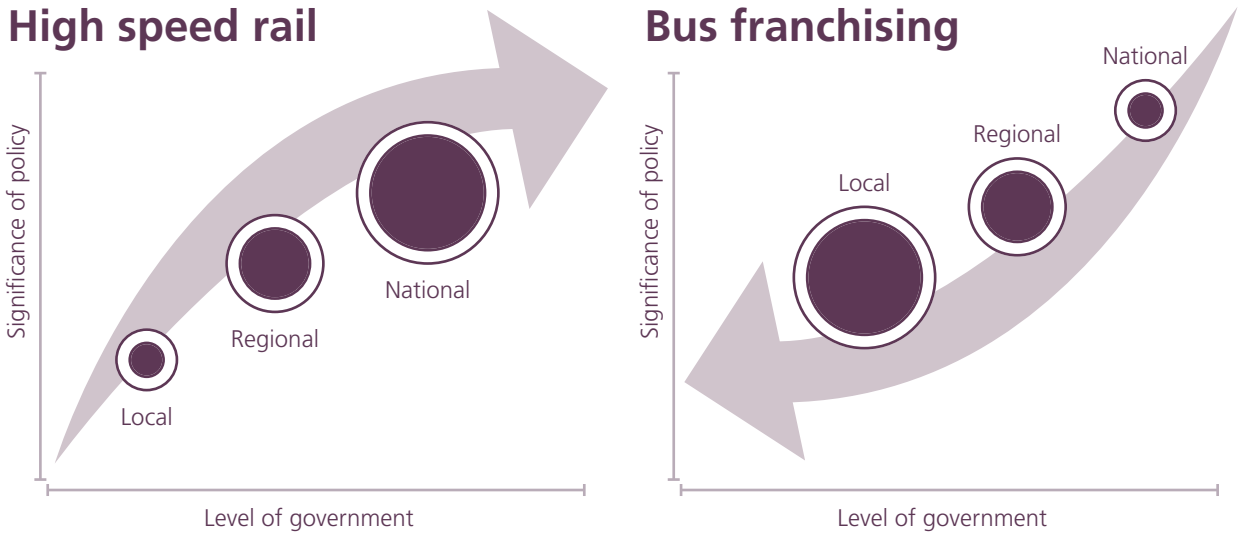
This report understands the corresponding geographies of governance to be:

- Local – combined and local authorities
- Regional – emerging economic areas (e.g. Northern Powerhouse and Midlands Engine)
- National – UK central government

Figure 2 illustrates the levels at which government responsibility for high speed rail and bus franchising should be located.

18. ICE London (2016) 'Infrastructure for London Manifesto 2016'
19. ICE Northern Ireland (2016) 'Building Our Quality of Life'
20. ICE Scotland (2016) 'Manifesto for Infrastructure Scotland 2016'
21. ICE Wales (2016) 'Manifesto for Infrastructure in Wales 2016: Prosperity, Growth and Jobs'

Figure 2: Appropriate levels of government policy responsibility



High speed rail has a wide-reaching political and economic impact from local to national. It follows national government is responsible for this area of policy. Conversely, the implications of decisions made over bus franchising are concentrated more locally, therefore policy responsibility should reside with local authorities.

Reducing fragmentation through integrating system need

Understanding where ultimate decision-making over the implementation and delivery of infrastructure policy should be located is imperative. It is as important as establishing a system of identifying infrastructure need at appropriate political and economic levels.

In a changing system of governance comprised of emerging levels of devolved responsibilities, new economic geographies and statutory bodies, this is a complex task. Interpreting the scope, inter-connectivity and remit of the different parts of the system requires a strategic approach[22]: this should be both top-down and bottom-up.

The work going into the National Needs Assessment (NNA) provides a potential exemplar. ICE and a wide-ranging executive group of stakeholders is progressing the NNA[23] to help inform the newly created NIC[24]. The outcome will be a cross-sector assessment of the UK's national economic infrastructure needs to 2050 with an accompanying suite of options for how they can be met.

There is a need for similar strategic thinking at a regional level. The principle set out above (see Figure 2) for deciding the most appropriate level of decision-making around the implementation and delivery of infrastructure policy, should also be applied to determining regional infrastructure need.

> "Regional infrastructure strategies would help progress concepts like the Northern Powerhouse and Midlands Engine."

22. ResPublica (2015) 'Restoring Britain's City States: Devolution, Public Service Reform and Local Economic Growth'
23. ICE (2016) 'National Needs Assessment'
24. HM Treasury (2016) 'National Infrastructure Commission'

System conceptualisation

In England, regional infrastructure strategies would help progress concepts like the Northern Powerhouse and Midlands Engine and other future functional geographies. In practice, this means one strategy dedicated to identifying infrastructure need in the North of England and the Midlands respectively, followed by the other core English regions as they become ready for this type of strategic approach.

In both the North and Midlands, sub-national transport bodies – Transport for the North and Midlands Connect – have already produced strategies to make the delivery of transport services more effective.

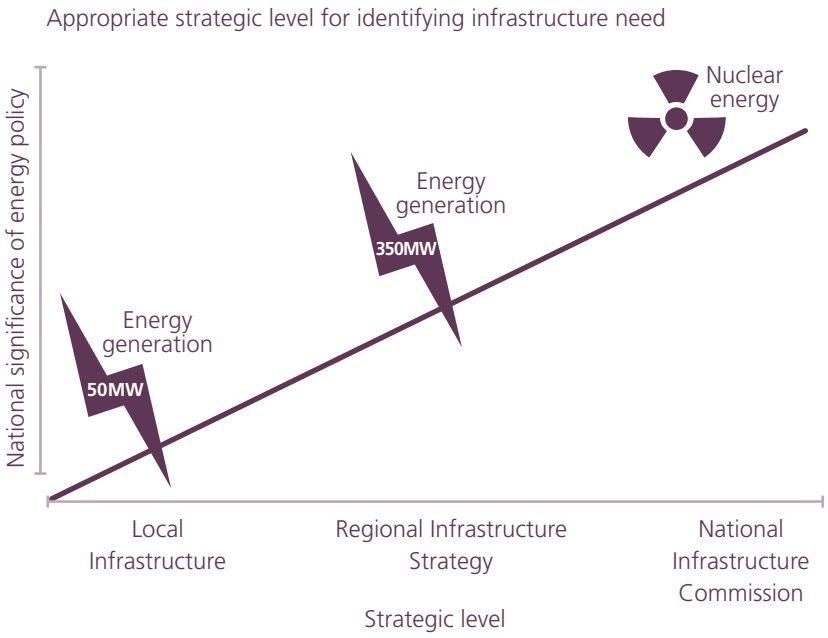
These provide the building blocks for wider strategic thinking around each region's infrastructure as a whole.

