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In brief

The National Infrastructure Commission is starting a new programme of work with cities.

The Commission has already recommended that government should provide cities outside London with £43 billion additional investment by 2040. Combined with greater local control of funding, this would enable a wave of major transport upgrades in cities across England.

The Commission's new work will help city authorities to prepare more ambitious plans for transport and housing, so that they can make the most of these increases in funding and autonomy.

The programme includes events for cities to share knowledge on how to develop successful infrastructure strategies.

It also includes in-depth work with a selection of case study cities, learning from them and offering guidance as they develop their own local infrastructure strategies.

Introduction

We are at a critical moment in shaping the cities of the future. In each English region there are dynamic and creative cities, which are growing fast as they attract high-quality, high-skill jobs in successful industries like finance, media and research. This dramatically reverses a long-run trend of falling populations in city centres.

This story is not only true in the largest cities. There are 45 city regions in England with a population greater than 100,000 residents. That includes smaller cities like Exeter, Northampton and York, each of which has grown more than 10% in the last ten years, and medium-sized cities like Leicester, which has gained nearly 50,000 new residents in the same time. Cities of all sizes will need better infrastructure in the coming decades.

Growth leads to congestion and housing shortages, which will only become more serious without investment. As our cities are increasing in size, there is an important opportunity for us to be proactive in shaping how that growth will happen. The cities of the future could be great places to live and work, with quality public transport to get people around, well-designed public space for everyone to enjoy, and attractively designed new housing, well-connected to jobs.

But that will not happen by itself. Without properly planned and funded local infrastructure, cities could instead become gridlocked and unaffordable. Putting in place ambitious, effective strategies for transport, housing and employment in growing and congested cities is essential to ensuring balanced growth across every region of the country.

The National Infrastructure Assessment made recommendations to government on what it needs to do to support cities as they put in place plans for future growth. Government needs to give local city leaders the right powers and funding to set and deliver infrastructure strategies covering transport, housing and employment growth. This means £43 billion of additional investment in cities outside London by 2040, including long-term devolved budgets for all cities and major new transport projects in the fastest growing and most congested cities.

Supporting cities' ambitions

There is a need for all cities to start to prepare for more ambitious infrastructure plans. They will need to take responsibility for more funding and longer-term planning horizons, and demonstrate an inspiring vision for how better designed cities can be attractive places to live and productive places to work. This document sets out new work that the Commission plans to undertake with cities to help them get ready for this challenge and opportunity, informed by direct consultation with cities on what they would find helpful.

The Commission will take forward two streams of work. First, a series of events designed to help cities share knowledge on successful strategies for better urban infrastructure, resulting in a publicly available source of guidance for city authorities. Second, a programme of work to develop local infrastructure strategies with a small selection of case study cities. The case study areas are: West Yorkshire, Liverpool City Region, Derby, Basildon and Exeter. Both the What Works Centre for Local Growth and the Centre for Cities will provide expert support to the Commission and cities as they take forward this work together.

Our objective for this work is to show that, with the right powers and funding, cities across the country are ready and willing to develop serious, credible and ambitious infrastructure strategies. If cities are enabled to do so, there is huge potential to improve prosperity and quality of life for millions of people.

The government announced at Budget 2018 that it would respond to the Commission's recommendations in a National Infrastructure Strategy in 2019. It also announced that it was extending the Transforming Cities Fund, including additional devolved funding for metro mayors. This is an important first step – but it still does not give leaders the autonomy over the whole of their budget or the long-term certainty to develop and deliver the ambitious and integrated strategies that are needed. The programme of work set out in this document can play an important role in demonstrating clearly the benefits that such strategies might bring.

This document has three parts. The first explores some of the challenges and success stories that cities have experienced while developing infrastructure strategies in the past, illustrating why cities need new arrangements giving them more autonomy and certainty. The second sets out in more detail the work that the Commission is planning to do with cities, and the third focuses on what can potentially be achieved in each of the five case study cities.

