

An aerial photograph of a town street, likely in the UK, showing a mix of terraced houses, commercial buildings, and parked cars. The street is lined with buildings, and there are several cars parked along the sides. The overall scene depicts a typical urban environment.

Infrastructure, Towns and Regeneration

**NATIONAL
INFRASTRUCTURE
COMMISSION**

Better infrastructure for all

September 2021

Our remit

The Commission provides government with impartial, expert advice on major long term infrastructure challenges.

The Commission's objectives are to:

- support sustainable economic growth across all regions of the UK
- improve competitiveness
- improve quality of life.

In fulfilling our purpose and objectives, we:

- set a long term agenda – identifying the UK's major economic infrastructure needs, and the pathways to address them
- develop fresh approaches and ideas – basing our independent policy recommendations on rigorous analysis
- focus on driving change – building consensus on our policy recommendations, and monitoring government progress on their delivery.

A fuller description of the Commission's remit can be found on our website at [nic.org.uk/about/what-we-do/](https://www.nic.org.uk/about/what-we-do/) or on page 69 of this report, which includes a table of devolved administration responsibilities by infrastructure sector.

The members of the Commission



Sir John Armitt
(Chair)



Professor Sir Tim
Besley CBE



Neale Coleman CBE



Professor David
Fisk CB



Andy Green CBE



Professor Sadie
Morgan OBE



Julia Prescott



Bridget Rosewell CBE

Full Commissioner biographies can be found on our website at [nic.org.uk/about/the-commission/](https://www.nic.org.uk/about/the-commission/)

Front cover: Wetherby town centre

Contents

Foreword	4
Infographic	5
Executive summary	7
1. Why infrastructure matters for towns	18
2. Developing and delivering local infrastructure strategies	37
3. Central government can help deliver high quality infrastructure in towns	58
Acknowledgements	67
The Commission	69
References	71

Foreword

The majority of England's population lives in towns. Our suburban areas and towns are home to over 31 million people who could benefit from the increased economic productivity and improvements to quality of life that infrastructure can support.

Grasping this opportunity means embracing the distinctiveness of our towns, which typically possess a treasured heritage and proud sense of place – whether through connections to certain industries, a particular geography or the local sports team.

The diversity of our towns means making decisions in Westminster about what infrastructure investments they need is both inefficient (for both ends of the discussion) and likely to be ineffective.

During meetings with representatives from communities, businesses and local government across England and visits to our case study towns, we've heard how the current approach to directing money towards tightly drawn policy outcomes leads to funding uncertainty, short term outcomes over long term priorities, and ultimately burns rather than builds local capacity.

Of course, we understand that government wants to be sure that public money is being well spent – and that general taxation is funding strategic outcomes for the whole of the UK.

But, as this report argues, we need to pivot away from a reliance on centrally controlled pots of money for which councils must compete.

Our report calls for a new partnership between Whitehall and Town Hall to level up the country, with county and unitary authorities receiving devolved five year infrastructure budgets to support their own economic growth strategies for the towns in their area.

This would build on the positive action government has taken to deliver on the Commission's recommendation of devolving infrastructure budgets to cities, and its ambition to agree 'county deals'.

This new compact would place decision making into the hands of local leaders, while ensuring that there is accountability to local businesses and residents for how the funding is spent. Town halls would then have the resources to develop a clear vision and strategy for economic development, including infrastructure, based on local strengths and priorities.

Streamlining infrastructure funding through an 'even spread' approach would be supplemented by targeted funding for those areas where focused infrastructure investment is most likely to transform a town's prospects – especially places that need better connections to a larger neighbouring settlement or have a particular economic opportunity at hand. In addition to devolving funding, we also recommend that the amount spent on local transport outside London each year should increase by around 40 per cent. We also make proposals for policy steps national government is best placed to take to help our towns prosper.

In short, levelling up cannot be done from Whitehall. Local councils need to be empowered to deliver and held accountable for doing so. This report sets out how it can happen for the whole country.

Bridget Rosewell
Commissioner

Neale Coleman
Commissioner

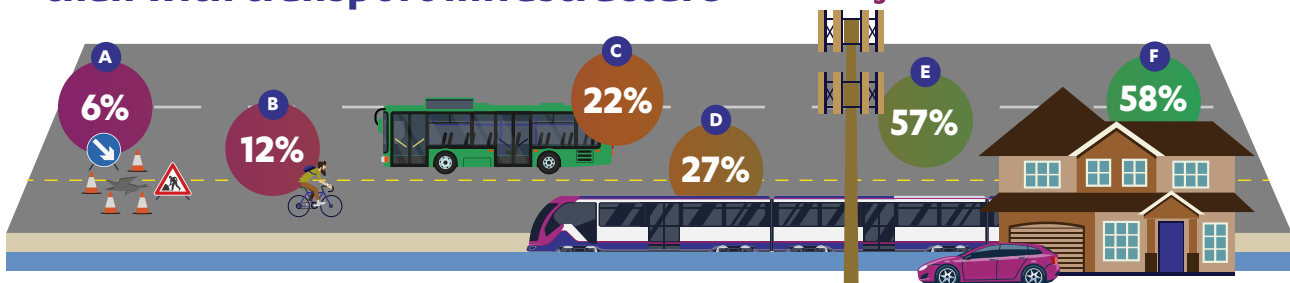
Tim Besley
Commissioner

There is a lot of variation across towns in England



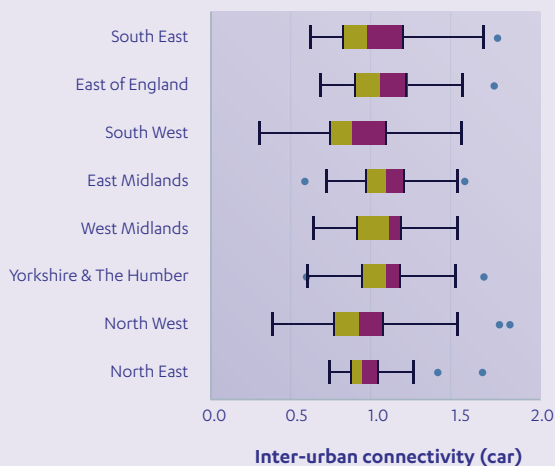
Satisfaction with digital infrastructure is higher than with transport infrastructure

Figures show net satisfaction



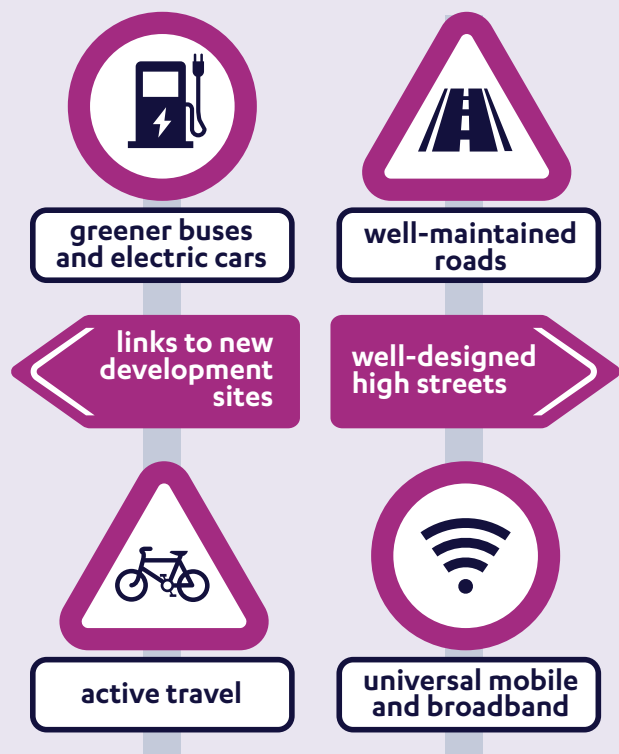
A. Roads B. Cycling infrastructure C. Buses D. Trains E. Mobile phone data service (e.g. 4G reception) F. Home broadband internet

There are a wide variety of infrastructure outcomes in places across England



Inter-urban connectivity by car in towns, categorised by the region they are in, showing median (line between green and burgundy), interquartile range (green and burgundy boxes), main range and outliers (the higher the number, the better the connectivity)

There are many ways in which better infrastructure can improve people's lives in towns



Government needs to change how it funds infrastructure

The complicated range of funding pots should be simplified into devolved five year budgets for county and unitary authorities.



There should be:



Long term, predictable infrastructure budgets



Prioritised funding for places that need further support

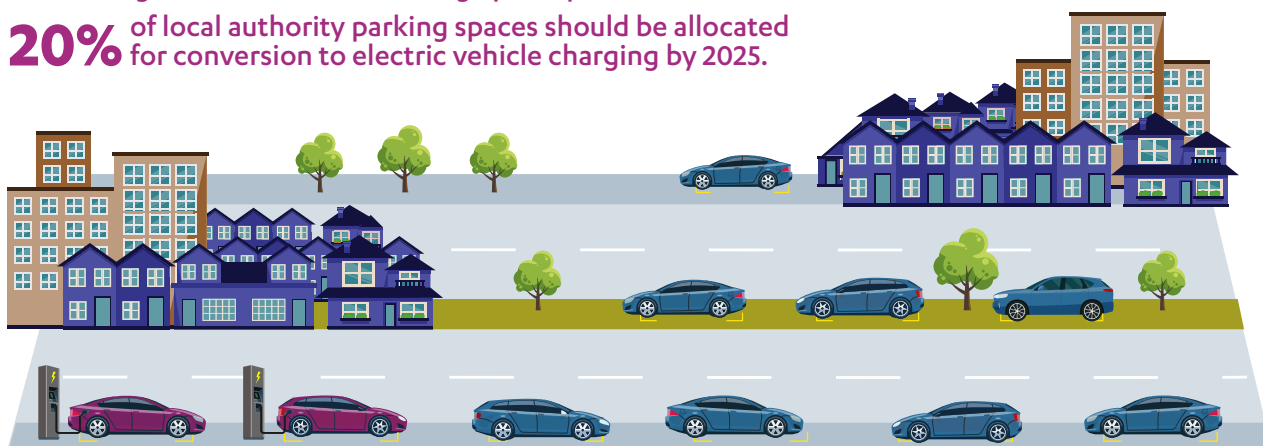


Expert advice and support for places lacking capacity

Central government needs to focus on addressing national issues that matter to towns

There is significant variation in charge point provision between local authorities.

20% of local authority parking spaces should be allocated for conversion to electric vehicle charging by 2025.



20% may have at least 20% or more premises that will require government subsidy to be connected by broadband.
of towns



Executive summary

Digital and transport infrastructure has an important role to play in supporting economic growth and quality of life in towns. This is best achieved when infrastructure is considered as part of a long term strategy that complements a wider place based plan for a town. But the present funding system for local transport hinders the development of effective strategies and plans.

The multiple funding streams that exist today tend to be short term, ringfenced and often require rounds of competitive bidding. Central government needs to simplify these funding streams and provide those county councils and unitary authorities that are responsible for strategic transport planning with devolved five year budgets for local transport. Failure to empower local authorities to deliver local infrastructure will lead the government to fail in its levelling up goals.

There are 74 county councils and unitary authorities which are responsible for strategic transport planning. Each authority should develop a long term infrastructure strategy for the towns in its area, supported by a pipeline of projects. These strategies should be part of, or complementary to, wider place based plans for the development of towns. Central government can enable them to develop and deliver these strategies by providing:

- devolved five year budgets to match the arrangements in place for mayoral combined authorities: funding should be allocated on a simple basis that reflects population and the size of the transport network being managed
- targeted funding in priority places where infrastructure investment could have a demonstrable additional impact
- expert support and advice to help those local authorities where capacity and capability are obstacles to developing and delivering their infrastructure strategies.

These changes will mean local authorities should have greater accountability for funding. Infrastructure strategies and place based plans will need to set out clear and transparent outcomes, with retrospective assessment of whether those outcomes were achieved.

Alongside providing flexible and devolved funding, central government should also ensure all towns have sufficient access to key infrastructure networks by addressing gaps in gigabit broadband coverage and publishing its roadmap for rollout of electric vehicle charging infrastructure without delay. The government should also support experimentation in towns, such as innovation pilots related to 5G use cases and on demand bus services.

Infrastructure can support levelling up in towns

Over 31 million people live in England's 1,082 towns. Each of these towns has its own challenges and opportunities in terms of infrastructure investment. The importance of local context means there is no straightforward prescription or one size fits all model for what investment is needed in any given town. But towns do share some common infrastructure needs – good quality roads, bus services and broadband connections – and it is clear that investment in digital and transport infrastructure in towns can support the government's aim to improve economic opportunity and boost quality of life.

Levelling up is not a zero sum debate between towns and cities – many towns that the government is seeking to level up and regenerate are part of cities and mayoral combined authorities. All regions and functional economic areas, including towns and cities, should be supported to achieve their economic potential – levelling up one place should not be at the expense of another.

The provision of transport infrastructure is variable

The availability and quality of transport infrastructure is variable across towns, with funding for local transport projects often dependent on the ability of local government to access funding streams from central government.

The Commission's social research showed that improvements to roads were the main infrastructure priority for residents in towns. The car is the most popular mode of transport for journeys in England and the number of cars per household is higher in towns than cities. People in towns rely on their cars to access employment and education opportunities, services and amenities.

But this reliance on cars in towns is only sustainable with a transition to electric vehicles, given emissions from cars and vans are responsible for around a fifth of the UK's domestic greenhouse gas emissions. The provision of active travel infrastructure can also encourage residents in towns to make more journeys by walking or cycling, which many local authorities are already developing plans to facilitate. As the road network is already universal, the focus in most towns should be on maintaining road surfaces and fixing potholes properly, addressing congestion hotspots and ensuring new development sites in towns are well connected to the existing network.

Local public transport systems are also important for connecting people to economic and social activities, and for reducing transport's greenhouse gas emissions. Deprived areas in some towns do not have good public transport services: taking public transport to work can require several forms of transport and there is a lack of early morning and evening services. Better public transport connections, within towns and to nearby cities, were also ranked as a priority for many residents of towns in the Commission's social research, particularly by those who lived in smaller towns and rural areas.

Digital infrastructure is generally good but some areas risk missing out

Digital connectivity is now an essential utility, as central to the UK's society and economy as electricity or water supply. The rollout of gigabit capable broadband is accelerating in towns and mobile connectivity is generally good. Social research carried out for this study showed that satisfaction with digital services among residents in England's towns is generally high. There is however a risk that some premises, which are in difficult to reach areas in towns, end up being left behind. And barriers remain to adoption of new digital services and technologies by some small businesses and consumers.

The importance of good digital connectivity was emphasised by the Covid-19 pandemic. The Commission's engagement with businesses as part of this study showed that shortcomings in home and mobile connectivity had held back businesses in some towns as homeworking increased. A permanent shift to greater homeworking may offer an opportunity to towns that are attractive places to live and have good broadband connectivity, as higher earners may look to relocate to towns outside the commuting reach of cities. The pandemic also illustrated the importance of digital connectivity to quality of life, as many people in towns accessed health, education and entertainment services online.