The system should be one of collective responsibility where regional infrastructure forums work in tandem with the NIC to establish at which level infrastructure need should be decided and, consequently, what that need is. The NIC should also play the role of 'system steward'[25] to steer each tier of the system towards this objective.

Figure 3, demonstrates how this could work by plotting the national significance of energy generation against the strategic level at which infrastructure need is most appropriately identified.

> "The NIC should also play the role of 'system steward' to steer each tier of the system towards this objective."

Figure 3: Determining the strategic level for identifying infrastructure need



Each regional infrastructure forum should identify their area's requirements through collaboration with local communities, relevant government departments, regulatory and delivery bodies, local government, businesses and academia. The outcome should be an infrastructure strategy for that region.

ICE recommends lessons are taken from the NNA. How this process dovetails with the development of other major infrastructure programmes, for example phase two of the Road Improvement Strategy and Network Rail's next Control Period, also needs to be established over the next 12-18 months.

How will this work in practice?

The membership of each regional infrastructure forum should be organised on a cross-sector basis. Figure 4 shows an example of how a regional infrastructure strategy could be identified through a regional infrastructure forum. Here, a regional, integrated and whole-place strategy for the Midlands Engine is the product of multiple stakeholder engagement drawing on their resources, research expertise and data. The intention is not to create new bodies but draw together existing stakeholders, using regional concepts such as the Midlands Engine as facilitators where appropriate.

25. Institute for Government (2015) 'Joining up public services around local, citizen needs'

Figure 4: Midlands Engine infrastructure forum

The strategy would highlight key infrastructure challenges, economic, environmental and social benefits and provide potential investors with a degree of certainty around future planning and development within the region. For an integrated picture of infrastructure, the forums should have clear reporting mechanisms coinciding with the NIC's operating cycle.

It is important an integrated approach is established considering all core infrastructure sectors, including: energy, flood risk management, waste and water and extending to housing, digital and green infrastructure. Skills should also be a consideration but organised as part of regional infrastructure pipelines (see Section 3).

The remit of each strategy should be determined by the legislative capacity of the level of government involved: a regional strategy should not make recommendations relating to nationally significant infrastructure and vice-versa.

Developing infrastructure strategies for other English regions

It will be necessary for infrastructure strategies to be put in place for other economic regions that grow out of devolution. These, in turn, will sit under the NIC's overarching outlook for the UK. The outcome is a holistic and joined-up picture of national and sub-national infrastructure need.

Other regions should look to learn from approaches taken in the North of England and the Midlands, where integrated approaches to transport are helping to shape wider thinking around strategic infrastructure need.

The devolved administrations

London's Infrastructure Plan (LIP) 2050[26] was a first of a kind for the capital, setting out critical infrastructure requirements and outlining recommendations for their delivery. ICE recommends the London mayor commits to the LIP and works in collaboration with the London Infrastructure Delivery Board on its priorities (updating these where necessary). This includes identifying a programme, detailing timings and phasing for different schemes, alongside funding and finance models. More widely, a London Resilience Plan 2050 should be developed and a regional forum for authorities from London and the South East should be created to provide joined-up thinking on infrastructure issues.

Northern Ireland's newly established Department for Infrastructure has provided the opportunity for government to develop a cohesive strategy and delivery plan for much-needed flagship projects and maintenance of existing assets, for example around sustainable drainage (see Section 7). In order to implement projects more efficiently, Northern Ireland also needs a Central Procurement Delivery Service outside of the Department.

In order to provide the skilled workforce needed, the Executive must work with industry, schools and employers in developing civil engineering apprenticeships and a civil engineering sectoral task group.

A Scottish Infrastructure Commission should be appointed to identify long-term infrastructure need and future challenges and build on the innovative work of the Scottish Government, for example Zero Waste Scotland (see Section 7). This would develop Scotland's existing Infrastructure Investment Plan and should be underpinned by a strategic assessment of infrastructure requirements across Scotland. Such an undertaking should adopt a similar approach to the NNA that ICE is carrying out to support the work of the NIC.

Developing a Welsh Infrastructure Investment Plan to create a clear pipeline of infrastructure projects, together with timelines, is imperative. It should be developed and supported by a Welsh infrastructure body and be cognisant with the new Well-being of Future Generations (Wales) Act 2015 (see Section 7). Projects should be geared to make Welsh infrastructure more resilient to challenges, such as population growth and the impact of climate change. Equally, investing in the Welsh workforce is critical to ensure the availability of required engineering skills.

26. Mayor of London (2014) 'London Infrastructure Plan 2050'

3: Skills and the role of the engineer

- Regional infrastructure pipelines should be developed to identify upcoming projects and provide foresight on skills requirements
- Devolution settlements should ensure combined authorities provide the joined-up approach to skills needed to deliver future infrastructure

Combined authorities and sub-national transport bodies will be responsible for significant developments including ultrafast broadband, major new housing, and road and rail improvements.

Investment in people and training will support the engineering and infrastructure sectors in delivering their construction. A blend of skills, but in particular STEM (science, technology, engineering and maths) will be required. For example, the National Infrastructure Pipeline for Skills identifies a potential skills gap in the built environment sector of 16% in the North of England and 30% in the Midlands by 2020[27].

To address such gaps, pipelines of regional infrastructure projects should be developed in conjunction with the regional infrastructure strategies.

The pipelines would identify where opportunities exist and facilitate government, industry and academic institutions to invest in the training required to meet them.

The range of projects within such pipelines can also be a means of inspiring the next generation of engineers.

Devolution agreements include transferring responsibility over post-19 skills to combined authorities. This more locally coordinated approach is welcomed, however it would be further improved by also transferring powers over skills for 16 to 19 year olds.

Regional infrastructure pipelines

Realising the growth through infrastructure agenda of devolution will require improved skills provision: there is little point in planning new railways or power stations if there is not a trained workforce to build them.

Regional infrastructure pipelines identifying specific upcoming projects and providing foresight on skills and education requirements should be put in place alongside the regional infrastructure strategies (see Section 2).

These could be similar to the regularly updated National Infrastructure Pipeline[28], and combined authority-level reports such as the Greater Manchester Construction Sector Pipeline Analysis (latterly developed to cover the North West[29]). As with the regional infrastructure strategies set out in Section 2, it is recommended the pipelines are developed by regional infrastructure forums.