The West Yorkshire Combined Authority area covers Leeds, Bradford, Kirklees, Wakefield and Calderdale

The Liverpool City Region covers Liverpool, Wirral, Sefton, St Helens, Knowsley and Halton

Definition: cities

In the Commission's work on devolution of funding to cities we have defined cities as:

- The nine cities with a combined authority, with or without a mayor
- Greater London
- The 35 other cities defined by the Centre for Cities as a Primary Urban Area including all built up areas with a daytime population of 135,000 or more.³ Centre for Cities (2015), The changing geography of the UK economy. This roughly corresponds to a residential population of over 100,000.

The list used in this report includes 45 cities in total.

How greater funding and autonomy can support city infrastructure plans

The evidence gathered by the Commission ahead of the National Infrastructure Assessment showed that the current arrangements for local infrastructure planning in cities don't work as well as they should, especially on funding and on aligning plans for transport and housing.

The amount of funding available to cities is insufficient for the level of investment needed. Central government funding for cities is too short-term, and divided into too many different streams with different restrictions on how they can be spent.

This means that city leaders have limited flexibility to design and implement their plans, reflecting local knowledge about what is needed and the democratic priorities of people living in their city region.

For instance, in West Yorkshire funding for improvements has come from two main government sources, the Growth Deal and the Leeds Public Transport Investment Programme. These are expected to include a programme of bus and rail improvements, improving access to jobs and housing at a number of sites. However, while these programmes last four to five years, the city's leaders face uncertainty about what level of funding will come to the area afterwards and therefore what they should be planning for next. The government's objectives for the first programme focus on jobs and economic output, while its objectives for the second focus on public transport – but this has made it more difficult for city leaders to address other local priorities and plan in a joined-up way across all modes.

The North East LEP and partners have similarly been taking forward a £270 million Local Growth Fund programme for 2015-21, covering investment in transport, strategic employment sites, environmental protection, innovation and skills infrastructure. Funding for this was allocated in three rounds starting in 2014 and ending in 2017, two years after the city had started work on the programme. Schemes have had to be programmed incrementally, reflecting uncertainty over successive government funding allocations. The authorities want to be able to start planning now for the future, with a pipeline of projects for 2020-25, but is unable to do so confidently due to uncertainty about the level and duration of funding that will be available.

Government has recognised these difficulties in recent policies. The Transforming Cities Fund provides a certain amount of devolved funding to mayors, with further funding allocations to follow for a number of shortlisted cities. This has enabled the West Midlands, for instance, to set its own priorities for £250 million of additional investment, including a significant extension to the West Midlands Metro network and a new control centre that will use technology to keep the transport network moving and manage network disruption.

But even with this, government has still not fully removed the barriers that hold cities back. The devolved proportion of the Transforming Cities Fund is only a small share of funding for cities, rather than devolution of a full budget. And the funding was made available at short notice – the creation of the fund was first announced in 2017, with spending due to start in 2018, and so cities weren't able to plan for it as part of a long-term strategy.

A further issue is that while mayors outside London have powers to set transport strategies, they do not have powers to ensure that local housing plans are consistent with infrastructure plans. This means that there are limits to how far leaders can develop joined-up strategies that allow new housing to be built alongside transport upgrades, making the most of increased capacity.

The benefits of integrated planning

Despite these challenges, cities across the country have shown that when they are given the funding and freedom they are capable of designing and delivering infrastructure programmes that change the shape of the city for the better.

Leicester, for instance, has since 2011 rolled out Connecting Leicester, a series of projects that have transformed the city centre – taking streets and car parks and reimagining them as safe green corridors for cycling and walking, and open piazzas that draw in city life. A number of schemes have been award winning, and one of the recent schemes has been nominated for the award of 'Healthy Street of the Year'. These schemes have been largely funded from local capital funds matched with government and European funds.