Investment in towns most likely to support incremental change

In 2020 the Commission set out a framework for how infrastructure could support regional economic growth. The paper set out three pathways through which this could happen:

- addressing constraints to growth
- contributing to transformation
- supporting universal provision.

Around 90 per cent of towns in England have a population of less than 80,000 people, which means most infrastructure investments in towns will be relatively small scale. Most of these improvements will be addressing local constraints to growth, such as improvements to a road junction to ease congestion, or supporting universal provision, such as new cycling lanes to support active travel.

Most interventions in towns will support incremental rather than transformational change. But the value of this should not be overlooked – smaller scale investments can be delivered relatively quickly and can provide excellent value for money. They can also address the most pressing local concerns: social research carried out for this study found that only around a third of residents in towns are satisfied with their road and cycling infrastructure, suggesting there are short term gains that can make a difference to people's quality of life.

These relatively small scale infrastructure improvements can also be an important part of plans for wider local regeneration. One of the first steps in the plan for the regeneration of Stevenage's town centre is to relocate and upgrade its bus station, replacing the current site with a garden square, which will support the plan's aim to attract more people to live in the town centre and encourage a better variety of retail and leisure facilities.

Opportunities for transformational change may exist

There may be opportunities for more transformative changes in some towns. The Commission has identified two possible routes, although there may also be other examples.

The first opportunity is where towns are near to cities. There is a strong relationship between the economic success of a town and that of its nearest city. If a town has poor connections to a nearby productive city, it is possible that improving transport connections would have a transformational effect on the town, for example in terms of accessing high skilled job opportunities and attracting business investment. This could be as part of the type of major urban transport capacity programme for priority growth cities that the Commission recommended in the first *National Infrastructure Assessment*.

The expansion of the West Midlands Metro illustrates this opportunity. The first phase of the expansion, planned to open in 2022, will connect towns such as Dudley to Birmingham city centre. Dudley has relatively low economic outcomes and poor rail links at present and Birmingham generally has high levels of congestion. There are no guarantees that this will improve Dudley's fortunes, but it could provide support for future growth, especially alongside measures to improve Birmingham's below average productivity.

The second opportunity is where infrastructure investment could enable a town to take advantage of changing economic conditions. Some towns may find that they are well placed to benefit from changes in where people choose to live and work if increased homeworking becomes a long term pattern as a result of the Covid-19 pandemic. Other towns may benefit from emerging industries, for example the development of offshore wind energy on the Humber has created new opportunities for coastal towns such as Grimsby. The Humber Link Road was opened earlier this year to provide a good transport connection between Grimsby and the neighbouring port of Immingham, better connecting new and existing industry, which is intended to support further growth.

There is, however, no single policy that can drive local economic growth and quality of life improvements. Infrastructure interventions are important. But other factors such as skills are equally important to outcomes in towns.

Infrastructure strategies and a wider town vision

Apart from the combined authorities and London, there are 74 county councils or unitary authorities that are responsible for strategic transport planning. They need to plan transport investment in their areas as part of a long term infrastructure strategy which complements a wider place based plan for individual towns. This will ensure that infrastructure is considered and planned alongside the other factors that are important for the success of a town. Infrastructure strategies should be adaptable, supported by a pipeline of projects and support the government's net zero aims.

Infrastructure strategies and wider place based town plans need to be developed locally, by people who understand the needs and strengths of the area and the individual towns. They should look to build on the existing strengths of towns, which will give them the best chance of supporting economic growth. To help places develop distinctive plans, the Commission has developed best practice guidance for how to approach infrastructure planning, which draws on the Commission's earlier work, and the regional engagement and case studies carried out to support this study. This includes a set of principles to help local authorities develop their own strategies, and suggested priority areas that they should cover.

The Commission's recommendation on infrastructure strategies and wider place based plans is made together with its recommendation to provide the 74 county councils and unitary authorities, or combined authorities where these are in place, with devolved five year infrastructure budgets (see recommendation 2). To ensure transparency and accountability given the Commission's recommendation on funding, infrastructure strategies and wider place based plans will need to set out clear, transparent outcomes and at the end of each funding period, local authorities will need to carry out assessments of whether those outcomes have been achieved.

Recommendation 1: Every local transport authority should have a long term infrastructure strategy for the towns in its area, supported by a pipeline of projects. These strategies should be developed locally and collaboratively as part of, or complementary to, distinctive 15 year place based plans for the economic development of towns. Infrastructure strategies and wider plans should draw on local strengths, presenting a distinctive vision for towns. To ensure accountability, infrastructure strategies and wider plans should set out clear, transparent outcomes and, at the end of each five year funding period (see recommendation 2), local authorities will need to carry out assessments of whether those outcomes have been achieved.

Local transport funding needs reform

Local authorities find it difficult to develop and deliver effective infrastructure strategies due to the current funding system for local transport. Around a third of local authority funding is provided by central government. The Commission understands the Department for Transport has around 15 different funding streams for local transport in towns at present. The funding streams are often provided on a short term basis, have conditions on what funding can be spent on, and well over half of the available funding is allocated through competitive bidding. These conditions do not allow local authorities to plan effectively.

Long term planning is difficult

Local authorities have no long term certainty over their transport budgets given the short term nature of many of the funding streams and the fact that much of the available funding is dependent on them being successful in competitive bidding. This makes it difficult to develop an effective infrastructure strategy. Places also have to sequence infrastructure investments depending on what type of funding is available, rather than deliver investments in the order that makes most sense and provides most value.

Conflict with local priorities

Central government determines the funding streams, the conditions attached to them and the available funding. But what central government may see as a national priority will not necessarily tally with the local priorities for a particular town: a place may be allocated funding through one stream that it has to spend on bus services, but its primary need may be improving road surfaces. It also makes it more difficult for places to adapt quickly to changing conditions, for example possible behaviour change as a result of the Covid-19 pandemic. The Commission has heard from local government officials that schemes are sometimes put forward locally in order to match the funding stream available, rather than because that scheme was necessarily a priority for the area.

A reliance on competitive bidding is not compatible with government's aims

Although competitive bidding can sometimes be a useful mechanism for allocating resources to projects that will provide the most value for money, it is unlikely to be the best way of securing better infrastructure outcomes at a local level. Government is not well placed to identify what the priorities are for any particular place, competitions may have the effect of directing funding towards authorities with administrative capacity rather than where the greatest infrastructure challenges really are, and it is very resource intensive for local authorities.

Consolidate funding streams

The current funding system is an impediment to the government achieving its levelling up and regeneration goals. The solution that government should adopt is to consolidate the existing multiple funding streams into a dual track approach: long term devolved budgets, and targeted funding for priority places where infrastructure investment could have a demonstrable additional impact.

Devolved budgets

All relevant authorities should have a single local budget for day to day local transport infrastructure, with budget allocations made on a simple basis that reflects population and the size of the transport network. This would enable them to deliver maintenance, smaller road upgrades, and infrastructure to support bus and active travel.

The budget should be set for five years with certainty for the whole period. Responsibility for this should be devolved to the 74 county and unitary authorities outside of combined authorities that are responsible for transport planning – or for those places where a combined authority is in place but has not yet been given a devolved budget, to the combined authority.

They are best placed to determine the strategic priorities for transport infrastructure, working with individual towns across their area to do so.

This is a substantial change to how local infrastructure is funded and planned at present. The Commission's recommendation will provide the following benefits:

- give areas the opportunity to develop long term infrastructure strategies that complement wider place based plans for towns and reflect local needs and priorities
- improve efficiency by ensuring that projects are better prioritised and developed over time
- speed up decision making on local infrastructure projects
- provide flexibility to respond to changing needs and circumstances, including behaviour changes as a result of the Covid-19 pandemic
- free up resources currently spent on preparing bids and create a level playfield for local authorities
- encourage more collaboration across local authority boundaries.
- align with the new arrangements for places that are part of mayoral combined authorities and give the same certainty enjoyed by other transport infrastructure providers.

Recommendation 2: The government should give local areas greater control over funding and decision making on local infrastructure investment. It should provide all county and unitary authorities, or combined authorities where they are in place, with devolved five year budgets for infrastructure, to match the arrangements in place for mayoral combined authorities. Funding should be allocated on a simple basis that reflects population and the size of the transport network being managed.

Targeted investment where the effects may be greatest

Alongside day to day local budgets, some grant funding should be targeted at places where infrastructure investment can help seize economic opportunities. Local budgets are not likely to be sufficient for larger infrastructure projects that could contribute to transformation in some areas, or to address the most significant local connectivity or congestion issues. Targeted funding, directed at a select group of priority areas, will help support towns to realise these opportunities with projects such as larger new road links, or redeveloping public transport interchanges.

The two opportunities the Commission has identified for transformational change – better integrating a town into a city and enabling a town to take advantage of economic developments – would be strong candidates for targeted funding. There may also be opportunities to invest in places with demonstrably poor transport connectivity, where targeted infrastructure investment could make a significant impact. In 2019, the Commission published work that developed metrics for transport connectivity for different places. These measures assess how easy it is for people to get around within a town and between towns, using both private and public transport. Places that score poorly on these metrics could be assessed as having poor connectivity.

Government should prioritise where this targeted funding is best placed to make a difference and it should be dependent on authorities having credible strategies in place for the funding and demonstrating that adequate delivery capacity is in place.

Recommendation 3: In addition to devolved budgets for infrastructure, the government should provide targeted funding for key strategic priorities: where infrastructure outcomes are particularly poor, or where infrastructure could help towns seize economic opportunities. To access this targeted funding, places will have to demonstrate that they have a credible infrastructure strategy and wider placed based plan in place.

Funding local authority infrastructure budgets

The Commission's analysis suggests that around £6 billion per year should be available for local transport investment in England outside London in the next five years. This would mean around a 40 per cent increase in investment compared to 2019/20 – enough for local authorities in every area of the country to address priority infrastructure projects in their area, covering both devolved budgets for all authorities and targeted funding for priority areas.

Greater support for local authorities

In the Commission's experience local authorities often have strong leadership and the necessary analytical and project delivery experience to plan and deliver good infrastructure strategies. However, capacity and capability can be an issue for some authorities, leading to variability in the quality of local plans. The Commission's proposed funding reforms will free up capacity within local authorities, where at present officials spend substantial amounts of time developing bid proposals. The released capacity should mean officials can focus on strategy development and delivery.

But there are also some local authorities who will need further support as they have shortages of skilled staff: those who have not been successful in bidding competitions may have struggled subsequently to recruit and retain staff with analytical and project delivery experience, and consultancy expertise is often required to fill gaps.

The government can help places build capacity and capability by making expert advice and support available through a national body. This body should have three roles:

- creating a network for local authorities where best practice in developing and implementing infrastructure strategies can be shared and collaboration encouraged
- advising places on developing and implementing plans for targeted funding opportunities, bringing in expertise from the private sector as appropriate
- helping places that have lost out historically on competitive bids to build capacity and capability.

The government should determine which organisation is best placed to undertake these responsibilities and establish a dialogue with the private sector about how it can better contribute to supporting local capacity. The UK Infrastructure Bank should provide advice on financing specific projects.

Recommendation 4: The government should make available expert strategic advice and support for places that lack the capability and capacity to develop their own infrastructure strategies and wider place based plans. The government should determine which national organisation or body is best placed to provide that support and ensure it is adequately funded.

Central government support for universal networks and innovation

As well as devolving funding and ensuring that infrastructure decisions for towns are taken locally, central government can also help ensure universal provision of key networks and support innovation in towns.

Supporting the rapid rollout of gigabit broadband in towns

Universal high speed broadband is more important than ever for people and businesses, particularly given possible long term behaviour change as a result of the Covid-19 pandemic. The government has set an ambitious but achievable target to reach at least 85 per cent gigabit broadband coverage by 2025. Good progress is being made with commercial rollout in urban areas and the government has set out the first phases of its procurement programme to extend coverage to hard to reach premises.

To achieve the 85 per cent target, the government must continue to tackle the barriers that can hold up commercial deployment. Many towns have a large number of premises in flats and apartments. It is important that these are made accessible to operators through the government's recent reforms to wayleave rules.

While most premises in towns should be covered by commercial broadband deployment by 2025, it is possible that around 20 per cent of towns will have a sizeable proportion (above 20 per cent) of premises that may require support from the government's subsidy programme to be connected. This may include premises on the outskirts of towns or premises in small market towns.

In those towns where there are likely to be these gaps in commercial rollout, and where the government's regional procurement programme is scheduled to start later, the government should work with local authorities and operators to identify opportunities for local solutions and facilitate voucher funded projects to accelerate coverage wherever possible.

Recommendation 5: The government should set out a clear plan, with milestones and funding, for delivery of gigabit broadband to the hardest to reach premises that will require public subsidy. In those towns where there are likely to be gaps in commercial rollout, and where the government's regional procurement programme is scheduled to start later, the government should work with local authorities and operators to identify opportunities for local solutions and facilitate voucher funded projects to accelerate coverage wherever possible.

Supporting digital adoption among businesses

The government needs to widen its focus from rolling out broadband to stimulating demand for it, especially by encouraging smaller businesses to make full use of upgraded broadband networks and the digital tools and services they enable. Improving the digital connectivity of small and medium sized businesses can help increase business productivity and foster economic growth. However, there remain a number of barriers to the widespread adoption of digital technologies and capabilities, particularly among small businesses, including a lack of understanding of the benefits, digital skills, and cost.

This challenge is not unique to towns, but there is a need to ensure that there is parity of treatment for businesses located in towns with any advice and support available to those in cities. This will help to ensure that the benefits of the new communication networks are fully realised.

Recommendation 6: The government should develop a strategy by 2022 for encouraging the take up of new communications networks and services by small and medium enterprises.

Optimising mobile coverage

Access to reliable mobile services has become essential to how people live and work in all places. Network prediction models indicate that 97 per cent of England's landmass has a 4G signal from at least one mobile network operator and this area includes nearly all premises. The Shared Rural Network agreement between government and the mobile operators will expand coverage further and close almost all 'partial not spots' (areas where there is currently only coverage from at least one but not all operators). Research for this study showed relatively high levels of satisfaction with mobile services, particularly in larger towns. However, some stakeholders raised concerns about mobile coverage in certain locations.

Measurement data from Opensignal, which independently captures real user experience, also suggests there may be issues with 4G availability in some towns. Mobile coverage predictions can vary from the 4G service people actually experience due to local factors such as trees and buildings or the degree of congestion on the network. Similarly, predicting indoor or in car coverage is subject to variations as signal loss can vary depending on the materials that signals must travel through. Ofcom recognises these issues with modelling in its mobile coverage reports that are based on predictions provided by the mobile operators. Nevertheless, there are questions about how substantial the variations are and whether there is room for further optimisation of mobile coverage to improve the user experience in certain places.

Recommendation 7: Ofcom and the government should consider real world user experience data, alongside prediction models, to improve the understanding of how people experience mobile connectivity in different places and identify any significant patterns that need to be addressed. As part of this, consideration should be given to whether Ofcom's existing reporting on user experience can be extended to provide a more granular view of localised mobile user experience.