A greater understanding of planned infrastructure developments would aid the smoothing of cycles of demand and improve workforce mobility. In turn, this should help address the peaks and troughs in availability of work, improving employee quality of life.

They would help industry and other stakeholders by giving a clear picture of the type of work becoming available and the skills needed to deliver them, identifying hotspots of activity and pinch points to give a fuller picture of demand scenarios.

27. HMT (2015) ' National Infrastructure Plan for Skills'
28. HMT (2016) 'National Infrastructure Pipeline 2016'
29. Greater Manchester Chamber of Commerce (2015) 'Greater Manchester Construction Sector Pipeline Analysis'; Greater Manchester Chamber of Commerce (2015) 'Chamber Launches Construction Pipeline Analysis for the North West'

> Without a skilled workforce to build it, there's little point in devolving powers on infrastructure.

Box 2: Skills academies

The National Skills Academy Nuclear was established in 2008 by Government and nuclear employers. It's not a training provider but rather educates through its quality-assured provider network and on-line learning portal. The NSAN is led by employer members (nominated by industry) across multiple regional offices. It works closely with the industry and its supply chain to ensure a suitably skilled workforce is in place to deliver the nuclear programme.

The National College for High Speed Rail will have two sites at Birmingham and Doncaster. The College will increase the ability of the UK rail industry to provide an appropriate and sustainable workforce that meets future needs, including 2,000 apprentices. The College will provide specialist vocational training to the next generation of engineers working on the High Speed 2 (HS2) project and beyond. Students are due to be welcomed from September 2017.

Procurement policies in some local councils encourage SMEs to the extent that a start-up in a neighbouring district is constrained from growing. Regional infrastructure pipelines could help realise the potential of SMEs to grow beyond 'local' to 'regional'.

Similarly to the regional infrastructure strategies, as the Northern Powerhouse and Midlands Engine evolve they should become ideally placed to manage the pipelines, followed by similar bodies in the rest of England. Nevertheless, the built environment sector – including professional engineering institutions – must play its part with greater collaboration and for regional Infrastructure Client Groups to drive procurement good practice linked to regional supply chains.

Closing the skills gap

Combined authority settlements generally cover post-19 skills training but not for 16 to 19 year olds[30]. As England moves away from local authority involvement in education and towards academies[31], this poses a risk of lack of coordination with knock-on effects on the quality of skills provision and, it follows, employees' prospects and local economies.

From 2016 to 2020, there will be significant review and reform of post-16 and adult skills provision in England. Led locally, each review will assess an area's economic and educational needs and provision. The approach aims to move towards fewer, more resilient and efficient centres of expertise to support sustained professional progression[32].

As part of this, the multiplicity and fragmented nature of small-scale STEM education initiatives and careers advice should be addressed. Vocational training for learners aged 16 to 19 and careers advice should – like post-19 skills – be devolved to combined authorities, as should provision of careers advice.

Working with Local Enterprise Partnerships (LEPs), schools and colleges, combined authorities should incorporate skills needs within their plans driven by the requirements of local employers and the practical experience of further education colleges. As seen in the North East and Cornwall and the Isles of Scilly, this could be under the aegis of Employment and Skills Boards.

Closing the skills gap should not be seen solely in terms of training. Innovation, investment in technology and streamlined procurement are all required to meet this challenge.

Civil engineers can bring an important inter-disciplinary approach, however, the industry as a whole must develop, noting recommendations of the reports such as the Construction 2025 Strategy[33], and the Transport Infrastructure Skills Strategy[34], and improve its image to inspire young people, particularly women and black, Asian and minority ethnic people.

ICE has long recognised its role in developing a pool of talent to support future infrastructure needs. With increasingly devolved decision-making this will become even more important. Many of those who will be building and running regional infrastructure may still be in school: we all have a role to inspire them to become the engineers of the future.

Skills ○○○

There is a potential skills gap in the built environment sector of 16% in the North of England and 30% in the Midlands by 2020.

30. LEPs have some role in skills – under the Local Growth Fund they can apply for a share of single pot capital money from central government for local economic growth. Although the Local Growth allocations are to LEPs, the money is handled by their accountable body (a named council): this is expected to be transferred to combined authorities
31. Despite a slowdown in the 'academisation' programme the Government's aim is for all schools to become academies within six years: Department for Education (2016) 'Next steps to spread educational excellence everywhere announced'
32. HM Government (2016) 'Reviewing post-16 education and training institutions'
33. HM Government (2013) 'Construction 2025'
34. Department for Transport, Crossrail, Transport for London, Highways England, Network Rail, HS2 Ltd (2016) ' Transport Infrastructure Skills Strategy: Building Sustainable Skills'

4: Financing and investment

Devolution settlements should include access to flexible but prudential approaches to attracting investment for infrastructure

Devolution is unlikely to result in fully realised improvements to quality of life and rebalancing the country's economy unless the new powers are matched by greater control over financing. This is particularly the case when new infrastructure will necessarily lead to a corresponding increase in ongoing operation and maintenance costs.

The two main sources of income for infrastructure are public funding from central or local government taxation and financing from some form of borrowing. Authorities generally need both to invest in infrastructure. Public funding for infrastructure is expected to remain constrained in the near to medium term. Therefore, while bearing in mind the need for value for money, new financing streams will be required to deliver growth through infrastructure.

However, they will also need a steady source of income to repay the borrowed money.

Several new sources of development financing could be made available. One option is for local councils to pool their newly retained business rates to borrow to invest. Others possibilities include Community Infrastructure Levies, green or municipal bonds (see Box 4).

ICE recommends combined authorities have access to flexible financing options for infrastructure development. This will give a clear, long-term outlook to potential investors, encourage industry to plan resources and help reduce the construction industry's cyclical fluctuations.

Most combined authorities will receive £30m/year for 30 years.

35. Tees Valley Combined Authority will receive £15m per year and West Midlands Combined Authority £36.5m per year. Most combined authorities will also able to access other funding steams, for example a consolidated transport budget, however this remains unspecified until the next Spending Review, expected 2020 (see Section 5). Some combined authorities will also have access to separate funding for post-19 skills from 2018-19
36. HM Treasury/Liverpool City Region (2015) 'Liverpool City Region Devolution Agreement'
37. Liverpool City Council (2015) ' Statement of Accounts 2014/15'
38. This power can only be exercised with the agreement of the 'local business community'. In the devolution settlements, this is usually defined as the relevant LEPs, which may not be fully representative of businesses, particularly SMEs

Combined authorities and investment

The adoption of combined authority structures offers an opportunity to plan and deliver cross-boundary services and key infrastructure more effectively. Closer working should deliver financial savings, while supporting greater cross-boundary service alignment and best-practice sharing.