In Southend, local councils adopted a joint plan to enable and manage growth around Southend Airport by integrating land use, transport, environmental and regeneration proposals with clear mechanisms for delivery. It provides the basis for coordinating the actions of a range of partners with an interest in the airport and the surrounding environs, and establishes planning policies up to 2031 and beyond. The certainty and confidence provided by this joined-up local plan was an influential factor in the airport's private owner deciding to invest £160 million in expansion, bringing new economic opportunities to the area.

Many cities have similar experience of developing local programmes, reflecting the principles of integrated planning to help improve particular locations. Small schemes are easier to take this approach with, since they can be funded through more stable

and predictable local income. However, with the current funding framework, it is much harder to do this on a large scale, covering the infrastructure required for a whole city.

Stable funding is critical

One of the most successful cities at doing this has been Greater Manchester. Over the last decade, the city has taken forward a series of transport upgrades including major new tram schemes that tripled the length of the network, completing missing links in the road network, a new cross-city bus route, and upgrades to town centres. But the city's leaders did this without the benefit of stable devolved funding. There was no readily available structure enabling them to plan for and access resources for investment.

That meant that an enormous amount of effort and political will was required to pool a range of funding sources, including local fundraising and borrowing against anticipated income, and to negotiate a bespoke deal with central government for funding support – the Greater Manchester Transport Fund. For all the hard work that went into agreeing the funding package, it was still ultimately a time-limited solution. Already, Greater Manchester is starting to look again at the further sources of funding that it would need to access to support its updated long-term infrastructure vision.

It is even harder for small cities to plan for the future. With smaller budgets, unexpected fluctuations in the amount of central government funding make a very large difference, and cities are often obliged to deliver whichever projects happen to get funding rather than following a balanced strategy. Negotiating directly with government on an individual basis is not viable for all 45 of England's cities.

The arrangements for funding infrastructure in London, and in many cities internationally, are a significant contrast, giving their leaders much more long-term certainty and autonomy. This has given them more ability to develop comprehensive plans for infrastructure in the future.

Since the early 2000s, the Mayor of London has had an increased role in planning infrastructure in London. Transport for London's investment budgets have been set at the government's Spending Review covering several years, with the Mayor free to determine priorities within that budget. The Mayor has been able to set spatial development priorities through the London Plan, which local planning authorities have to broadly follow, and the Mayor can make the final decision on large development sites. In addition, the Mayor has worked with other sectors, publishing a London Infrastructure Plan 2050 which also covers energy, water, digital and waste.

This has provided a basis for decisions on transport and housing to be made together, informing the new draft London Plan. Since 2000, London has taken forward major transport upgrades including new capacity across London

Underground lines, the new Overground network, and most recently Crossrail. This has helped support 20-30,000 new homes each year in London since 2000, rising to nearly 40,000 in 2016-17.⁴

The city of Zurich – with a population of around 400,000, similar to Bournemouth or Southampton – achieves around 44 per cent of journeys by public transport, far higher than in most UK cities. Achieving this has taken decades of local commitment, with policy since the 1970s focused on developing a network of suburban rail and tram services incrementally over time. And sustainable funding has been crucial to enabling this long-term stable planning, with 65 per cent of the costs of the network met through fares and other income, and the remaining public sector costs met entirely through devolved sources. Central government plays very little role in determining local transport priorities.

What these examples and many others show is that cities can plan and implement infrastructure improvements that support growing and welcoming urban environments. But they will only be able to do so with adequate funding, long-term certainty, willingness to plan transport and housing together, and governance arrangements that support commitment to seeing a strategy through.

Preparing cities to deliver long-term, integrated strategies

Recent government infrastructure commitments will make a big difference to connections between cities:
High Speed 2 from London to Birmingham and the North,
Northern Powerhouse Rail between the cities of the North,
and the Road Investment Strategy to address the most
important gaps on the intercity road network. Strategic
road and rail investment is now being backed by stable,
long-term budgets. Progress on infrastructure within cities,
however, has lagged behind.