Supporting the rollout of electric vehicle charging

A reliable electric vehicle charging infrastructure will be essential to support the government's net zero aim and the ban on the sale of new petrol and diesel vehicles that comes into force in 2030. The Commission's social research showed that a lack of electric vehicle charging infrastructure is one of the main reasons people who live in towns are reticent about switching to electric cars. This is not a unique issue for towns – everywhere will need sufficient charging infrastructure – but the needs of towns will need to be actively considered, alongside those of cities.

On street charging points are an area where provision appears to be particularly challenging for some towns and cities. Precise estimates of the number of drivers likely to require on street parking vary, but it is likely to be around a quarter of households. Provision outside London is currently low – out of 5,700 on street charging points in the UK, only 1,000 of those are outside the capital.

Local authorities have a key role to play in charging provision. Practically, they are the controllers of kerbside access and owners of relevant assets like lampposts. They are also likely to have the best understanding of local needs.

Recommendation 8: The government should publish the electric vehicle charging infrastructure strategy, without further delay, followed by a roadmap for the rollout of electric vehicle charging infrastructure in towns. Local infrastructure strategies should also include an active role for the local authority in planning and managing the rollout of on street electric vehicle charging.

Supporting innovation in towns

Central government also has a role to play in supporting innovative approaches. Tests and trials in some locations can help to understand what may work for the country as a whole and, given their variety, towns provide a useful place based way of experimenting in a variety of different contexts. There are two opportunities the Commission believes may be of particular relevance to towns: new communications technologies such as 5G and on demand bus services.

5G is still at an early stage of development and it is not yet clear what the optimal level of coverage will need to be. Its full technical functionality has not yet been agreed, nor has the route to monetisation and potential applications and use cases are still in development. However, there is scope for the technology to have substantial industrial and public service impacts. The West Midlands 5G programme has trialled a number of 5G innovations, including in monitoring the transport network and advanced manufacturing, and has shown that towns can play a strong role in this.

On demand bus services are a possible solution to some of the challenges in towns where conventional public transport is not viable, for example in providing connections to out of town employment sites. Extending the existing government led trials in rural areas to towns and suburban centres would be a sensible step to test the commercial viability of on demand services in different contexts and in areas where there is potentially a strong use case to provide better connectivity to employment sites.

A flexibly designed local innovation fund could support co investment with the private sector in trials of varying scales in different local authorities across transport and digital sectors. 5G and on demand bus services are high potential areas but should not be the only focus for the fund.

Recommendation 9: The government should support innovation in towns where trials would be too costly and risky for local authorities to run on their own, and where government involvement can accelerate progress substantially. This should be delivered via a local innovation fund and should include:

- partnering with towns to run innovation pilots for new communication technologies, including 5G use cases
- supporting experimentation and early rollout for innovations in on demand bus services.

Government should ensure that lessons from trials are transparently and proactively shared.

1. Why infrastructure matters for towns

Each town has its own particular challenges and opportunities. Infrastructure investment in towns to addresses those challenges and take advantage of those opportunities can help achieve the government's levelling up aim. This investment will largely support incremental improvements in economic growth and quality of life. But opportunities for transformational change do exist.

The Commission set out a framework in 2020 for how infrastructure can support regional economic growth: by addressing constraints to growth, contributing to transformation, or supporting universal provision. Most interventions in towns will be relatively small scale, they will address local constraints to growth or support the universal provision of digital and transport infrastructure. These investments can be delivered relatively quickly and can deliver excellent value for money. But there may be some opportunities for transformational change. The Commission has identified two possible routes: better integration of a town with its nearest city and investment which allows a town to take advantage of changing economic conditions.

Background

The government said in the *National Infrastructure Strategy* that it wanted to use infrastructure to support levelling up and regeneration.¹ To support this work, the government asked the Commission in March 2021 to carry out a study on how to maximise the benefits of infrastructure policy and investment for towns.² The Commission was asked to explore, with a focus on transport and digital infrastructure:

- the economic and quality of life benefits of infrastructure interventions in towns, how these may differ across different types of towns and whether there is a category of towns that would particularly benefit from improvements
- the effect of the Covid-19 pandemic on towns, testing where and how local infrastructure policy needs to change to respond to resulting changes in behaviour
- local delivery and capacity.

The study was asked to focus on towns in England but to ensure that any recommendations in reserved areas (digital and the UK Infrastructure Bank) are applicable across the whole of the UK.

Defining towns

There is no single, objective definition of what constitutes a town. Most definitions tend to focus on population size, with the Office for National Statistics defining a town as any built up area with a population from 5,000 to 225,000 based on population at the last Census.³ This is a wide definition with a large number of settlements in scope – see table 1.1 – but it reflects the mix of different towns across England.

Table 1.1: Categorisation of towns in England

Category of town	Population band (2011 Census)	Number of towns	Combined population (2019 mid-year estimate)
Very small	5,000 – 10,000	363	2.7m
Small	10,000 – 20,000	299	4.5m
Medium	20,000 – 75,000	331	12.9m
Large	75,000 – 225,000	89	11.0m
Total		1,082	31.1m

Source: Office for National Statistics (2011), [Built-up Area Sub Divisions Names and Codes in England and Wales](#); Office for National Statistics (2019), [Mid-year population estimates by built-up areas \(including subdivisions\) by age groups, 2001 to 2019](#)

The Commission used this definition as the starting point for the study. However, for much of the analysis included in this report, the Commission has used a starting population of 10,000. This is to reduce the number of data points, as there are a large number of very small towns with only relatively small numbers of people living in them. Nonetheless, many of the lessons of this report will also be relevant for smaller settlements. Further definition issues are considered in box 1.1.

Box 1.1: Varying definitions of urban areas

Official statistics are normally produced at local authority level. Local authorities however often cover several towns and can include rural parts of cities. This implies that local authority data is not suitable for analysing and comparing towns. The Office for National Statistics therefore uses what it describes as ‘built up areas’ for the purposes of investigating towns.⁴

A built up area is defined as built up land with a minimum area of 20 hectares, with settlements within 200 metres of each other linked together. In larger conurbations, where the 200 metre rule would link areas with separate names (for example the towns of Ashton under Lyne and Stalybridge in Greater Manchester), the built up area is divided into separate parts, or subdivisions.⁵ This is important as many towns are subsumed within the built up area boundaries of a city. For this reason, unless it is stated otherwise, the Commission has used data at built up area sub division level.

Using census data, the Office for National Statistics defines towns as being those built up areas, or sub divided built up areas, which have a population of between 5,000 and 225,000.⁶ The upper limit of 225,000 was chosen so that the largest towns in the country, Reading and Northampton, would be included. This definition of towns does not include any places in Greater London, as built up areas within London are not sub divided.

This type of statistical approach to examining towns means that not every place in the list will have ‘town’ status and other definitions of towns have used different population thresholds.⁷ Some places will be very small settlements – for example, Ryhill in West Yorkshire. And at the top end of the scale, it overlaps with definitions of ‘Primary Urban Area’ – the Commission made recommendations on transport in Primary Urban Areas in the first National Infrastructure Assessment.⁸

Towns defy easy classification

There are 719 towns in England which have populations between 10,000 and 225,000 – see table 1.1. While there is a set of core infrastructure needs that are common to most towns, it is difficult to make many general observations about these towns as they vary considerably.

There have been many attempts to construct typologies of towns, based on their geography, demographics and economies.⁹ While these typologies can be helpful in identifying common themes, there tends to be substantial variation even within types and, often, towns can fit into multiple categories.¹⁰ Variation can be driven by the individual histories and geographies of towns, and by the role that they play in the local economy. Some towns are residential, home to people who work in neighbouring towns and cities and others are the centre of the local economy.¹¹ This could be because they are large towns, like Swindon, or because they are historic market towns in largely rural areas, like Kendal. Physical geography is also important, such as for coastal resorts like Margate or Scarborough.

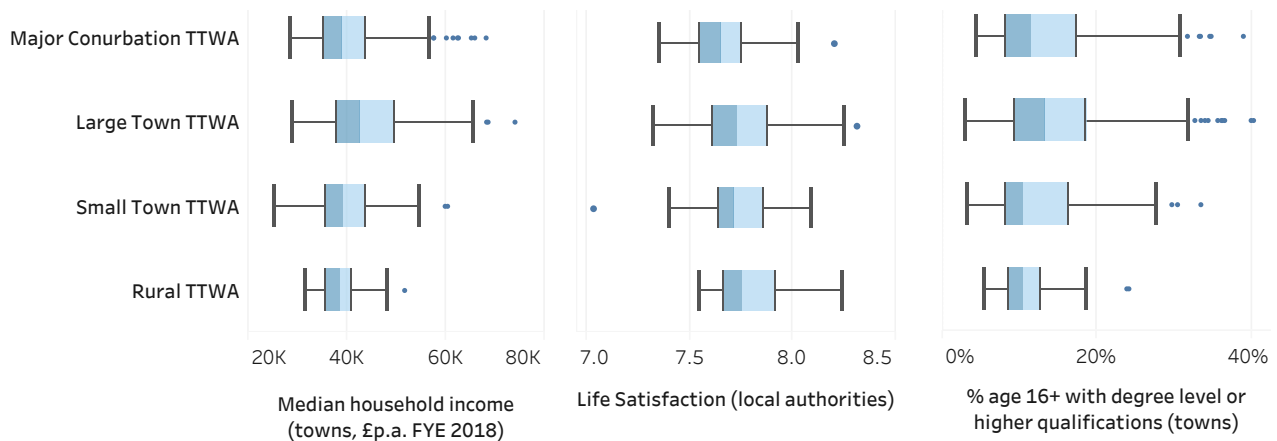
Each town has its own particular challenges and opportunities, and an understanding of local context is crucial to determining what type of infrastructure investment is likely to be most effective in supporting a town’s success. The basics for most towns will be similar – such as a decent bus service, well maintained roads without potholes and good digital connectivity – but how to deliver and prioritise them will differ. There is no straightforward prescription or one size fits all model for how to improve infrastructure in towns. This is why the Commission suggests an approach that allows each town to find local solutions that maximise the use of local initiative and knowledge.

There is substantial variation in economic, quality of life and infrastructure outcomes between towns

The variation in outcomes across towns is demonstrated in analysis the Commission has carried out for this study. Figure 1.1 shows that there are a wide range of economic and quality of life outcomes within each category of travel to work areas,¹² with the greatest variation between towns in the hinterland of a large town. These results tally with analysis carried out by the Office for National Statistics which found that larger towns tend to have higher job density and higher levels of deprivation.¹³

Figure 1.1: There are a wide range of economic and quality of life outcomes across towns in different urban-rural categories

Average household incomes in towns, self reported life satisfaction in local authority districts, (scale 1-10) and the percentage of adults with degree level qualifications in towns, categorised by the urban rural classification of the travel to work area they are in, showing median (line where blue boxes meet), interquartile range (the two blue boxes together), main range (between the vertical black lines) and statistical outliers (dots)¹⁴

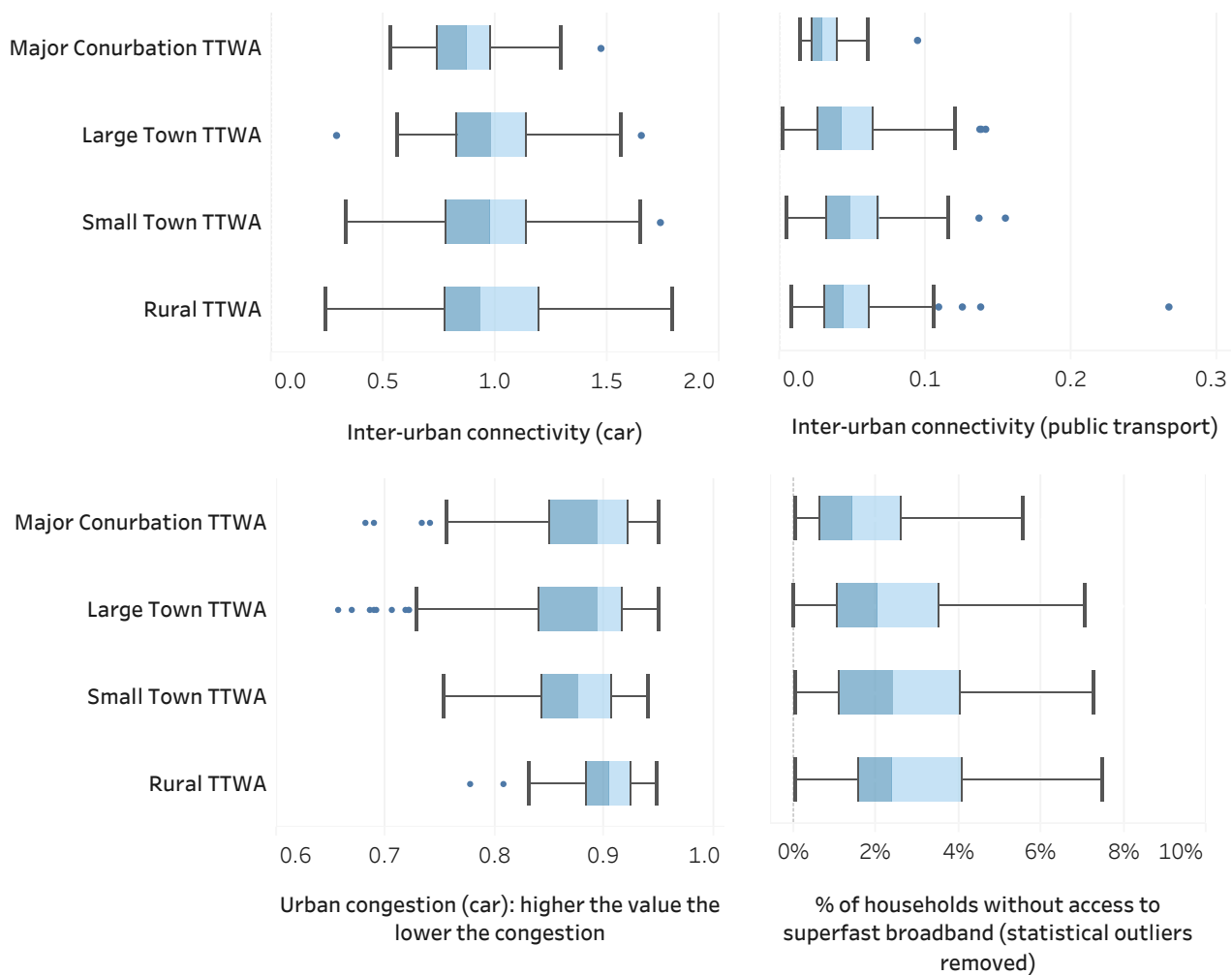


Sources: Office for National Statistics (2020), [Income estimates for small areas, England and Wales](#) (aggregated from MSOAs to BUAs); Office for National Statistics (2020), [Personal well-being in the UK: April 2019 to March 2020](#); Office for National Statistics (2013), [2011 Census: Characteristics of Built-Up Areas](#)

There are also a wide range of digital and transport infrastructure characteristics, as shown in Figures 1.1 and 1.2. Perhaps unsurprisingly, towns within major conurbations are likely to be more congested, while towns in rural areas are more likely not to have access to superfast broadband. There is not a clear urban rural divide on transport connectivity between places.