Funding for the combined authorities shows commonality but not generosity, with most areas receiving £30m per year for 30 years from central government[35]. For example, Liverpool City Region covers six local council and will receive £30m per year[36]. In comparison, Liverpool City Council alone has annual net expenditure of £477m, £40m of which is for regeneration and employment[37].

In 2015 the UK Government announced changes to local council funding, phasing out the block grant by 2020, leaving council tax and business rates as their main sources of income. Following this reorganisation, local authorities will receive powers to vary businesses rates.

Councils will be allowed to decrease the amount charged and combined authorities with directly elected mayors will have the power to levy a precept of up to 2% to pay for infrastructure[38]. If applied across the existing combined authorities, the 2p in the pound increase would bring in an additional £76m per year[39]. This translates as an average of less to £10m extra annually per combined authority: not a large amount of money and one that could be cancelled out by local councils lowering their individual rates.

At present, under the prudential code, local authorities set their own borrowing limit to meet repayments without negatively affecting service delivery[40]. Around 99% of this is for capital investment, totalling £86bn[41] with the vast majority through the Public Works Loan Board (74%) followed by banks (12%), rest of the world at (7%) and securities at 6%[42].

Box 3: Greater Manchester funding

Greater Manchester Combined Authority (GMCA) has argued investment in transport infrastructure should place greater weight on the economic payback of such investment. They also suggest the process of linking benefits to payback is more easily achievable at a combined authority area than with councils as multi-modal transport systems can be considered[43]. In Greater Manchester:

- An 'Earn Back' was initially agreed in the 2012 Greater Manchester City Deal[44]
- GMCA committed to investing £1.2bn in infrastructure with the majority of this investment provided locally through prudential borrowing against revenues and a levy on the local authorities[45]
- The agreement sees defined contributions made to GMCA split between revenue and capital to be reviewed five-yearly at 'gateway' reviews where
- GMCA must demonstrate the realised economic benefits[46]

39. Centre for Cities (2015) 'Beyond business rates: Incentivising cities to grow'
40. DCLG (2015) 'Local authority borrowing and investments, UK 2014-15'
41. £12bn of total was by GLA and TfL
42. DCLG (2015) 'Local authority borrowing and investments, UK 2014-15'
43. TfGM/TfL (2014) 'Investing in City Regions'
44. DCLG (2012) 'Manchester City Deal brings 6,000 jobs boost'
45. GMCA (2012) 'Greater Manchester City Deal'
46. GMCA (2014) 'Greater Manchester Agreement'

> Flexibility will enable investment that supports truly transformative change.

Under the Cities and Local Government Devolution Act 2016, combined authorities are legally treated as local authorities with a version of general competence[47]. They will also have limited ability to raise "small quantities of additional funding"[48] for specified non-transport functions, but only with the prior permission of the Secretary of State[49]. However, the Act precludes the sub-national transport bodies from borrowing, which means Transport for the North and Midlands Connect may need its constituent authorities (including local councils and combined authorities) to do so on their behalf.

If combined authorities and sub-national transport bodies are to realise the growth and regeneration expected of them, there should be full access to prudential financing: they should have flexibility to raise finance by the method most suitable to their circumstances.

Innovative financing

Some innovative schemes are being put in place. For example, Greater Manchester Combined Authority has negotiated a model, which allows it to 'earn back' tax from the growth it creates (see Box 3). Such schemes are welcomed as ways of increasing areas' control over investment streams. However, they are complicated, resource intensive to set up and, therefore, unlikely to be suitable for all combined authorities.

Allowing such flexibility will enable investment to widen the currently narrow focus on economic development and support truly transformative change (see Section 6). Furthermore, facilitating greater financial autonomy should establish the necessary conditions for further devolution of power.

This is essential: continued economic growth coupled with sustainable development, requires targeted investment, not only in high quality, resilient infrastructure and services, but also in people so they have the cross-sectoral skills required to deliver and maintain them.

Combined authorities with directly elected mayors will have the power to levy a precept of up to 2% to pay for infrastructure.

47. House of Commons Library (2016) 'The General Power of Competence'
48. House of Commons Library (2016) 'Combined Authorities'. This additional funding includes powers over levying Council Tax precepts and retention of Business Rates uplift.
49. House of Commons Library (2016) 'Combined Authorities'

Box 4: Selected financing options

Municipal and green bonds

Municipal bonds are debt obligations issued by local authorities and other public bodies such as the Greater London Authority for raising funds in order to finance investment. Major projects such as the London Underground Northern Line Extension and Crossrail have been part-financed in this way[50]. They have become increasingly attractive to council since the Public Works Load Board increased its rates in 2010. Authorities are bound by the Local Finance Act 2003 to engage only in prudential borrowing.

The Local Government Association and several local authorities have recently set up the UK Municipal Bond Agency to allow councils to pull together to borrow at cheaper rates.

Green bonds are similar but specifically raise funds for projects that deliver environmental benefits. 'Green' can include renewable energy, sustainable resource use, conservation, clean transportation and adaptation to climate change.

In February 2016, Swindon Borough Council launched a £4.8m Solar Bonds initiative to fund a 5MW farm offering returns of up to 6% based on electricity sales[51].

Community Infrastructure Levy

Local councils have had the power to put in place a Community Infrastructure Levy (CIL) since 2010. It allows councils to raise funds from developers to help fund the infrastructure need devolution creates, for example flood management schemes and new roads but also schools, green spaces and leisure facilities.

The CIL is charged as a fixed tariff per square metre of new floor space. The tariff is set by councils following consultation with residents and the local business community and is subject to independent evaluation.

Pooling business rates

There is potential for combined authorities' constituent councils to pool a proportion their business rates and use the resource to borrow from the Public Works Loan Board or commercially against future receipts to invest in specified infrastructure and regeneration projects, which, in turn, should generate further business rates (and potentially Council Tax).

Business rates pools are well established with 27 in England in 2015-16. The main advantage is managing the risk of volatility and local economic shocks but also unlocking partnership working between authorities[52]. As infrastructure and regeneration is capital intensive but often cross-boundary, pooling through combined authorities will increase the amount they can borrow and improve terms.