Cities will be unable to put in place the upgrades they need without higher levels of funding from central government and more autonomy to plan for the long term, and the Commission's recommendations to government set out how this should be provided. These demonstrate that it is affordable for government to do this within the fiscal remit that it set the Commission, for public infrastructure investment to fall within 1.0 per cent to 1.2 per cent of GDP.

However, as cities take on more responsibility, they will need to ensure that they have access to the knowledge and expertise required to make the best use of these new freedoms. The Commission contacted cities directly to consult them on what further work it could do to assist them with this challenge. Two important themes emerged from cities' responses.

The first was a desire for better knowledge sharing between cities, providing guidance on how to approach the different problems posed by integrated infrastructure strategies. The second was from cities that were about to embark on designing new urban infrastructure strategies, who were keen to have access to knowledge from elsewhere about how to approach this, and to benefit from independent feedback and guidance on developing plans.

Based on this the Commission will now undertake two new workstreams in parallel: running a series of events designed to identify examples of good policy and practice for other cities to learn from, and working with a selection of case study cities as they develop their own infrastructure strategies.

Sharing knowledge and good practice between cities

Cities around the country face common challenges. How can new public transport networks fit into cities with crowded and historic streets? What sort of bus services will be more attractive to a new generation of passengers? What's the best way to plan for housing that is well connected to city centres and other areas? How can new technologies such as autonomous buses enhance rather than compete with public transport? How can electric vehicles and clean air zones reduce toxic emissions around cities?

Many cities are independently developing their own answers to these challenges. Not only does this risk duplicating work around the country, it also means that someone travelling from one city to another may face different rules and regulations. Cities across the country want to work together to share experience and learn from one another.

To help cities with this, the Commission will hold a series of knowledge sharing events to answer the important infrastructure questions at the forefront of city leaders' minds. These events, held over the coming twelve months, will bring together colleagues from a wide selection of cities, providing access to leading experts and cutting-edge ideas on these questions.

Each event will focus on a specific topic, providing an opportunity for cities that have already achieved success in that area to share their experience of how they tackled the problem and why it worked. The Commission will also invite wider perspectives including the latest academic research, international perspectives from cities overseas, and centres of excellence on cities such as the What Works Centre for Local Economic Growth and the Centre for Cities.

The events will take place across England from the North East down to the South West, and will start by looking at the fundamentals of designing an effective infrastructure plan, covering some of the key strategic and economic considerations needed to underpin any successful integrated planning work.

Further events will be held in cities across the country, with topics to be addressed including:

- Efficient use of road space using technology to manage traffic better and building in new alternatives to travel by private car
- Urban freight how new technologies can be harnessed to support rising demand for goods deliveries in cities
- Housing and planning designing housing and infrastructure together to unlock new land for development and support sustainable living
- Clean air supporting a shift to less polluting vehicles, including dependable networks of electric vehicle chargepoints

- Technology futureproofing for developments such as autonomous vehicles and capturing the benefits of better use of data
- Devolution and delivery where to go next for cities like Greater
 Manchester that are already at the leading edge of new powers for cities.

After each event the Commission will publish the experience that was shared and provide access for cities to contacts in other cities with expertise on specific areas. By the end of the programme this will provide an in-depth resource of pragmatic solutions to common problems, for leaders in all city authorities to draw on as they develop their infrastructure strategies.

Case studies of developing infrastructure strategies

To complement this work on knowledge sharing, the Commission will work with five cities as detailed case studies. The aim of these case studies is for the Commission to understand the process of developing an infrastructure strategy better through first-hand experience, and to help the case study cities to learn from the experience of other cities that have already developed joined up strategies.

The five cities that the Commission will work with are: West Yorkshire, Liverpool City Region, Derby, Basildon and Exeter. These cities are all about to embark on the development of ambitious infrastructure strategies and have demonstrated a high degree of commitment to working with the Commission.