Figure 1.2: Infrastructure metrics also vary widely between towns, with those near larger towns and major conurbations being more congested

Congestion in built up areas, inter urban connectivity by car and public transport in built up areas, and percentage of households with access to at least 30 megabit per second (superfast) broadband in towns, categorised by the urban rural classification of the travel to work area they are in, showing median (line where blue boxes meet), interquartile range (the two blue boxes together), main range (between the vertical black lines) and statistical outliers (dots)



Source: Ofcom (2019), [Connected Nations update: Spring 2019](#); National Infrastructure Assessment (2019), [Transport connectivity dataset](#)

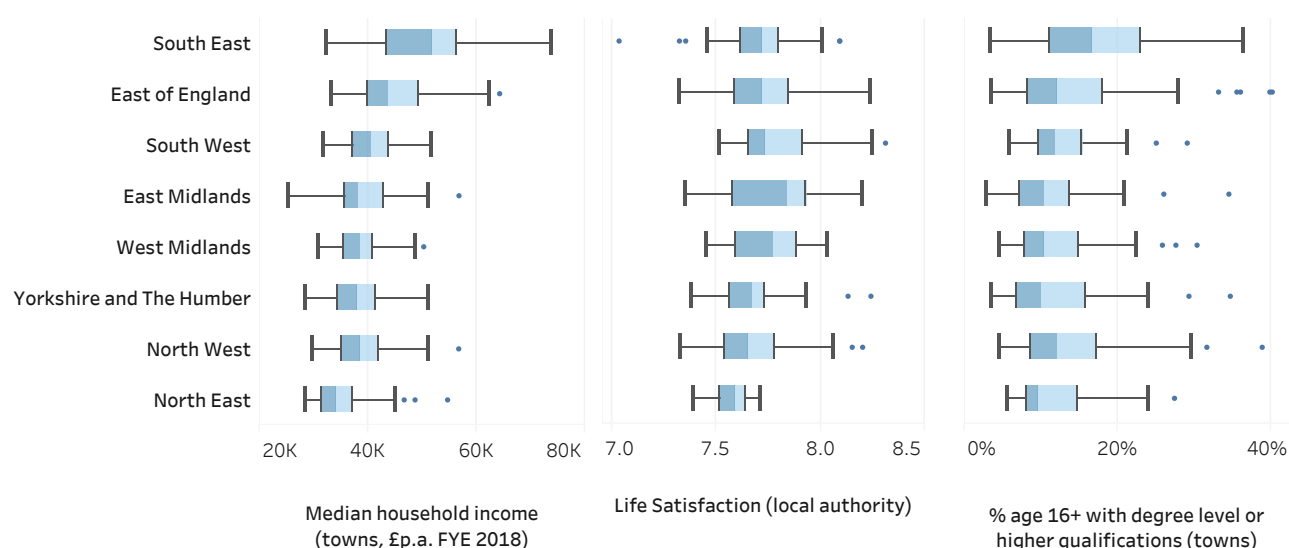
There are few clear regional trends within these outcomes

The Commission's analysis also looked at regional variations. Figure 1.3 shows how average household incomes, self reported life satisfaction and the percentage of people with no qualifications varies in towns by region. Some regions show greater variation in outcomes than others. For example, towns in the south east have both the highest and widest spread of incomes.

These results again tally with the analysis carried out by the Office for National Statistics, which further split towns into whether they were largely ‘working’ towns or ‘residential’ towns. Their analysis found that the south east had a relatively high share of lower deprivation working towns, and that northern regions of England had a relatively high share of higher deprivation towns, both working and residential.¹⁵

Figure 1.3: Household incomes, education and wellbeing vary by region and within regions

Average household incomes in towns, self reported life satisfaction in local authority districts, (scale 1-10) and the percentage of adults with degree level qualifications in towns, categorised by the region they are in, showing median (line where blue boxes meet), interquartile range (the two blue boxes together), main range (between the vertical black lines) and statistical outliers (dots)



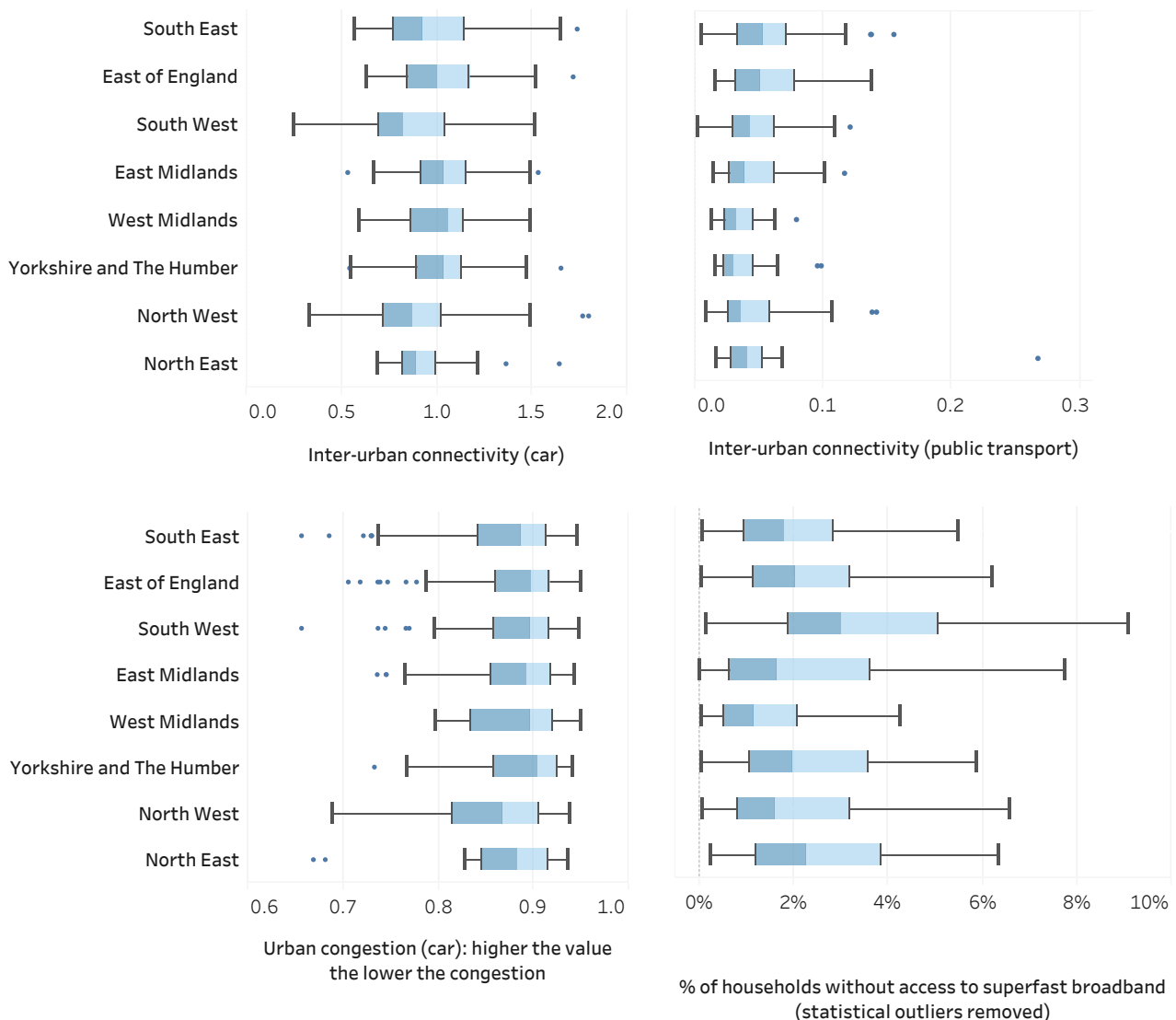
Sources: Office for National Statistics (2020), [Income estimates for small areas, England and Wales](#) (aggregated from MSOAs to BUAs); Office for National Statistics (2020), [Personal well-being in the UK: April 2019 to March 2020](#); Office for National Statistics (2013) [2011 Census: Characteristics of Built-Up Areas](#)

Digital and transport infrastructure performance also shows some minor variation between regions, as shown in Figure 1.4. On most metrics there is more variation within regions than there is between regions. However, towns in the north are more likely to have a high share of people without access to a car. And towns in the south west and north east are more likely to have a higher share without access to superfast broadband. In the south west this may be linked to having a higher share of the population living in rural areas, though this is not true of the north east.¹⁶

The lack of strong regional trends was also clear from the series of regional roundtables that the Commission held with representatives from local government. However, there were a small number of issues that came through more strongly in one region and less in others. For example, in the south west, stakeholders saw the resilience of infrastructure as a particular priority given the region’s reliance on a small number of major road and rail routes. This vulnerability was shown in 2014, when a storm damaged the mainline at Dawlish, cutting off most of Devon and all of Cornwall from the rest of the rail network.¹⁷ In other cases, it was apparent that different regions prioritised common challenges differently. For example, the need to better link towns with higher levels of deprivation into the regional economy was a particularly high priority for stakeholders at the Midlands roundtable, relative to other regions, given the number of such towns across the region.

Figure 1.4: There are few obvious trends in transport and digital infrastructure performance between regions

Congestion in built up areas, inter urban connectivity by car and public transport in built up areas, and percentage of households with access to at least 30 megabit per second (superfast) broadband in towns, categorised by the region they are in, showing median (line where blue boxes meet), interquartile range (the two blue boxes together), main range (between the vertical black lines) and statistical outliers (dots)



Source: National Infrastructure Commission (2019), [Transport connectivity dataset](#); Ofcom (2019), [Connected Nations update: Spring 2019](#)

The role and importance of transport and digital infrastructure in towns

Over 31 million people live in towns in England, which is around half the population.¹⁸ If the government wants to achieve its levelling up aim, then economic and quality of life improvements in towns are going to be an important component of success, alongside action to improve productivity in England's underperforming cities.¹⁹ In the *National Infrastructure Strategy*, the government set out its intention for infrastructure investment to be part of its drive to regenerate towns.²⁰ Infrastructure is likely to have different types of effects in different places.

Box 1.2: The Commission's engagement during the study

To develop the evidence base for the study, the Commission carried out an extensive engagement process including a series of roundtables with local officials and experts, case study visits to towns, and commissioned a piece of social research to engage directly with town residents.

The 10 virtual roundtables held by the Commission covered five regions and a number of themes relevant to towns. The regional roundtables covered the North West, North East, Yorkshire and the Humber, the Midlands, South East and East of England, and the South West. These events gathered evidence and local views on the infrastructure interventions most relevant to quality of life and economic growth in towns and on governance.

The thematic roundtables brought together experts to look in detail at five different themes relevant to the study: digital, transport, quality of life, economic growth, and business. These helped to inform the scope and focus of the study, as well as building the evidence base.

The roundtables complemented the Commission's wider engagement with stakeholders, which also included more focussed discussions on a number of case studies: Grimsby, Stevenage, Wakefield, and the West Midlands 5G trials and testbeds programme. Once the Covid-19 pandemic restrictions were lifted in the summer, the Commission was able to undertake visits to Grimsby and Stevenage to hear about challenges and opportunities in those towns and see how plans for regeneration are being delivered.

To ensure the study comprehensively considered the views of town residents, the Commission also undertook a piece of qualitative and quantitative social research. This explored people's perceptions of the quality of transport and digital infrastructure in their towns as well as their priorities for improvement.

Members of the Commission's Young Professionals Panel also used their networks to test current perceptions amongst young professionals and students on the role of infrastructure in relation to levelling up and regeneration in towns. This took the form of a survey and in depth follow up interviews with a small number of stakeholders.

Residents in towns rely on cars

The car is by far the most popular mode of transport for a journey in England. Cars accounted for 61 per cent of journeys taken in 2019 versus 26 per cent for walking, five per cent by bus and two per cent by rail. But the dominance of car journeys is more stark when looked at by mileage, with car journeys accounting for 77 per cent of journey miles.²¹ Those in more rural areas, including rural towns, drive more miles on average than those in larger, more urban towns and cities.²² And the number of cars per household is higher in towns, especially more rural towns.²³ This accords with the findings from the Commission's social research that improvements for motorists are the most prioritised infrastructure improvement in towns.

Since most journey miles in towns are by car, well maintained road connections are necessary to allow people to access employment and education opportunities, services and amenities.²⁴ It is therefore important that good road connectivity is in place to support new economic and housing development. And while towns generally don't suffer from the same levels of congestion as larger cities, addressing localised road congestion hotspots where they occur will improve journeys for many people – for instance by taking traffic around rather than through a busy town centre, or redesigning an over capacity junction.²⁵

Social research carried out for this study suggests that relatively small scale improvements to roads would be welcome by all types of road users. Potholes were a universal issue with respondents saying they damaged cars and injured joggers and cyclists. Respondents felt that low cost repairs and quick fixes are resulting in the potholes reoccurring within a short time. Repairing potholes may not contribute greatly to local growth, but respondents felt it would improve their quality of life. Improving the quality of roads can also help to improve bus services.

Reliance on cars is only sustainable with a transition to electric vehicles

Emissions from cars and vans were responsible for 19 per cent of the UK's total domestic greenhouse gas emissions in 2019.²⁶ Given the government's net zero aim, and the ban on the sale of new petrol and diesel vehicles from 2030, the continued reliance on cars in towns is only sustainable if there is a transition to electric vehicles. Chapter 3 looks at what the government is doing to support the rollout of electric vehicle charging infrastructure in towns.

Investment in cycling and walking infrastructure may encourage active travel

Most car journeys in England are short. In 2019 around 58 per cent of journeys were less than five miles and around 25 per cent were less than two miles.²⁷ This is why the government is aiming for half of all journeys in towns and cities to be cycled or walked by 2030.²⁸ There is recent evidence from outer London boroughs that targeted programmes of investments in cycling and walking infrastructure – segregated cycling lanes, traffic calming measures, redesigned town centres and pedestrian crossings – have led to an increase in active travel.²⁹ Earlier this year the government invited bids from non London local authority areas for funding for similar programmes of investments.³⁰

Public transport challenges in towns

Local public transport systems in towns are also important for connecting people to economic and social activities, particularly for people who do not have access to a car – 20 per cent of households outside London, and a higher proportion in more urban places relative to more rural.³¹ The need to provide public transport links to employment sites – particularly for jobs which require standard shift patterns or more flexible hours³² – was repeatedly noted as a challenge by participants in the Commission’s regional roundtables.