Private sector investment

Private finance retains a valuable role to play in delivering infrastructure. Banks can provide capital but require clear revenue streams in order to justify this financing, which many regional infrastructure projects cannot provide.

While there has been a general move away from PFI schemes, there are new versions being developed such as the Scottish Non-Profit Distributing programme used for major road improvements, hospitals and further education colleges[53].

Nationally, the NIP provides a clear forecast of upcoming project finance opportunities. The introduction of similar regional infrastructure pipelines (see Section 3) would help enable investment in smaller but still significant developments.

50. IJ Global (2015) 'UK's first sterling CPI-linked bond prices for Northern Line Extension'; The Telegraph (2011) 'Crossrail financed by £600m bond'
51. Abundance (2016) 'A partnership between the Council and community to fund a 4.8MW ground-mounted solar farm near Swindon'
52. LGA (2015) 'Business rate retention: the story continues'
53. Scottish Futures Trust (2015) 'NPD Model Explanatory Note'

5: Digital infrastructure, whole-place and systems approaches

- Future devolution agreements should include funding provision for digital infrastructure to enable a collaborative approach to systems management that benefits service users
- Systems approaches should be central to regional infrastructure strategies to ensure infrastructure networks are integrated and resilient

Data can play a significant role in this report's key recommendations, particularly around assessing future regional infrastructure need. This includes the potential for digital technologies to enhance the management of existing assets, therefore reducing the need to build new infrastructure.

Greater incentives should be offered to encourage future devolution proposals to prioritise digital infrastructure and the development of intelligent data solutions. All future devolution agreements should include funding provision for the research, development and delivery of digital infrastructure. This funding could, for example, be derived from a proportion of any consolidated funds set aside through future devolution agreements for transport.

It is equally important combined authorities and sub-national transport bodies seek to work with private utilities, communications and other data owning companies in order to develop an appropriate marketplace for the access to and most effective use of data in a common format.

As a starting point, central Government departments should agree to provide those seeking a devolution deal with any data held that is currently, or could be, used in the delivery of infrastructure services that become devolved matters of responsibility[54].

> "The management of devolved infrastructure services can be optimised by the smarter use of data."

54. Policy Exchange (2016) 'Smart Devolution'

Digital infrastructure and devolution as mutual enablers

The growth and best use of digital infrastructure requires the further devolution of powers over infrastructure policy. In turn, the management of devolved infrastructure services can be optimised by the smarter use of data[55].

Population growth and housing demand, energy generation and consumption, travel patterns, water use and waste volumes all have something in common. Each produces a trail of data that can help infrastructure service providers to assess future need, to plan accordingly and ultimately manage more effectively, improving quality of life.

The most productive use of this data can be realised through further devolution and in particular the integration of otherwise separate parts of local and regional government. A combined authority or sub-national transport body can achieve greater success in co-ordinating the rollout of a digital infrastructure programme, for the area covered, than that of its constituent parts.

Cross-sector benefits of digital infrastructure

The benefits of the deployment of digital infrastructure to quality of life can be felt on a cross-sector basis, both by service providers and users. Smart technology networks can be used to respond to real time fluctuations in energy demand, enabling more effective supply side management. In turn, smart meters provide consumers with the information to use energy more efficiently, benefiting the environment and reducing energy bills[56].

Similar technology is used to make the provision of waste management services more efficient. The netBin[57] system in Milton Keynes monitors waste containers so only full bins are emptied. This carries the wider benefits of reducing congestion and pollution caused by refuse vehicles.

Contactless ticketing allows transport service operators to undertake a raft of analytical activity. For example, Transport for London is able to map travel patterns to communicate effectively changes to service availability. More strategically, the data held by contactless ticketing systems can aid demand forecasting and therefore provides the basis for sophisticated assessments around future infrastructure need to be made.

Integration of infrastructure: intercity transport connectivity

Political and economic geographies are better understood regionally. As a consequence, travel and interconnectivity between regions is enhanced when strategic decisions are taken closer to the service users that they affect.

Within this context, ICE fully supports the creation of sub-national transport bodies in the North of England and the Midlands. In developing their strategic thinking, it is important that Transport for the North and Midlands Connect identify the most effective ways of connecting populations within their regions while ensuring a joined-up approach is taken to inter-region connectivity.

Lessons can be learnt from the Scottish model, where seven Regional Transport Partnerships in turn, underpin Transport Scotland's overarching Strategy. In England, the development of sub-national transport bodies should be encouraged to promote the benefits of needs-based and strategic transport integration throughout the UK.

55. Policy Exchange (2016) 'Smart Devolution'
56. Smart GB (2016) 'What is a smart meter?'
57. FairSite Communications (2016) 'netBin in Milton Keynes for new IoT network'

> The growth and best use of digital infrastructure requires the further devolution of powers over infrastructure policy.

Box 5: Verkehrsverbunds in Germany

In Germany public transport is delivered through a series of associations known as 'Verkehrsverbunds'. Their remit is to plan and co-ordinate all aspects of transport within a given region, including: multi-modal service operations, timetabling, fare structures and ticketing.

The Verkehrsverbund Rhein-Ruhr is one of Europe's largest regional transport networks, stretching from the Lower Rhine to the eastern Ruhr Area. Covering a complex and varied geography, the association is responsible for the management of a fully integrated inter-city and suburban transport operation.

Consideration should also be given to successful international approaches to managing devolved transport systems through integrated regional models. The approach deployed in Germany is particularly effective (see Box 5).

Infrastructure and whole-place making

There are basic linkages between housing demand, energy and water supply, waste services and the provision of transport. A strategic approach to their interconnection can foster a better understanding of overall system need and can lead to stronger economic growth, new jobs and improved quality of life[58].

The local-regional scale of devolution opens up the possibility of whole-place approaches to infrastructure provision: the principle of integrating different activities into a single joined-up approach should be applied to-and-between related infrastructure sectors (see Box 6). Applying this principle would allow greater flexibility to adjust service provision as user attitudes and behaviours. See also Box 10 and Section 7.

The winter floods of 2013-14 caused the loss of electricity to over 100,000 homes.

58. Policy Exchange (2015) 'On the Move: How to create a more mobile workforce'

Box 6: The HS2 Growth Partnership (HS2GP)

The HS2GP is a partnership between London & Continental Railways Ltd and HS2 Ltd. It was created to help local places realise the greatest growth benefits from HS2 through whole-place approaches to station development along the route.