The cities have been chosen to represent different situations and challenges, ensuring that the lessons learned will be relevant across the country. They cover different governance structures including two-tier authorities, unitary authorities and combined authorities — both mayoral and non-mayoral. They are small and large in size, ranging from Exeter's population of 130,000 to West Yorkshire's 2.3 million. They are spread across the country: in the North, the Midlands, the South East and the South West.

Each of the cities is undertaking slightly different work, depending on local priorities and governance arrangements. However, the common factor across all five is that that they are about to embark on work that will lead to a new or updated infrastructure strategy for the long term, integrating plans for transport, housing and employment. In each city the plans will form a part of the local policy framework, meaning that they will be serious plans intended to result in concrete action over the coming decades.

At the outset of this case study work, the Commission will work with the five cities to better understand the local economic and infrastructure context, the economic and social objectives that the plans will need to address, and the milestones that the planning process will need to follow.

The Commission will keep closely in touch with the cities as they develop their strategies. The Commission will provide feedback and guidance, and in particular look to create links to existing knowledge and experience from other cities that have faced similar challenges. They will be paired with experienced practitioners from other cities with well-developed plans to act as advisors and mentors – including experts from London, Greater Manchester, West Midlands and West of England city regions. Each will be offered a series of challenge panel sessions, where our Commissioners and other external experts will provide an honest and constructive external view on how their plans are developing.

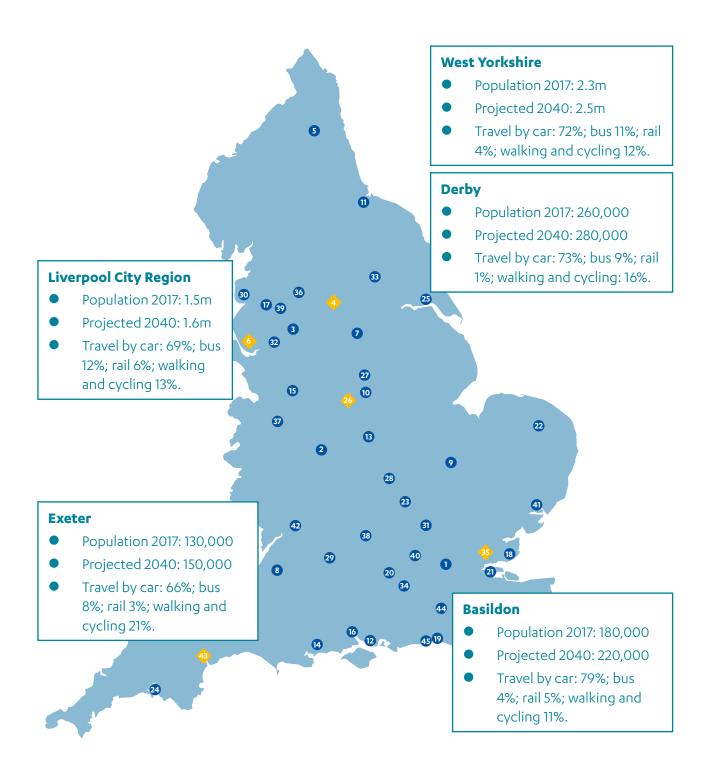
By the end of this case study programme, each city will reach a key milestone in their development of an integrated local infrastructure strategy, with public plans approved or out for consultation. The Commission will at this point provide each city with a report card, giving an independent view of how well their strategies have made use of evidence and experience to address local challenges in an effective way.

Finally, when all the cities have published their infrastructure strategies, the Commission and the case study cities will jointly hold a conference, identifying the important lessons that were learned from the work and making this experience available for other cities that want to develop robust and integrated infrastructure strategies.

[&]quot;The West of England Combined Authority includes Bristol, South Gloucestershire, and Bath & North East Somerset.