One participant described how a lack of public transport provision can create ‘employment moats’ in towns, where deprived communities can’t access jobs via public transport on what would be a short car trip. A recent report by the Joseph Rowntree Foundation cited the example of Hattersley, a town in Greater Manchester, where it would take a person leaving home at 5am well over an hour to access the nearby places where jobs are concentrated, ruling out starting a 6am shift using public transport.³³

This reflects one of the areas where towns differ from large cities – they are less dense. This means there tends to be more road space per person, which is good for car usage, but makes it more difficult to support the level of public transport provision usually delivered in cities – at least without substantial subsidies to account for lower ridership levels. There are some larger or denser towns where levels of public transport provision are more comparable to cities – for instance large towns like Reading, Bournemouth and Warrington, or towns within major conurbations, like Stockport. However, the transport services required to meet residents’ needs in towns will usually be different to those in large cities.

Box 1.3: Transport access to employment sites³⁴

The TK Maxx retail distribution centre in Wakefield opened in 2017, with approximately 2,000 workers employed on the site. The distribution centre was built on a former greenfield site adjacent to the A1 near the town of Knottingley, in the metropolitan district of Wakefield. The site is ideally located for logistics operations – with proximity to the A1 and the motorway network. However, accessibility can be more challenging for those working at the site, especially given the 24 hour a day shift patterns, it is not attractive for active modes and is poorly served by local bus services.

Given the poor accessibility of the site, as part of the planning consent process, the developer was obliged to organise a bus service. The site operator has contracted Arriva Yorkshire to deliver the TK1 and TK2 bus services, based around shift patterns on the site. These are limited stop services, which connect the distribution centre to Wakefield Bus Station via different routes through the area.³⁵

While this shows that targeted actions can be taken to ensure new development sites are connected to the public transport network it is only a limited solution. Without the hook of the planning consent process, connecting up existing sites with poor accessibility can be much more challenging.

Sherburn Industrial Estate is in Selby District in North Yorkshire, close to the eastern boundary of Wakefield District. Businesses on the estate often look to recruit workers from neighbouring West Yorkshire, particularly the eastern part of Wakefield District. However, there are few public transport links to the estate from West Yorkshire and they are poorly aligned with shift patterns of much of the estate’s activity.

A number of businesses on the estate have experienced labour shortages and the local authorities have sought to develop and deliver a public transport project to address access to the site, especially from West Yorkshire. This has required partnership working involving Selby Council, Wakefield Council, West Yorkshire Combined Authority and Leeds City Region Local Enterprise Partnership, as well as local businesses and Arriva.

However, a number of barriers have prevented a solution from being agreed. For example, getting different interests to cooperate has proved challenging, with business preferring to provide services for their own employees, rather than sharing contributions to a public transport service.

One interviewee in the Young Professionals Panel's research provided an anecdotal example of the impact of poor connectivity to employment sites. Despite being offered a salary increase and better career progression, the interviewee declined a new role at a business park due to the poor transport connections. Accessing the business park by public transport would have required a 10 minute bus ride followed by a 40 minute walk.

Digital

The rollout of faster broadband is accelerating in towns, and mobile connectivity is also generally good, although there is a risk that some households and premises may be left behind (this risk is considered in more detail in chapter 3).

Participants at the Commission's business roundtable emphasised the importance of good digital connections since the Covid-19 pandemic began. Shortcomings in home and mobile connectivity in some places were seen to have held back businesses amid increased working from home (networks which had previously relied on a main data connection to an office were now much more dispersed); this is reflected in survey data of experiences during the past 18 months.³⁶ While towns differ from cities less on digital than they do on transport infrastructure, an increase in homeworking may provide an opportunity for some towns that are attractive places to live. Towns outside the current commuting reach of cities may see higher earners relocate to them, if there is a permanent shift to more homeworking.³⁷

Another opportunity for towns may be through 5G networks: some businesses that rely on cutting edge telecommunications, such as manufacturing firms using real time monitoring,³⁸ or tourist services using augmented reality,³⁹ may need to operate in an area with access to a widespread 5G network and will prioritise towns that have this.

Box 1.4: Infrastructure priorities of town residents

To support the study's analysis, a piece of social research was commissioned to better understand the views of residents on infrastructure in their towns.

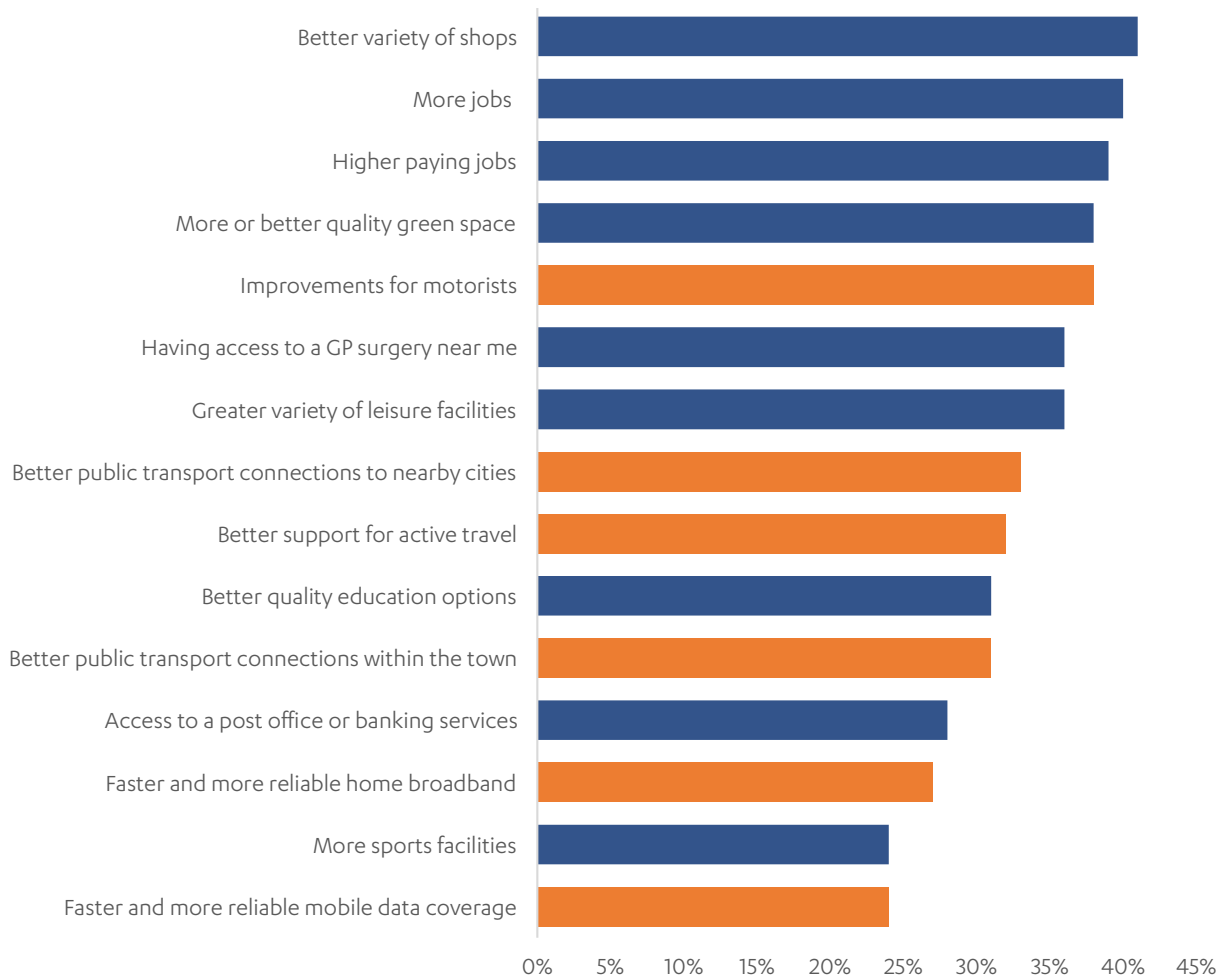
The research found that improvements for motorists were the main infrastructure priority of residents in towns, with potholes a specific concern for participants. Better public transport connections were also a priority for many residents, particularly those who lived in smaller towns and rural areas.

This accords with the reported levels of satisfaction with infrastructure services from the survey. Residents were generally satisfied with digital connectivity – with a net satisfaction of 58 per cent – but less so with transport, especially roads, which had the lowest net satisfaction level at only seven per cent. Cycling infrastructure had the lowest number of people who were satisfied, but most respondents did not have clear views and dissatisfaction with cycling infrastructure was relatively low.

Participants were asked to rank infrastructure priorities alongside improvements to amenities, green space and jobs. While none of the three highest priorities overall were infrastructure related, they still scored highly, particularly improvements for motorists. Improvements to digital infrastructure were not prioritised as highly, reflecting generally high satisfaction.

Figure 1. 5: Improvements for motorists, such as increased parking availability, were the main infrastructure priority of residents in towns

The Commission's social research showing the percentage of people who ranked the listed issues as one of their top five issues for their town



Source: PWC (2021), [NIC Towns Social Research Study: Final report](#)

There are opportunities to improve infrastructure in all towns

The Commission set out a framework in 2020 for how infrastructure can support regional economic growth. The paper set out three pathways through which this could happen:

- addressing constraints to growth
- contributing to transformation
- supporting universal provision.⁴⁰

Given that 90 per cent of towns in England have a population of fewer than 80,000 people, most infrastructure investments in towns will be relatively small scale.⁴¹ Most investments will address local constraints to growth, such as improvements to a road junction to ease congestion, or support universal provision, or the provision of new cycling lanes to support active travel. These investments may not be important strategically but they can have substantial effects locally, be delivered relatively quickly and are often able to offer high returns in terms of value for money and welfare benefits.⁴² Modestly sized projects can also support larger social or economic changes over the long term, as demonstrated by the example of Stevenage in Box 1.5.

The maintenance and enhancement of the existing infrastructure networks in towns are the type of interventions that residents in towns want to see prioritised, such as ensuring good quality roads and pavements without potholes. Given the public can be sceptical about both the delivery and impact of major projects,⁴³ prioritising more modest interventions is likely to be seen as a better demonstration of progress.

Infrastructure investment is therefore most likely to enable incremental change and improvements, rather than transform the fortunes of a town. But the value of this should not be overlooked – major transformative changes are not possible everywhere and, unlike cities, towns are unlikely to have the population density required to achieve large productivity changes through agglomeration effects.⁴⁴

Towns are different to cities and levelling up should not mean trying to get every place to achieve the same level of productivity. Rather, all regions and functional economic areas – including towns and cities – should be supported to achieve their economic potential. Levelling up in one place must not be at the expense of another.

Box 1.5: Stevenage case study

Stevenage has a long history, prospering as a staging post due to its proximity to the Great North Road. Good rail links and modern housing made Stevenage an attractive place for new industries by the end of the 19th century.⁴⁵

Stevenage was chosen as the first of eight New Towns in the Greater London area after the Second World War and a Development Corporation was set up in 1946. The masterplan included a pedestrianised town centre with six planned neighbourhoods. This affordable housing, together with good road and rail links, meant Stevenage remained attractive to new industries and businesses.

Today, Stevenage is a major hub for firms in the STEM, advanced manufacturing and life sciences sectors. Stevenage was also chosen to be the location of the Cell and Gene Therapy Catapult manufacturing centre and GlaxoSmithKline recently announced plans to turn its site into one of Europe's largest life science campuses.⁴⁶

Challenges

Despite its continued success in attracting businesses, Stevenage faces a number of challenges, as described to the Commission by local officials:

- substantial lack of investment in the town's infrastructure over many years, exacerbated as a result of the New Town development with a number of assets ageing at the same time
- a town centre which needs to adapt at pace and create a broader offer given the stark decline of traditional retail
- physical barriers within the central parts of the town, creating separation between the town centre, employment areas and other parts of the town
- a need to enhance skills levels to enable more local people to access high quality jobs in the growing sectors within the town.

How infrastructure is supporting the town centre regeneration

Much of the town centre was built as part of the New Town development and the lack of recent investment is visible. For example, accessing the town centre from the train station involves crossing a bridge over a six lane carriageway, a number of car parks, and then walking through the run down bus station.

Stevenage has developed a 20 year regeneration plan, leveraging public funding and working to draw in private investment to transform the town centre. Key features of this programme include a partnership between the council and Mace to deliver the 'SG1' scheme covering 14 acres of the town centre.

The regeneration plan focuses on converting much of the town centre to residential and leisure use, as well as providing new social infrastructure and amenities. The first steps in the regeneration plan have been repaving the town centre and replacing and relocating the bus station, due to be completed in September 2021. In place of the bus station, a garden square is planned to help persuade people and businesses to move to the town centre, to create footfall, attract leisure and hospitality, and create an evening economy.

Part of the regeneration plan is being funded by a Town Deal of around £37.5 million, to create an improved local environment, jobs and skills opportunities and improved sports and leisure facilities.

While Stevenage station has a good central location and connections, the area around the station can act as a barrier between the town centre and businesses. Workers at the STEM and life science companies, based on the other side of the train station, have to walk through the station to access the town centre. Despite the short distance, few choose to do so and the council would like to build a 'pedestrian boulevard' to link the business areas to the town centre.

Opportunities for transformational change may also exist

While infrastructure can support growth in towns and the quality of life of their residents, there may also be opportunities for infrastructure to support more transformative changes in some towns. Transformational opportunities may require more targeted interventions, likely at scale, and sustained over a period of time.

Although transformation is high risk given the number of pre conditions required for success, such possibilities do exist.⁴⁷ The regeneration of Salford Quays shows how a suburban centre can be transformed. This began in the 1980s, with the extension of the Manchester Metrolink in the 1990s and continued with the development of Media City from the mid 2000s.⁴⁸ A number of towns and cities have shown improvements in their fortunes over recent years, such as Peterborough and Swindon.⁴⁹

It is also important to remember that transformational change is also about changing structures.⁵⁰ A structural change may not have an immediate impact on economic metrics but could help address decline or provide the conditions for long term growth.⁵¹ Any supporting infrastructure investments need to be targeted at ensuring the local area benefits from transformational changes. Box 1.6 describes how structural changes to Grimsby's economy may provide an example of this.

Box 1.6: Grimsby's changing economy

Historically, Grimsby's core industry was fishing. However, the industry began to decline in the 1970s and the Port of Grimsby has seen a substantial shift towards multinational energy businesses working alongside the established food processing industry.⁵²

It is the closest port to a number of major windfarms, including Hornsea 1, the largest windfarm in the world. Hornsea 2, which will be even larger, is already under construction.⁵³ Several large, multinational businesses – including Danish power company Ørsted – are now using the Port of Grimsby as a base for their offshore operations, which are continuing to expand.⁵⁴

To support further growth in the industry, the Humber Link Road was opened earlier this year as part of the wider South Humber Industrial Investment Programme (SHIIP). In addition to the creation of a new business park and a first of its kind advanced ecological mitigation scheme, this investment in infrastructure provides a strategic link between Grimsby and the neighbouring port of Immingham. It has significantly improved connectivity between the ports, renewable energy businesses and other industrial sites between the ports and should support future planned investment.⁵⁵

Local leaders recognise that such ambitious levels of change take time and significant further investment in town centre regeneration is planned, as part of Grimsby's Town Deal. The recently agreed Humber Freeport is also seen as an important next step and catalyst for investment.