HS2GP is working with Leeds City Council and a range of other stakeholders, including the West Yorkshire Combined Authority, Transport for the North, Network Rail and government departments to produce an integrated masterplan for Leeds station and surrounding area.

The masterplan will provide a vision that integrates HS2 with other major transport initiatives in the North of England, such as the TransPennine route upgrade and the One North proposals. It will also consider regional and local connectivity schemes, the city's emerging South Bank masterplan and the City Square built environment.

The strategic aims of the masterplan are to optimise interchange facilities, increase the permeability of station infrastructure and urban realm – including enhanced riverside amenity – as well as identifying commercial opportunities. Overall, creating an attractive place for interchanging passengers that enhances city regeneration and supports regional economic growth.

Population growth and housing demand, energy generation and consumption, travel patterns, water use and waste volumes all have something in common. Each produces a trail of data.

Systems thinking through devolution

A systems approach to managing the linkages between infrastructure sectors is important within the context of devolution[59]. Extreme flooding events consistently cause the knock-on failure of infrastructure assets: roads, railways through to electricity and water supply. For example, the floods in 2015-16 caused multiple road closures in the North of England and Northern Ireland, with the West Coast Mainline and TransPennine services also were suspended[60].

Two years previously, the winter floods of 2013-14 caused the loss of electricity to over 100,000 homes and the closure of railways in Devon and Somerset[61].

Systems thinking should be a central component of devolution and incorporated into new regional infrastructure strategies. This approach is already being taken in Scotland where there is a Resilience Advisory Board composed of both emergency service representatives and key infrastructure sector stakeholders that advises Scottish Government.

Response to both mitigation and future prevention is more practical at the local-regional level and can be realised through devolution. However, for resilience planning to succeed it will be critical to develop an understanding of the interdependencies of infrastructure systems between new economic geographies.

59. ICE (2015) 'Submission to the 2015 Spending Review'
60. Centre for Ecology and Hydrology (2015) 'Briefing Note: Severity of the December 2015 floods - preliminary analysis'
61. WSP | Parsons Brinkerhoff (2014) 'UK Infrastructure: can we cope with flooding?'

6: Quality of life and sustainability

Devolution agreements should prioritise improving quality of life and the environment alongside driving economic growth

Devolution, particularly over infrastructure, offers a significant opportunity to not only rebalance the country's economy and increase growth, but also ensure future developments realise social and environmental benefits. However, the narrow focus on rebalancing the economy means this is in danger of being missed: just as infrastructure sectors are interrelated, economic growth cannot be separated from social and environmental concerns.

Individual local councils have the powers but are often too small to develop or manage infrastructure networks. In contrast, combined authorities and sub-national transport bodies are ideally placed to develop clear infrastructure strategies that acknowledge infrastructure connectivity (see Section 5), are properly financed (see Section 4) and resourced (see Section 3).

Pressures on local areas

The need for development to be more sustainable is clear. Pressures on our infrastructure are intensifying, not least due to climate change, pollution and population increase.

For example, since 1990, the UK has experienced eight of the 10 warmest years on record, and five of the 10 wettest years. 2015 has been the second wettest year, and December 2015 the wettest calendar month, on record across the UK[62]. The UK consistently exceeds EU air pollution limits: elevated concentrations occur in many cities, with parts of London breaking 2016's annual limits by 8 January[63].

The UK's population is not only growing, it is ageing. ONS figures show a population of 65 million, an increase of almost half a million on the year before. The median age of the population was 40 – the highest ever estimated – and 18% of the population is over 65[64].

Devolution agreements' focus on economic growth

While there are some instances of more rounded approaches as individual combined authorities develop (see Box 7), an analysis of the 10 devolution deals[65] so far signed shows a concentration on economic growth and a corresponding lack of inclusion of social and environmental aspects. (See Box 8).

62. Met Office (2015) 'What's been Happening to our Weather'
63. The Guardian (2016) 'London takes just one week to breach annual air pollution limits'
64. ONS (2015) 'Annual Mid-year Population Estimates: 2014'
65. This includes three iterations of Greater Manchester's deal but excludes West Yorkshire as it does not yet have an official deal document

Box 7: Greater Manchester New Economy

As the most established combined authority Greater Manchester has been devolved wide-ranging powers from central government covering housing, transport, economic regeneration and health and social care.

Operating through New Economy it also provides an example of an integrated approach to development and regeneration. With the support of central government, it is using a cost-benefit analysis model that can identify the fiscal, economic, and social value of project outcomes.

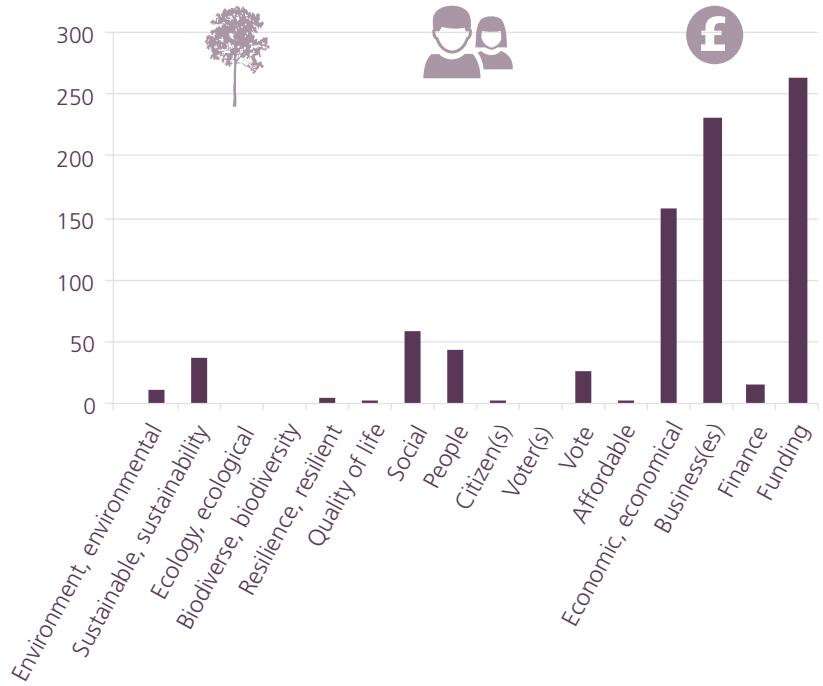
The idea is to show how money can be saved and economic growth driven through identifying programmes that will provide most improvement in operational efficiencies and positive impact on the quality of service provision and are proven to deliver social and economic opportunity.