Challenges and opportunities in our case study cities

Each of the case study cities faces different challenges, and they are all at different stages in developing their local infrastructures strategies – meaning that they are a valuable reference point for a wide range of cities. This section provides some background information on the infrastructure needs and challenges in each city, and the milestones that they are aiming to reach within the lifetime of this project.⁸



- 1. Greater London 2. West Midlands 3. Greater Manchester 4. West Yorkshire 5. North East9 6. Liverpool City Region 7. Sheffield City Region 8. West of England 9. Cambridgeshire and Peterborough 21. Chatham 10. Nottingham 11. Tees Valley 12. Portsmouth
 - 13 Leicester 14. Bournemouth 15. Stoke 16. Southampton 17. Preston 18. Southend 19. Brighton
 - 20. Reading 22. Norwich 23. Milton Keynes 24. Plymouth
- 25. Hull 26. Derby 27. Mansfield 28. Northampton 29. Swindon 30. Blackpool
- 32. Warrington 33. York 34. Aldershot 35. Basildon 36. Burnley

31. Luton

37. Telford 38. Oxford 39. Blackburn 40. Slough 41. Ipswich 42. Gloucester 43. Exeter 44. Crawley 45. Worthing

West Yorkshire

The West Yorkshire Combined Authority covers a wide urban area, connecting the city centres and key towns of Leeds, Bradford, Halifax, Huddersfield and Wakefield. The population of the wider Leeds City Region is over 3 million residents, which is expected to increase by 200,000 over the coming 20 years. Growth in employment is expected to be particularly focused on city centres, with an increase in knowledge-intensive business jobs.

Over the coming years a series of planned inter-city transport investments, such as High Speed 2 and Northern Powerhouse Rail, will improve long-distance connectivity to and from the region. But there will be a need to tie this in to an efficient local transport network, connecting residents to jobs and supporting inclusive growth. The city region's aim is for this to be achieved through more sustainable means, including 25 per cent increase in bus trips, 75 per cent more rail trips and four times as many trips made by bicycle by 2027.

Through collaboration with the Commission, the Combined Authority intends to develop a new 15-year integrated infrastructure strategy for transport and connectivity, which takes into account local plans for housing and employment.



Liverpool City Region

Liverpool City Region Combined Authority covers urban centres on both sides of the River Mersey. The city region was historically shaped by its port and traditional industries, and with deindustrialisation the region's population was declining until as late as 2003. However, this trend has now been reversed, with the population of 1.5 million expected to increase around 5 per cent by 2040 as its economy is supported by advanced manufacturing, modernisation of the port and a growing tourist trade based on its rich cultural history.¹¹

The locally-run Merseyrail network provides a fast, frequent and popular service in the areas it covers, with more investment on the way in new trains; HS2 services and Northern Powerhouse Rail will improve inter-city connectivity. However, the city's roads are the second most congested outside London, with 67 per cent of travel to work being by car, presenting a challenge to productivity that the city will need to address.

Working with the Commission, the Liverpool City Region plans to develop a Spatial Development Strategy which will set high-level policies for housing, planning and transport, establishing a consensus around a shared vision for the future.



Derby

Home of the world's first modern factory and first municipal park, Derby retains a strong industrial reputation with 21 per cent of employment in manufacturing. Its population of 250,000 is expected to grow around 11 per cent by 2035. The urban area extends beyond the boundaries of the city council areas, meaning that the local authority area is densely developed, presenting challenges in finding new space for growth.

Derby is a city with excellent national road connectivity, sited between the national spines of the M1 and M6. However, connections within the city can be a barrier to development, with bus routes tending to serve journeys into and out of the city around a central bus station, rather than a more flexible network. Over the next five to ten years, the largest economic and employment opportunities will occur outside the city boundaries around East Midlands Airport expansion and the HS2 hub at Toton, presenting the challenge of connecting residents to these employment opportunities on an efficient local public transport system.