The Commission has identified two possible routes through which infrastructure, alongside other policy interventions, could help support transformation and which are particularly relevant to towns:

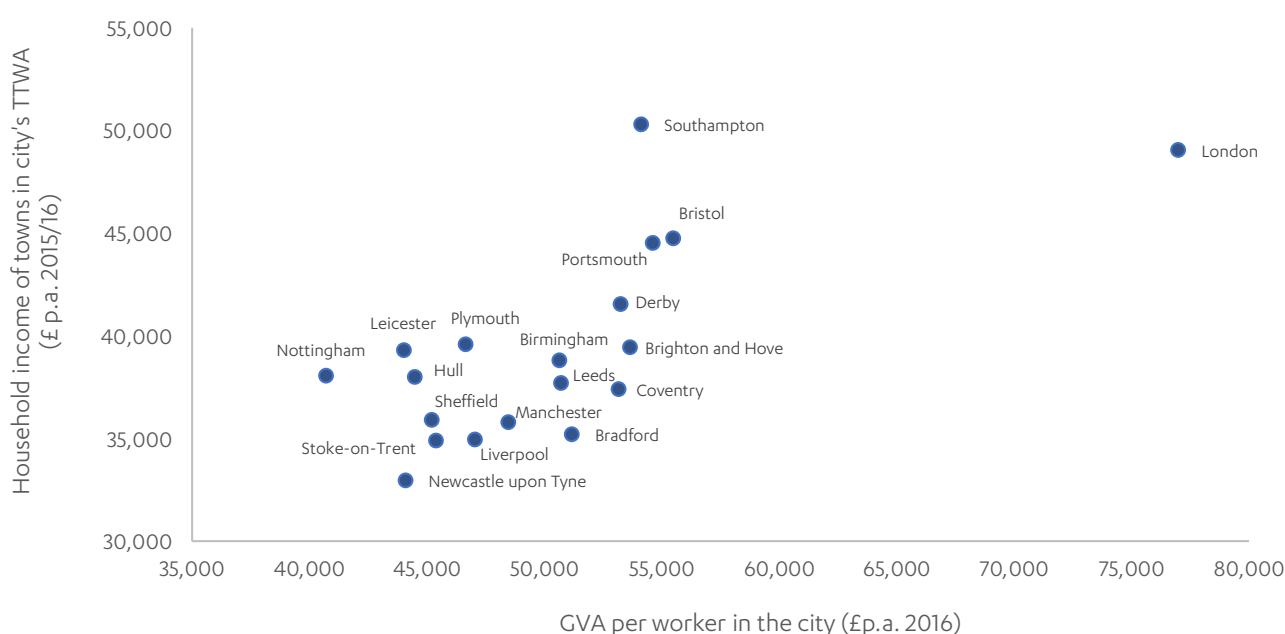
- creating stronger links between a town and its nearest city
- infrastructure that complements new economic development.

Creating stronger links between a town and its nearest city

The first opportunity involves better integration of a town into the economy of its nearest city. Research has found that there is a strong correlation between the economic performance of a town and that of a nearby city.⁵⁶ Towns close to a productive city, with strong economic links to that city, tend to see better outcomes and, inversely, towns linked to a less productive city tend to do less well.⁵⁷ Research has found that some towns, such as Chippenham and Newbury, have strong economies and weak labour market links to cities, but that they are the exception rather than the rule.⁵⁸

Figure 1.6: There is a positive correlation between household incomes in towns and the productivity of their nearest city

Horizontal axis shows productivity (gross value added per worker) in local authority district area covering the city centre;⁵⁹ vertical axis shows median household income for people living in towns within each city's travel to work area⁶⁰



Source: Office for National Statistics (2020), [Income estimates for small areas, England and Wales](#) (aggregated from MSOAs to BUAs); Office for National Statistics (2017), [Regional gross value added \(balanced\) by local authority in the UK](#); Office for National Statistics (2018), [UK Business Register and Employment Survey: provisional results 2017, revised results 2016](#); Office for National Statistics (2016), [Travel to work area analysis in Great Britain](#)

However, proximity and connectivity to a productive city alone are not sufficient to deliver a productive town-city relationship. The economic links need to be deeper, and in particular town residents need to have the right skills to take advantage of employment opportunities in the city. Good transport connectivity between the city and nearby towns is necessary to lay the foundations for this relationship.

The expansion of the West Midlands Metro is hoping to deliver this outcome. The first phase of the expansion, planned to open in 2022, will connect towns such as Dudley to Birmingham city centre. Dudley has relatively low economic outcomes and poor rail links at present,⁶¹ and Birmingham generally has high levels of congestion.⁶² There are no guarantees that this will improve Dudley's fortunes, but it could provide support for future growth, especially alongside measures to improve Birmingham's below average productivity.

While transformational success cannot be guaranteed, towns near to cities, especially successful ones, should try to make the most of this geographical advantage.⁶³ If transport connections between the town and city can be improved, then the impact could be significant. West Yorkshire Combined Authority's mass transit plans for Leeds offers a similar example. Leeds is the most productive part of the city region, but connectivity to many of its surrounding towns could be improved, especially as rail capacity into Leeds is already heavily constrained.⁶⁴ A mass transit scheme could both support the further growth and expansion of Leeds, while also allowing the surrounding towns to contribute to this and share in the benefits.

As these examples show, the relationship between towns and city centres is already being considered by city regions. The Commission's previous recommendations on devolved transport budgets for cities could help to ensure plans are delivered. At Budget 2020, government committed to provide £4.2 billion of five year transport settlements for eight mayoral combined authorities.⁶⁵ The Commission recommended that the government should go further by commencing development work on a series of large scale urban transport projects for the 2030s, which could possibly bring transformation opportunities to towns in the areas surrounding cities.

Infrastructure that complements new economic development

The second opportunity for improvement is where a change in broader economic conditions increases the economic potential of a town. If the nature of economic activity changes, the locational requirements of business may also change, possibly favouring some previously struggling towns.

The long term consequences of the Covid-19 pandemic could include changes in where people live and work, creating new economic opportunities for towns in some locations. The Commission considered the possible effects of such changes in its recent report on possible long term behaviour change following the pandemic.⁶⁶

Changes to energy policy and actions to meet the government's net zero target could also create further opportunities. For example, the development of offshore wind energy has created new opportunities for coastal towns close to large wind farms, such as Grimsby. Further changes such as the development of hydrogen and carbon capture and storage could create further opportunities for some towns, especially where growing industries are clustered together – an opportunity identified in the Humber local industrial strategy.⁶⁷

Major strategic transport projects may also provide opportunities for relevant towns, as well as the cities that are usually their focus. The Commission's *Rail Needs Assessment for the Midlands and the North* provided some examples of where opportunities may be created for towns from major rail projects. In particular, there are possible benefits for improvements to local rail services, as capacity is released by new city to city links.⁶⁸ There are also likely to be investment and development options for towns that are served by stations on the route, such as Crewe or Solihull.

Some of these opportunities will only be relevant to a small set of places with the right characteristics or geographic location. Others will be more widely relevant, but certain towns will have a competitive advantage that gives them a better chance to seize the opportunity.

Infrastructure interventions are unlikely to be the leading cause creating these types of opportunities. However, the absence of the right infrastructure, or the inability of local authorities to quickly make improvements to adapt to change, could be an obstacle to taking advantage of an opportunity that arises.

In some cases, central government may try to influence whether and how towns (and the wider economy) respond to changing economic conditions. As set out in the Commission's report on the behavioural impacts of the Covid-19 pandemic, this is particularly relevant for changes where a range of scenarios are plausible.⁶⁹ For example, last year, the Welsh Government set a long term ambition for 30 per cent of the workforce to work from, or near to their homes.⁷⁰ It has begun exploring how to deliver this, including through trialling different ways of providing remote working hubs.⁷¹

Infrastructure can support quality of life in towns

In addition to supporting growth, infrastructure can also increase quality of life and economic inclusion.⁷² Private and public transport availability is important to quality of life because, as well as employment, it provides access for people to retail, leisure, education and health services. Participants at the Commission's quality of life roundtable said that new housing estates in towns were often planned without sufficient consideration for public transport links. This can lead to social exclusion with new estates being effectively cut off from the rest of the town for those without access to a car. The Commission estimates around 20 per cent of households in towns do not have access to a car.⁷³

Transport infrastructure can have positive and negative effects on physical and mental health, which are important factors for quality of life. Cycling and walking has health benefits and modal shift can help improve air quality and reduce emissions and congestion.⁷⁴ The most effective active travel interventions are those that improve the accessibility and convenience of walking and cycling and reduce the possibility of conflict between users.⁷⁵

The design of infrastructure has an important effect on natural and local surroundings, another important factor for quality of life. The Commission has published design principles for national infrastructure which encourage people involved in commissioning, designing and constructing infrastructure to consider the effects that infrastructure has on climate, people and place. If these principles are followed when designing infrastructure in towns, there should be a benefit for quality of life.⁷⁶

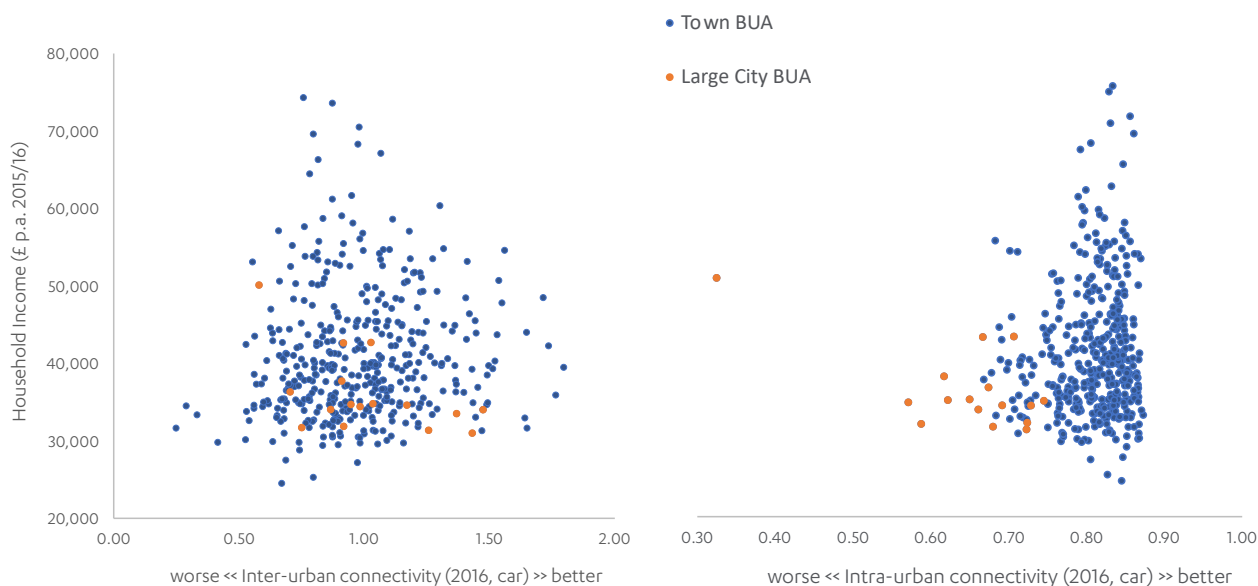
Infrastructure should be designed for people, and not for the architects or engineers who design and construct it. The needs of the people who use it, and those who live and work nearby, should be the primary concern. This includes making all users feel safe, such as by ensuring that cycle lanes are well segregated from traffic and walkways are well lit. Research has shown that safety concerns are a factor in the willingness of people to use public transport in particular.⁷⁷

Infrastructure is not the only way of supporting economic growth and quality of life in towns

Although important, infrastructure interventions are not a panacea and there is no single policy that can drive local economic growth. There is no straightforward relationship between measures of transport connectivity and economic and quality of life outcomes, as illustrated with regard to incomes in figure 1.7. There is no guarantee that more or better transport infrastructure will lead to improvements in economic growth and quality of life outcomes. Unless infrastructure constraints are demonstrably impacting these outcomes – for example, through substantial levels of congestion – it is unlikely to be the primary policy lever to turn around a town's fortunes.

Figure 1.7: There is not a direct relationship between transport connectivity and economic outcomes in towns

Relationship between connectivity and average incomes of households in built up areas (excluding large cities); both for connectivity within (intra) and between (inter) built up areas



Source: National Infrastructure Assessment (2019), [Transport connectivity dataset](#); Office for National Statistics (2020), [Household Income estimates for small areas, England and Wales](#) (aggregated from MSOAs to BUAs)

There are other measures that show a much stronger correlation with economic and quality of life outcomes in towns, especially skills. The general relationship between skills and economic outcomes has been discussed extensively,⁷⁸ but is also backed up by research at town level. The availability of a skilled workforce makes a substantial difference to the economies of towns – those with a highly skilled population tend to focus on higher value activities. This is self reinforcing, attracting further high skilled industries and labour, whereas a low skills base does not attract high value economic activity and discourages the growth of high skilled labour.⁷⁹

However, it is not sufficient to improve access to education, or education outcomes. Rather, other factors that affect where people live and work, such as housing and the quality of amenities and services, also need to be considered.⁸⁰ Infrastructure can play a role in enabling successful delivery of these other interventions, indeed it is necessary for many of them. Sustained local growth needs to be rooted in local strategies, covering a range of coordinated policy areas. These strategies need to be locally designed and focused, as set out in the next chapter.

2. Developing and delivering local infrastructure strategies

This chapter sets out the need for local government to develop and implement local infrastructure strategies for their area that complement wider place based plans for individual towns. Local government struggles to do this effectively at present because of the funding system for local infrastructure. The model of allocating funding to local government needs rethinking as there are too many short term pots of funding focused on narrow policy objectives.

The current fragmented funding for local government has left authorities unable to plan for the long term as the total funding available is uncertain with much funding dependent on bids subject to a patchwork of competitive processes. This way of funding is a substantial impediment to achieving the levelling up goals of government.

Local government needs to be given the responsibility and funding that it needs to develop and implement effective infrastructure strategies and wider town plans. The Commission therefore recommends that the government provides:

1. certainty over funding by consolidating the current funding streams into devolved five year budgets for county and unitary authorities
2. targeted funding for the places where infrastructure can support transformational opportunities
3. expert support and advice to help build capacity and capability in local authorities.

The total funding available for local transport in England outside London should be around £6 billion per year, around a 40 per cent increase on 2019/20. To facilitate accountability and transparency, infrastructure strategies and wider town plans should set clear outcomes and provide assessments after their implementation to determine whether those outcomes have been achieved.

Local government and responsibility for transport

The structure of local government in England is complex, with most of the country having two tiers of government with responsibility for services split between them. There are 26 county councils making up the upper tier, and 188 district councils that make up the lower tier, and each tier has different responsibilities.