As the New Economics Foundation points out[66], economic growth is presented as a fait accompli with little discussion around how devolution will create growth or whether it will improve living standards and environmental sustainability.

Box 8: Focus on economic growth in devolution agreements

In the 10 devolution agreements, the words 'environment' or 'environmental' appear 11 times (only in six documents). 'Social' and 'people' are more commonly used, however; this does not extend to 'citizen' and 'voter' or 'quality of life'. In contrast, words such as 'economic', 'business' and 'funding' are more common with well over 100-200 incidences respectively across each of the 10 documents. (See Figure 5).

Figure 5: Instances of selected words in devolution agreements



66. NEF (2015) 'Democracy: the missing link in the devolution debate'

Local opportunities

The scale of combined authorities in population and geography (particularly those covering city regions) is ideal for developing integrated approaches to infrastructure (see Section 2) that will allow areas to realise the value of investment in sustainable development.

Combined authorities will have opportunities to deliver multiple benefits with a single investment, for example planning and managing green infrastructure as whole networks to not only make areas more attractive places to live, but also improve climate change resilience through flood risk and water supply management, renewable energy and quality employment (see Section 5). In addition, sustainable development can and should be embedded at the heart of regional infrastructure strategies and pipelines (see Section 2 and 3).

As a sizeable minority (10) of the 38 devolution bids submitted, have so far resulted in signed agreements, there is a real opportunity to learn and improve, making future settlements more comprehensive and inclusive of social and environmental aspects. Moreover, the signing of an agreement is not the end of the process: combined authorities develop through their own business plans and further iterations of the agreements (see Section 1)[67].

> "The overall aim should be sustainability: enriching people's lives is not only about increasing their incomes but also improving their living environments."

Box 9: Public Opinion survey

An online survey of 1,724 adults was carried out in February 2016[67]. It found, in general, people in England are positively disposed towards devolution.

A majority agreed there should be more devolution across England, compared to a third of people who said it should be slowed down. This appears to be because devolution is seen to boost local economies without making local services less efficient.

Looking more closely at the potential for devolution, a majority of English adults think it will have a positive effect on a wide range of infrastructure-related services including integrated travel tickets, skills funding and flood management. However, there seems to be less desire to allow local control over business rates.

Alongside agreement devolution is 'a good thing', there seems to be an understanding of what should and shouldn't be devolved.

Most think central government should make decisions on new motorways, power stations and train lines or stations. In comparison, on solar farms and fracking a small majority said they should be the responsibility of local government. The largest majority was for bus franchising coming under local control.

52% of people think devolution will help boost local economies, 32% think devolution will make local services less efficient.

67. For example, Greater Manchester the most established of the combined authorities has had three iterations of its agreement since 2011, each one transferring more powers and refining arrangements

As shown in Section 2, local devolution agreements require mechanisms through which people can hold governments to account and participate directly in decision-making. Providing accessible explanations of which level of government is responsible for what, would help ensure lines of accountability. As Box 9 shows, people are interested in devolution. This should be capitalised on: not least because public engagement will be vital in securing a respectable turnout in the forthcoming mayoral elections.

It is recommended in both forthcoming new settlements and in future iterations, attention is paid to ensure they are more inclusive and rounded, acknowledging the intersections between the economic, social and environment aspects of growth and development, how decisions on these will affect peoples' quality of life and how citizens can be involved in their shaping (see Box 10).

Making improvements to people's lives is not solely about increasing incomes but also improving their living environments.

So far only 10 of the 38 devolution bids have resulted in agreements.

Box 10 : Inclusion

Bristol's Smart Energy City Collaboration

The Bristol Smart Energy City Collaboration brings together public, private, voluntary and academic sectors in 2015 as part of the city's year as European Green Capital. The aim is decide pathways to Bristol becoming a "genuinely Smart Energy City"[68]: managing local energy supply and demand data to for the benefit of people, services and businesses.

The Collaboration started from a different point than most similar projects. Instead of focusing on technical or commercial plans to exploit smart energy data, the first principle was to broaden the discussion, bringing in social and cultural contexts to fully examine opportunities and risks of a city-scale smart energy programme.

In its first year the Collaboration has developed road maps setting the trajectory for the next five years, for example by encouraging data sharing by businesses, engaging with national politicians and stimulating public conversations about energy demand and community generation.

Glasgow Future City

Glasgow Future City is a project funded by Innovate UK to develop "ways to use technology and data to make life in the city safer, smarter and more sustainable"[69]. The programme aims to put residents at the forefront of technology integration and application. Analysis of data collected during the demonstrator will assist policymakers and inform future investment in next-generation integration of city systems.

Part of this will be to look at service design, particularly for road repair and waste management, and how it can be improved for the end user and what it means for the relationship between Glasgow City Council and citizens.

Devolution offers the opportunity to promote the role of infrastructure to the next generation. It presents prospects of mid-level solutions: close enough to people for them to fully engage and receive material benefits, for example through closing the skills gap and placing sustainable development, but suitably high-level to offer at-scale efficiencies and cross-sectoral integration.

> "Sustainable development can and should be embedded at the heart of regional infrastructure strategies and pipelines."

68. Bristol Smart Energy City Collaboration (2016) 'Towards a Smart Energy City: mapping a path for Bristol'
69. Glasgow City Council (2016) 'Future City Glasgow'

7: Lessons learnt: Wales, Scotland, Northern Ireland

Wales: Well-being of Future Generations Act 2015

The Welsh Assembly passed the Well-being of Future Generations (Wales) Act[70] in 2015. The legislation was in part informed by the 'Wales we Want' consultation to establish a consensus around the goals to be included in the legislation.

The Well-being Act builds on a sustainable development ethos in place since the first steps towards devolution in the Government of Wales Acts. It encodes the 'sustainable development principle' as the basis for all actions by Welsh public bodies, including the Government itself, local councils, health boards, various public services and agencies such as Natural Resources Wales.

Under the Act, public bodies must take account of the "importance of balancing short term needs with the need to safeguard the ability to meet long-term needs"[71] by strengthening institutional governance structures to ensure all public policy-making incorporates seven well-being goals. The goals focus on prosperity, resilience, health and culture, monitored against indicators and reported on annually.

Responsibility for delivering on the Act's ambitions falls to the Future Generations Commissioner who is "a guardian of the ability of future generations to meet their needs' and advise public bodies on meeting their objectives"[72].