The city council is looking to develop with the Commission an innovative new growth plan, bringing together transport, employment and housing infrastructure to help spread the benefits of growth more evenly through the city, and to improve air quality and environmental sustainability.



Basildon

Basildon was established as a new town in 1949 and is now a well-developed small city with a population of around 180,000.¹³ It is the largest economy in Essex, and the second largest employer in the Thames Estuary after Canary Wharf. Infrastructure responsibilities are shared, with Essex County Council responsible for transport and Basildon Borough Council responsible for housing and planning. Its population is expected to rise to 210,000 by 2035.¹⁴

In common with other new towns and cities, Basildon was designed with car transport in mind. Today, 77 per cent of trips to Basildon for work are made by car but, with the volume of traffic now beyond what town planners of the past had in mind, it faces the challenge of providing effective and efficient alternatives.¹⁵

Basildon Borough Council's emerging Local Plan is seeking to make provision of some 18,000 new homes and 20,000 new jobs by the mid-2030s, and therefore intra-urban infrastructure for the future will be key. Working together with the Commission and Essex County Council, Basildon Borough Council will develop an infrastructure strategy to support a Joint Strategic Plan for the future, with the ambition to deliver fully integrated transport plans.



Exeter

Exeter is a fast-growing city in a large county. As a two-tier authority, Devon Council has transport powers and Exeter City Council has housing and planning powers. The city's compact, historic centre makes further development and densification difficult. To grow, it must collaborate with the surrounding authorities, which are home to many of its commuters.

The city's challenge is deliver higher density housing within the city as well as housing outside the city's limits and to manage a growing rate of inwards commuting in an efficient manner. Between 2001 and 2011, the workday population increased by nearly 30 per cent. While many residents of the city walk or cycle to work (40 per cent), those residents who travel from outside rely overwhelmingly on cars (80 per cent). As these inwards commuters grow there will need to be an increasing emphasis on more efficient alternatives.

The Commission will work with Exeter City Council and the Greater Exeter Strategic Plan partners in developing a new strategic plan in partnership with the surrounding local authorities. This plan will look to accommodate 50,000 new homes within a horizon of 2040, focusing on how new jobs, housing and transport can make the Greater Exeter City region an enjoyable place to live and work.



Endnotes

- ¹ See Annex A for our full list of city regions.
- ² ONS (2017) Population Estimates
- $^{\scriptscriptstyle 3}$ Centre for Cities (2015), The changing geography of the UK economy
- $^{4}\,\,$ MHCLG, Live tables on housing supply: net additional dwellings, Table 122
- ⁵ WWF Scotland (2016), International Case Studies for Scotland's Climate Plan
- ⁶ The World Bank (2011), Toolkit on Intelligent Transport Systems for Urban Transport
- ⁷ ZVV (2018), Who we are
- 8 Map data source: ONS (2017) Population Estimates, ONS (2016) Subnational Population Projections from NOMIS, Census (2011) Workplace Population – Method of Travel to Work
- The North East urban area now includes two combined authorities North East Combined Authority and North of Tyne Combined Authority. However, they share a single transport authority, Nexus, covering the whole city region.
- Data supplied by West Yorkshire Combined Authority, based on ONS Population Estimates (2017) and ONS (2016) Population Projections
- Data supplied by Liverpool City Region Combined Authority, based on ONS Population Estimates (2017) and ONS (2016) Population Projections
- ¹² Data supplied by Derby City Council, based on ONS Population Estimates (2017) and ONS (2016) Population Projections
- ¹³ Data supplied by Basildon Borough Council, based on ONS Population Estimates (2017) and ONS (2016) Population Projections
- ¹⁴ Data supplied by Basildon Borough Council
- Data submitted to the Commission by Basildon Borough Council, based on Census (2011) Method of Travel to Work
- ¹⁶ Data submitted to the Commission by Exeter City Council
- Data submitted to the Commission by Exeter City Council, based on Census (2011) Method of Travel to Work