County councils are responsible for transport planning, buses, highways, street lighting and traffic management. District councils are responsible for environmental health and street cleaning. Some functions, such as parking, can be the responsibility of either.⁸¹

For other areas there is a single tier of local government where the council are largely responsible for all services within their area. This includes 56 unitary authorities, the 32 London boroughs and the City of London, and the 36 metropolitan districts which cover large urban areas in Greater Manchester, Merseyside, South Yorkshire, Tyne and Wear, the West Midlands, and West Yorkshire.⁸²

There are also around 9,000 town and parish councils in England, which operate a level below district councils and unitary authorities. They generally do not have statutory functions but are often responsible for smaller local services such as allotments, parks and community centres.⁸³

Changes to local government structure and authority boundaries are out of scope of the terms of reference for this study.⁸⁴

Combined authorities

Separate to this structure are the ten combined authorities (nine mayoral combined authorities and the North East combined authority, which is not led by a mayor). Local authorities in these areas (largely unitary authorities and metropolitan districts) have merged and agreed devolution deals with the government. Each deal has common elements and area specific elements. One of the common elements is a combined multiyear transport investment budget for the area: the combined authority manages this budget and plans investments.⁸⁵ For London boroughs, the Greater London Authority performs a similar role.

Outside of the combined authorities and London, there are 74 county councils or unitary authorities that are responsible for strategic transport planning. These are the local authorities at which the recommendations in this chapter are largely aimed.

Infrastructure strategies and the wider vision for a town

To have the best chance of enabling growth and contributing to quality of life in towns, transport investment needs to be planned as part of a long term infrastructure strategy which complements the wider visions for an individual town. Those strategies need to be adaptable and supported by a pipeline of projects. At present, the funding arrangements for local transport and the imbalances in the capacity and capability in local authorities prevent this happening as effectively as it could.

Strategies that support the wider vision for towns

Where not in place already, local authorities should develop long term strategies that consider the transport needs for the area alongside other infrastructure. These strategies should be in alignment with wider, place based economic development plans for towns that are part of the county or unitary authority, including local plans developed by district authorities. This was a common theme across the regional roundtables held by the Commission to support this study.

Transport investment needs to enable people to make journeys that allow them to live and work where they want to, and to connect people to services and amenities. Transport needs to be planned for the long term, alongside housing and employment, ensuring transport connections are thought about alongside where new housing and business development is likely to occur. The Commission set out the importance of this for urban infrastructure in the *National Infrastructure Assessment*. This applies as equally to medium and large towns as it does to the largest cities.

Strategies that can adapt to changing conditions

Another common theme from the regional roundtables held by the Commission was the importance of strategies adapting to changing behaviours, particularly in the context of the Covid-19 pandemic. Representatives discussed how people were now using digital services for activities such as homeworking, retail and leisure where previously these would have been accessed by transport services.

The Commission's recent *Behaviour change and infrastructure beyond Covid-19* report set out scenarios for longer term changes in where people live and work and use infrastructure.⁸⁶ There may be benefits for some towns, such as increased local spending due to greater homeworking. There may be challenges too – a small increase in road traffic could lead to congestion in some town centres.⁸⁷ Local authorities will need to be able to adapt to whichever scenario plays out and strategies should take into account the possibility of reallocating resources between different types of infrastructure.

Strategies should be supported by a pipeline of infrastructure projects

Local infrastructure strategies should be supported by a pipeline of transport projects. This will allow towns to take into account the bigger picture when planning and delivering infrastructure projects. It will also help ensure that projects are sequenced in the optimal order, avoiding the tendency, as described by a representative at one of the regional roundtables, to deliver whichever projects are easiest to begin or whichever type of projects have had funding made available.

Funding arrangements and capacity and capability

Local authorities are generally aware of the transport issues in their area and what the solutions should be. But, in practice, this does not always translate into fully integrated infrastructure strategies.

The Commission has identified two main issues that have made this difficult: funding is often short term, fragmented and too much under the control of central government; and the capacity and capability of local government to develop good strategies and wider place based plans for towns varies across England. These were two of the main pieces of feedback from the roundtables the Commission arranged to support the study, as set out in Box 2.1.

Box 2.1: Summary of the feedback from the Commission's regional roundtables

A large part of the evidence base for the study was developed through a series of roundtables with local officials and experts. The Commission held five regional roundtables and five thematic roundtables. The main themes raised during these roundtables are summarised below:

Regional roundtables

- **More local decision making:** There is a need for increased local decision making – central government, with its limited understanding of regional and local economies, may not view projects that are important locally as priorities.
- **Difficulties in planning long term:** The funding system prevents the development of long term infrastructure plans and pipelines of projects – at present plans end up being shaped around the available funding streams and deadlines for spending funds are too short.
- **Problems with competitive bidding:** Competitive bidding wastes resources that are already scarce and leads to local authorities competing against each other, inhibiting the formation of partnerships between the places.
- **Capacity concerns:** The capacity of local authorities to compete in competitive bidding processes should not be the deciding factor in determining funding allocations, this can exacerbate regional disparities.

Thematic roundtables

- **Universal provision:** Business roundtable participants said it was important to ensure everywhere gets the basics right in terms of digital and transport connectivity: a lack of basic digital connectivity had held some businesses back during the pandemic and electric vehicle charging needs to be seen as a basic universal need rather than a 'nice to have'.
- **Local digital capital:** Digital roundtable participants discussed the building blocks that make up strong local digital economies (or 'local digital capital', a concept developed by techUK), including factors such as widespread access to digital infrastructure, adoption of digital services by businesses and consumers, and digital skills.
- **Integrated planning:** Transport roundtable participants agreed that transport infrastructure was necessary but not sufficient to change the fortunes of a town; public transport planning needed to be integrated with the vision for a place, and it was particularly important to plan housing, transport and employment together.
- **Economic geography:** Economic growth roundtable participants said towns should be thought about as part of their regions, particularly from a labour market perspective; they emphasised the importance of non infrastructure policy areas, such as education and skills, for growth in towns.
- **Digital skills and transport data use:** Quality of life roundtable participants said that the issue with digital infrastructure was not its availability but more about how people used digital services and whether they had the skills to do so most effectively; recent research into the positive effects on health of active travel schemes was flagged and transport planning could make better use of existing data on the journeys people undertake.

The rest of this chapter sets out the Commission's proposed solutions: best practice guidance for developing strategies, and recommendations to central government on funding reform and support for local authorities to build capacity and capability.

Best practice for developing strategies and plans

This section sets out the fundamental requirements for what makes a good infrastructure strategy for an area that includes towns. The details of strategies will differ between places but there are common elements that are necessary, and which also apply to wider place based plans for individual towns. They should:

- be developed locally
- build on the existing strengths of towns
- support the government's net zero target
- provide clear, measurable outcomes which are subject to ex post assessment.

The section also includes a set of principles to help local authorities develop infrastructure strategies, and suggested areas which infrastructure strategies should cover.

Infrastructure strategies should be developed and led locally

Infrastructure strategies, and wider place based plans for towns, need to be developed and led locally. As discussed in the previous chapter, most infrastructure investments in towns will take place at a local scale. This means that plans need to be developed and determined locally, by people who understand the needs and strengths of the area and can take account of the local context.

Representatives at the Commission's regional roundtables expressed frustration that too many decisions are made at the national level and that central government is not close enough to local economies to understand their needs. Representatives also stressed the importance of local partnerships to deliver plans, which is best facilitated when plans are developed locally.

Basildon, one of the case studies for the Commission's Cities Programme, offers a good example of locally led planning and a productive partnership. Basildon Borough Council has worked closely with Essex County Council to develop a long term strategy for the town, enabling them to pool resources and expertise. Local leadership has facilitated the development of a detailed evidence base understanding of the challenges and opportunities for Basildon, to inform priorities for the strategy.⁸⁸

Strategies and plans that are led locally can also help facilitate the involvement of the private sector. Attracting private sector investment is a key aim of economic regeneration and it is best done by involving private sector partners in the design of infrastructure strategies. Stevenage partnered with Mace to deliver its town regeneration plan with the scheme expected to bring £350 million of private investment into the town.⁸⁹

Infrastructure strategies should build on the existing strengths of towns

Infrastructure strategies, and wider plans, should look to build on the existing strengths of towns. This will give infrastructure the best chance of enabling growth. There are however too many examples of generic rather than distinctive place specific plans: the Commission's case studies provide good examples of distinctive plans in action.

As discussed in Box 1.5 in Chapter 1, Stevenage is planning a new pedestrian walkway to better link its business parks with the town centre. This is a good example of an infrastructure project building on an existing strength – the presence of high skilled employers – to support the regeneration of the town centre. Demand from workers with easier access will help attract new retail and hospitality businesses to the town centre.

Plans for regeneration in Grimsby also look to build on the area's existing strengths, as explained in Box 2.2.

Box 2.2: Regeneration in Grimsby

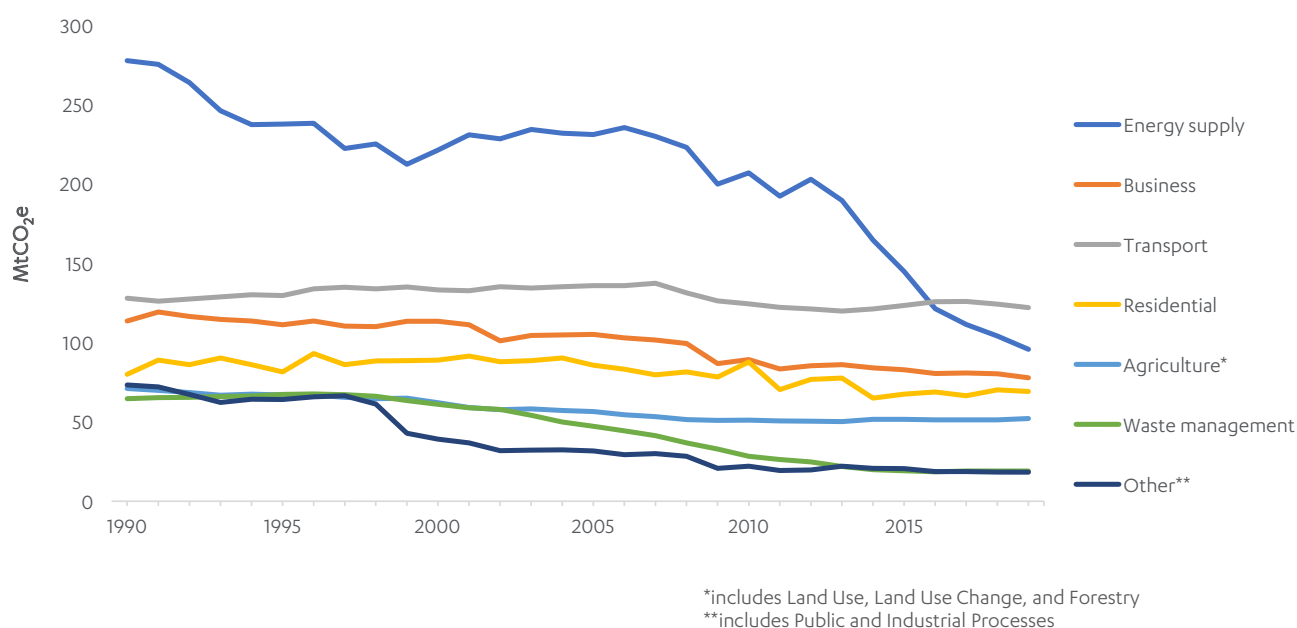
Grimsby was the first town in the UK to secure a Town Deal with the government. The 2018 deal is a partnership between the government and the council and is focused on providing investment and support to boost growth and help regenerate the town.⁹⁰

The regeneration plan seeks to build on Grimsby's strengths by reconnecting the town with the waterfront and making use of its maritime heritage buildings. The proximity of Grimsby's town centre to the waterfront offers a substantial opportunity to attract consumers and businesses but it is not being taken advantage of at present: the waterfront and docks are difficult to access and not clearly visible to visitors to the town centre and many of the heritage buildings are not in use. The regeneration plan looks to integrate the waterfront into the town centre through the delivery of a clear masterplan supported by secured funding including from the Future High Streets Fund and the Towns Fund. Officials told us that this includes:

- a coordinated approach to the enhancement of public realm and new pedestrian paths
- the development of new leisure facilities
- a focal point for the green energy industry
- investment in heritage and culture together with a clear plan to deliver aspirational town centre living.⁹¹

Infrastructure strategies should support the government's net zero target

Transport makes the largest contribution to the UK's greenhouse gas emissions. In 2019 it contributed 27 per cent of the UK's domestic emissions.⁹² There has been little change in emissions from the transport sector since 1990, as shown in Figure 2.1.

Figure 2.1: Transport is the largest contributor to the UK's greenhouse gas emissions*UK's domestic greenhouse gas emissions by sector, 1990 to 2019⁹³*

Source: Department for Business, Energy & Industrial Strategy (2021), [Final UK greenhouse gas emissions national statistics: 1990 to 2019](#)

Local authorities must make greenhouse gas emissions reductions a fundamental part of local transport planning. Local infrastructure strategies should consider how local interventions in transport systems can lower local emissions, and invest in schemes with clear outcomes that contribute to measurable targets for reductions in greenhouse gas emissions.

Electrification of transport will have a major effect on reaching net zero and the rollout of the charging network is discussed in Chapter 3. Electrification of vehicles will also need to be complemented by modal shift towards active and public transport to reduce emissions in the carbon budgets before full electrification is achieved – as reflected in advice from the Committee on Climate Change.⁹⁴

Central government will need to take the lead role in ensuring that owners and operators of cars, buses, trains and freight all upgrade to zero emission vehicles in the timescales required. The exact mix and pace of electrification and modal shift will vary from place to place depending on geography, density and existing transport systems. Local places will be best placed to identify the right mix of interventions to ensure that net zero infrastructure is delivered in parallel with other transport objectives.

Infrastructure strategies should support accountability and transparency

Infrastructure strategies and wider place based plans for towns will need to set out clear, transparent outcomes, and carry out ex post assessments of whether the outcomes have been achieved.

Principles for developing effective strategies and plans

The Commission developed a set of eight principles as part of its Cities Programme to help urban areas develop effective infrastructure strategies.⁹⁵ These principles will be helpful to local authorities in developing infrastructure strategies and wider place based plans for towns. The principles are summarised in Box 2.3.

Box 2.3: The Commission's eight principles for developing effective strategies and plans

The eight principles from the Cities Programme are summarised below, adapted slightly for towns. The principles do not need to be considered in sequence and they may not all need to be used – some may not be appropriate to a given place or the aims of the principle may already have been achieved.

1. Vision

A local infrastructure strategy should demonstrate an ambitious yet realistic long term vision that sets the trajectory for future change. The vision should be place based, incorporating the economy, the environment and health and wellbeing, building on a town's existing strengths where possible. As part of considering the vision, the town should also consider the type of outcomes that are desired (for example, improved access to the town centre by public transport) and develop measurable objectives that support the vision.

2. Scope

When developing an infrastructure strategy, it is important from the start to determine the geographical area that it covers. The functional economic geography of an area may involve neighbouring authorities, which may mean a partnership between places would work best.