The Welsh Government has been praised for putting in place "an innovative, beyond-silo approach"[73] which puts "Wales at the forefront of legislative sustainable development"[74] and "serves as a model for other regions and countries"[75].

An Act of this type is unlikely to have been developed without devolution: a commitment to sustainable development is in the Assembly's founding documents. There was broad cross-party support for the principles of the legislation in the Welsh Assembly. In part this because politics in Wales is often thought to be more inclusive of environmental and social factors than seen in Westminster. However, there could also have been an element of 'conscious exceptionalism' – defining Wales as having a more progressive stance on sustainable development, than the UK Government[76].

The Act came into force in 2016. To fully realise the apparent intentions will require continued commitment from levels of government and their interaction with wider society. Nevertheless, it represents a transferable framework that both national governments and regional bodies should be able to modify to fit their own circumstances.

> "The Welsh Government has put in place an innovative beyond-silo approach."

70. Welsh Government (2016) 'Well-being of Future Generations (Wales) Act 2015'
71. Welsh Government (2016) 'Ways of Working'
72. IEEP (2016) 'Establishing an EU 'Guardian for Future Generations'
73. Future Policy (2016) 'Well-being of Future Generations (Wales) Act'
74. Hugh James (2015) 'The Well-being of Future Generations (Wales) Act 2015'
75. Nikhil Seth, UN Director for Sustainable Development (2015) quoted in Business Reporter (2015) 'Welsh government launches groundbreaking new sustainability post'
76. IEEP (2015) 'Establishing an EU 'Guardian for Future Generations"

> “Scotland’s legislation on food waste is the first of its kind in Europe.”

Scotland: Zero Waste Scotland

Scotland was the first country to have a national, Government-backed programme with the stated aim of achieving zero waste[77].

Central to this has been Zero Waste Scotland (ZWS) an agency created by the Scottish Government to support the delivery of its Zero Waste Plan and resource efficiency policy priorities. It is funded by the Scottish Government and the European Union Regional Development Fund.

The organisation started life in 2010 under the auspices of the UK Government’s Waste and Resources Action Programme (WRAP). It then moved to a wholly separate Scottish organisation in 2014 following significant UK Government cuts, which saw DEFRA’s funding for WRAP reduce by 60%.

Following ZWS’s transition, the Scottish Government reaffirmed its commitment to a more resource efficient economy, becoming the first country to sign up to the Ellen MacArthur Foundation’s Circular Economy 100 program[78].

The circular economy model helps this aim through reframing waste as a resource to be managed, rather than something to be disposed of. Minimising material sent to landfill is already a priority for the Scottish Government and local authorities (see Box 10). For example, Scottish legislation now requires the collection of food waste from businesses and households: the first of its kind in Europe.

Making Things Last[79] is Scotland’s vision for a more comprehensive approach to producer responsibility. The idea is to become Europe’s first zero waste economy through remanufacturing and eco-design through a single framework that drives choices for reuse, repair and remanufacture, while addressing the costs of recycling and disposal.

At the 2016 election, the SNP set out in their manifesto to bring forward a Circular Economy and Zero Waste Bill to “build the circular economy, promote recycling and take action to meet food waste targets”[80]. The Bill is expected in the next parliamentary term.

The development of both ZWS and the Scottish Government’s programmes that put the waste minimisation and the circular economy at the centre of it policy design is truly innovative.

That this has taken Scotland down a different path from England (and the UK Government) demonstrates the authority of devolution. If Scotland did not have devolved control over these sectors it would not be able to pursue such policies. However, the ability to put in place the policies is also at least partly due to the geographic and population scales involved. Shifting power beyond UK Government increases the likelihood of achieving ambitions.

77. Zero Waste Scotland (2010) ‘Delivery Plan 2011-15’
78. Ellen MacArthur Foundation (2016) ‘Government of Scotland’
79. Scottish Government (2016) ‘Making Things Last’
80. SNP (2016) ‘Manifesto 2016’

Northern Ireland and Sustainable Drainage Systems

The responsibility for water services and flood risk management is devolved to the Northern Ireland Executive. There are some significant differences in the way in which these functions are administered compared to the rest of the UK.

Unlike in England and Wales, Northern Ireland has only one water supplier: NI Water, an Executive- owned company. Another fundamental difference is that unlike in Great Britain consumers in Northern Ireland there is no water charging.

Devolution, whether directly or indirectly, has enabled divergence in the legislative and regulatory frameworks that underpin the delivery of water services in the UK. In a positive way this also extends to respective flood risk management regimes.

The Northern Ireland Water Sewerage and Services Act[81] was passed in May 2016. The Act removes the automatic right for waste water connections to be made to the public sewer network. In doing so it also gives NI Water the ability to refuse a connection if suitable alternatives are available, including Sustainable Drainage Systems (SuDS).

This is important as SuDS carry greater benefits compared to traditional drainage systems, including:

- Managing runoff volumes and flow rates from hard surfaces, reducing the impact of urbanisation on flooding
- Protecting or enhancing water quality by reducing pollution from runoff
- Protecting natural flow regimes in watercourses
- Providing and attractive habitat for wildlife in urban watercourses[82]

Progress on SuDS in Northern Ireland comes at a time when proposals for a similar approach to remove the automatic right to connect to the public sewer network have stalled in England, with amendments to the now enacted Housing and Planning Bill voted down in Parliament.

By its nature flooding is a local issue. As such, flood risk management is an activity most suitably delivered by sub-UK bodies. The continued move to promote SuDS in Northern Ireland demonstrates devolution can also lead to better policymaking that improves flood resilience.

> “SuDS in Northern Ireland shows devolution can lead to better policymaking.”

81. Department for Infrastructure (2016) The Water and Sewerage Services Act
82. Susdrain (2016) Sustainable Drainage

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- Department for Transport
- Energy Network Association
- Eunomia
- HS2 Growth Partnership
- iBuild
- Indepen
- KPMG
- London Travel Watch
- MWH Global
- Newcastle University Centre for Urban and Regional Development Studies
- North East Combined Authority
- RAC Foundation
- RAE
- RIBA
- Scottish Renewables
- Severn Trent Water
- SITA
- Suffolk County Council
- Solihull Borough Council
- Telefonica
- Tees Valley Combined Authority
- Transport for the North
- Welsh Government
- West Midlands Combined Authority
- Zero Waste Scotland

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- Municipal Expert Panel
- Northern Powerhouse Panel
- Resource Management Expert Panel
- Transport Expert Panel
- Water Expert Panel

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