When determining the scope, it is also important to consider the issues beyond infrastructure, which the strategy will need to consider, and to ensure the strategy complements and builds on existing strategies that have been developed in these areas, whether at the local, regional or national level.

The scoping stage may also be a good point to consider delivery mechanisms for the strategy, including how best to secure private sector involvement.

3. Engage and consult

Infrastructure planning should not be undertaken by planners alone. The most successful infrastructure strategies seek to engage and build consensus. This should happen internally within local authorities, including working across political parties and externally with business and resident groups. Engagement can also take place with other towns and authorities, enabling best practice to be shared.

4. Evidence

For a strategy to have credibility, it will need to be based on evidence. When developing a strategy, towns should gather evidence about the performance of existing infrastructure, future needs and the likely benefits that interventions will bring. Evidence could include developing scenarios, modelling, stakeholder engagement, social research, expert roundtables, commissioning new analysis and learning from the experience of other towns.

5. Options

Strategies should consider different options for achieving the town's vision and objectives. Developing a strategy with a fixed idea of what interventions are required means that opportunities may be missed that provide better value for money or that have wider beneficial effects. For example, it is often more

cost effective to consider regulation, pricing, operating models and timetabling as alternatives to building new infrastructure. The engagement and consultation process and evidence gathering will help towns understand what options may exist to achieve their desired outcomes.

6. Test

Strategies should be adaptable to changing conditions. To help with this, a sifting exercise should be carried out on the initial list of options to identify the best candidates. This should consider the extent to which the option meets the objective, its cost and deliverability and how acceptable it will be to users, the wider public and other stakeholders.

Likely options can then be stress tested to understand whether they are likely to cope with a range of future outcomes. Scenario planning and foresight resources can be used to help plan for uncertainty. This process can be used to identify the approaches with no, or least, regrets, which are therefore more robust to future uncertainty – and those which are more dependent upon certain future conditions being fulfilled.

7. Prioritise

For a strategy to be credible, it must remain pragmatic and achievable. Taking the outputs from the options and testing stages, the strategy should identify which actions are priorities for action, with each linked clearly to the objectives of the strategy. Consideration should be made of which schemes and investments are most important for achieving the objectives: it may be more beneficial longer term to prioritise schemes with the greatest cumulative benefits, rather than individual schemes that have the greatest benefits when assessed alone.

The sequencing of actions and investments is also an important consideration. Some schemes and investments may need to be in place to maximise the benefits that other schemes and investments can bring.

8. Evaluate

Monitoring and evaluation of the effects of strategies, and the extent to which they achieve their objectives, is crucial for developing an evidence base as to what interventions work. Evaluation should not wait until the strategy has been fully implemented, it can take place earlier as it can allow places to refine and adapt their strategies. Local authorities should plan for evaluation in the early stages of developing a strategy, ensuring that they have sufficient budget and resource for evaluation.

The What Works Centre for Local Economic Growth has produced a range of resources to help evaluation of policies and projects, including an eight step guide to better evaluation. There are a range of metrics that can be used to determine success: public opinion, passenger numbers, reliability, customer satisfaction, congestion and air quality.⁹⁶

Areas to consider in local infrastructure strategies

While each town is different and will have its own distinct priorities and infrastructure challenges, there are common issues across digital and transport infrastructure that are likely to arise. Some of the likely common issues that local authorities may wish to consider in their strategies are:

- improving road maintenance and potholes
- supporting bus operators to provide alternative access for those who cannot use a car
- integrating active travel into local transport strategies, providing high quality, safe and accessible routes to where people want to go
- considering transport infrastructure together with plans for land use and town centre regeneration and investment
- championing the design of good quality infrastructure, including consideration of the Commission's design principles for national infrastructure
- supporting the rapid rollout of gigabit broadband and the deployment of 5G
- supporting the rollout of electric vehicle charging infrastructure.

Recommendation 1: Every local transport authority should have a long term infrastructure strategy for the towns in its area, supported by a pipeline of projects. These strategies should be developed locally and collaboratively as part of, or complementary to, distinctive 15 year place based plans for the economic development of towns. Infrastructure strategies and wider plans should draw on local strengths, presenting a distinctive vision for towns. To ensure accountability, infrastructure strategies and wider plans should set out clear, transparent outcomes and, at the end of each five year funding period (see recommendation 2), local authorities will need to carry out assessments of whether those outcomes have been achieved.

This recommendation is made together with the recommendation to provide the 74 county councils and unitary authorities with devolved five year infrastructure budgets (see recommendation 2).

Funding local transport infrastructure

The main barrier to developing effective long term local infrastructure strategies is the funding system for local transport infrastructure. This section discusses the problems with the current system: funding is often short term, it is ringfenced for particular activities and includes multiple different funding streams that require centralised competitive bidding. This prevents the effective development of local long term plans. The Commission believes the current system should be replaced by consolidating the funding provided through multiple pots into a dual track approach: long term devolved budgets and targeted funding for priority places where infrastructure investment could have a significant additional impact.

Funding for local government

Whether single or two tier, local authorities have access to three main sources of finance: council tax receipts, a proportion of business rates raised within the authority area, and funding from central government. In 2018/19, local authorities in England received, on average, 52 per cent of their funding from council tax, 17 per cent from retained business rates and 31 per cent from central government.⁹⁷

Funding from central government is provided through a number of grants for revenue spending (day to day resources and administration) and capital spending (for investment in physical assets or knowledge). For revenue spending, the level of grants for local authorities are decided through the annual Local

Government Finance Settlement.⁹⁸ For capital spending, local authorities also receive grants which generally have short timescales. Local authorities can also finance capital spending through prudential borrowing, capital receipts from the sale of capital assets or by using revenue funds.⁹⁹

The Local Government Association estimated that between 2015/16 and 2018/19, local government in England received at least 448 unique grants of varying lengths from central government across all areas of revenue and capital spending. The Local Government Association found that one third of grants for all services were competitively allocated and over a third were discontinued from one year to the next, including grants intended for long term capital projects.¹⁰⁰ Funding was also fragmented: only 18 per cent of grants issued between 2015/16 and 2018/19 were intended to be spent across more than one area.¹⁰¹

Funding for local transport

Highway and transport services are the largest area of capital spend for local authorities, making up £7.5 billion of the total £26.3 billion capital spend across England in 2019/20. A substantial proportion of that (£3.2 billion) was by either the Greater London Authority or London borough councils.¹⁰²

The Commission understands that the Department for Transport has around 15 different funding streams announced for local authorities for spending on transport projects in towns in scope of our recommendations, either at the funding allocation stage now or with funding allocations having been decided within recent years. Nine of these pots, representing well over half of funding available, include an element of competition. They are listed in Figure 2.2 below.

The current funding system for local transport is a substantial barrier to the ability of local authorities to develop and deliver the long term, high quality infrastructure strategies the Commission recommends should be in place. The current system is flawed because:

- the uncertainty it creates prevents effective long term planning
- it encourages a one size fits all approach
- it is not compatible with the government's aims for levelling up
- the bidding system generates unnecessary costs for local authorities.

Uncertainty over funding

One of the biggest problems caused by the current system is that with grants allocated through multiple decision making processes, and with much capital funding for transport projects dependent on competitive bidding, local authorities have no certainty over the amount of funding available to them. This makes it difficult to develop effective local infrastructure strategies as there is no guarantee over what funding is going to be available. The lack of certainty also makes it difficult for local authorities to plan recruitment effectively and retain skilled staff.

This issue was brought up by many of the representatives at the Commission's regional roundtables. Representatives said that the funding system prevented them from having a long term pipeline of projects which made it difficult to plan a comprehensive strategy for a town.

Figure 2.2: There have been many separate funding streams for local transport infrastructure

List of current and recent central government funding streams for transport projects available to local authorities, by years funding allocated

2016/17	207/18	2018/19	2019/20	2020/21	2021/22
				Active Travel Fund	
					Buses
		Flood Resilience			
Highways Maintenance Block (needs and incentive)					
Highways Maintenance Block Challenge Fund				Highways Maintenance Block Challenge Fund	
	National Productivity Investment Fund				
		Highways Maintenance Block Extra			
Integrated Transport Block					
Large Local Majors (becomes Large Local majors & Major Roads Network)					
	Safer Roads Fund				
					Levelling up Fund
Local Growth Fund					
Pothole Action Fund					
				Pothole Fund	
		Transforming cities			
Key					
Competition					
Formula					
Mix					

Source: List provided to the Commission by Department for Transport

Towns that are part of a mayoral combined authority offer a good counter example. Salford is part of the Greater Manchester Combined Authority which has a five year pooled budget for infrastructure spending. This has allowed Salford to develop a long term strategy which is supported by a pipeline of projects.

Other transport infrastructure providers are also given five year budgets. Network Rail has its control periods set by the government every five years.¹⁰³ National Highways agrees its budget with government every five years through the Road Investment Strategy.¹⁰⁴

National versus local priorities

Central government determines the funding streams that are available, often including conditions on how funding is spent. But what central government may see as a national priority will not necessarily tally with what the local priorities are for a town. Competitive processes need a strong set of criteria to ensure bids can be fairly compared against each other, but this one size fits all approach does not reflect that different towns will have different infrastructure needs. Representatives at the Commission's regional roundtables said that this meant that schemes were sometimes put forward locally that matched the funding stream on offer, rather than because that scheme was a priority for the area.

The funding streams are generally ring fenced, meaning they can only be spent on certain projects. This is inefficient as it means a place may be allocated funding which it has to spend on bus services when the local priority may be improving road surfaces. It makes it more difficult for places to adapt to changing conditions, for example behaviour change as a result of the Covid-19 pandemic as discussed above.

Stevenage Borough Council told the Commission that the current system meant plans had to be adaptable. Infrastructure investments have to be sequenced according to what funding was available at a given time, rather than planned in the optimal order.

Conditions placed on funding can also mean it needs to be spent quickly. A representative at one regional roundtable said that money often had to be spent within the current year because it suited central government's financial deadlines, rather than thinking what timescale was appropriate locally. Although not a transport funding stream, an extreme example of this was a £9.75 million pot for cleaning up high streets that central government allocated to local authorities in March 2019. Local authorities were told they had to spend the funds within the financial year, which gave them 12 days to do so.¹⁰⁵

A reliance on competitive bidding is not compatible with government's aims

Given the number of competitive funding streams in recent years, the government clearly believes it is a good way to promote the best use of money by local authorities. This is understandable as competitive bidding mechanisms can be a good way to allocate resources in some circumstances and ensure funding goes to projects likely to provide the most value for money. But the question is whether the funding mechanism fits with the purpose it is trying to achieve in a particular context – in this case, to promote the better use of public resources to secure better infrastructure outcomes at a local level.

There are a number reasons to believe that a reliance on competitive bidding is unlikely to be the best mechanism to achieve this objective and contribute to levelling up. Moreover, any competitive bidding processes that are retained should be more streamlined and allocate resources on a longer term basis.

First, in a competitive market, consumers decide where to spend their money so the ‘winners’ of competition are generally those who satisfy their users (there are exceptions, of course). But, in this context, it is central government who is deciding who the ‘winners’ are, and it is unrealistic to expect central government to have an in depth knowledge of local economies. Every place has its own set of local strengths and infrastructure challenges that can best be addressed through local decision making. Second, in a competitive market, resources tend to flow to the successful producers who are able to expand market share and the less successful shrink or exit the market. But, here, local authority boundaries do not grow or shrink according to the success of the authority. While those local authorities that win competitions will benefit, the risk is that you disadvantage those areas with the least capacity to mount successful bids, which may also, in some cases, be those with the greatest and most pressing needs.

The cost to local authorities of bidding for funds

The design and frequency of competitions used to allocate funding can also be problematic. Too many and too frequent competitions risk burning up local capacity that could be better deployed on developing and implementing local infrastructure strategies.

The Urban Transport Group has estimated the staff and resource costs to local authorities of preparing bids. They found that the cost of bidding for smaller projects was disproportionate when compared to larger projects. They estimated that the typical cost of bidding for a £5 million fund was between £35,000 and £94,000, while the typical cost of bidding for a £100 million fund was between £170,000 and £339,000. This means the cost of bidding for a £5 million fund is only three to five times less than bidding for a £100 million fund, despite the latter being worth 20 times more.¹⁰⁶

Other estimates of the cost of bidding are higher. Greater Manchester Combined Authority told the Commission that bidding amounts to around 10 per cent of the cost of a scheme. Preparing bids also takes up the time of local officials. One representative at a regional roundtable said that preparing bids for funding streams meant that they didn’t have time to plan an infrastructure strategy properly.

The funding that is available through streams can also be small. In 2017, MHCLG put forward a Litter Innovation Fund where the available funding was limited to £10,000 for each bid (the total funding available was only £450,000).¹⁰⁷ Creating multiple small pots with different bidding processes for each exacerbates the problems identified above.

Government should consolidate existing funding streams

The current funding system is an impediment to the government achieving its levelling up and regeneration goals. Government should consolidate the existing multiple funding streams into two: long term devolved budgets and targeted funding for priority places where infrastructure investment could have a demonstrable additional impact.

Long term devolved budgets

The Commission recommends consolidating most existing funding streams into a single budget for local transport infrastructure. Budget allocations to each authority should be made on a simple basis that reflects population and the size of the transport network. The budget should be set for five years with certainty for the whole period.

Responsibility for this should be devolved to the 74 county and unitary authorities outside of combined authorities that are responsible for transport planning.

This single, consolidated budget should replace most existing funding streams for local transport. Devolved funding would therefore cover the majority of transport investment, covering both maintenance and small or medium upgrades. This would include projects such as: providing road access for new housing or employment sites; improved layout for individual junctions; updating infrastructure to support bus services; and refreshing high streets and residential areas including better provision for cycling and walking.

County councils should work closely with district councils when developing their infrastructure strategies to ensure that they complement town plans, which are likely to be the responsibility of district councils to develop. A good example of cooperation at this level is between Basildon and Essex County Council who have worked together to develop a strategy for Basildon, a collaboration which was highlighted in the Commission's Cities Programme.¹⁰⁸

The Commission's recommended funding model should provide the following benefits:

- give areas the opportunity to develop long term infrastructure strategies that complement wider place based plans for towns and reflect local needs and priorities
- improve efficiency by ensuring that projects are better prioritised and developed over time
- speed up decision making on local infrastructure projects
- provide flexibility to respond to changing needs and circumstances, including behaviour changes as a result of the Covid-19 pandemic
- free up resources currently spent on preparing bids and create a level playing field for local authorities
- encourage more collaboration across local authority boundaries
- align with the new arrangements for places that are part of mayoral combined authorities and give the same certainty enjoyed by other transport infrastructure providers.

County councils and unitary authorities, or combined authorities where they are in place, are the best level at which responsibility for funding should sit. They currently have responsibility for transport planning and they are best placed to determine the strategic priorities for transport infrastructure in towns across their area, including interventions that could support multiple towns. A representative at a regional roundtable said that local government is best able 'to join up economic interventions'. The new model would also ensure symmetry with the funding arrangements for areas covered by combined authorities and most closely align funding and governance with economic geography.

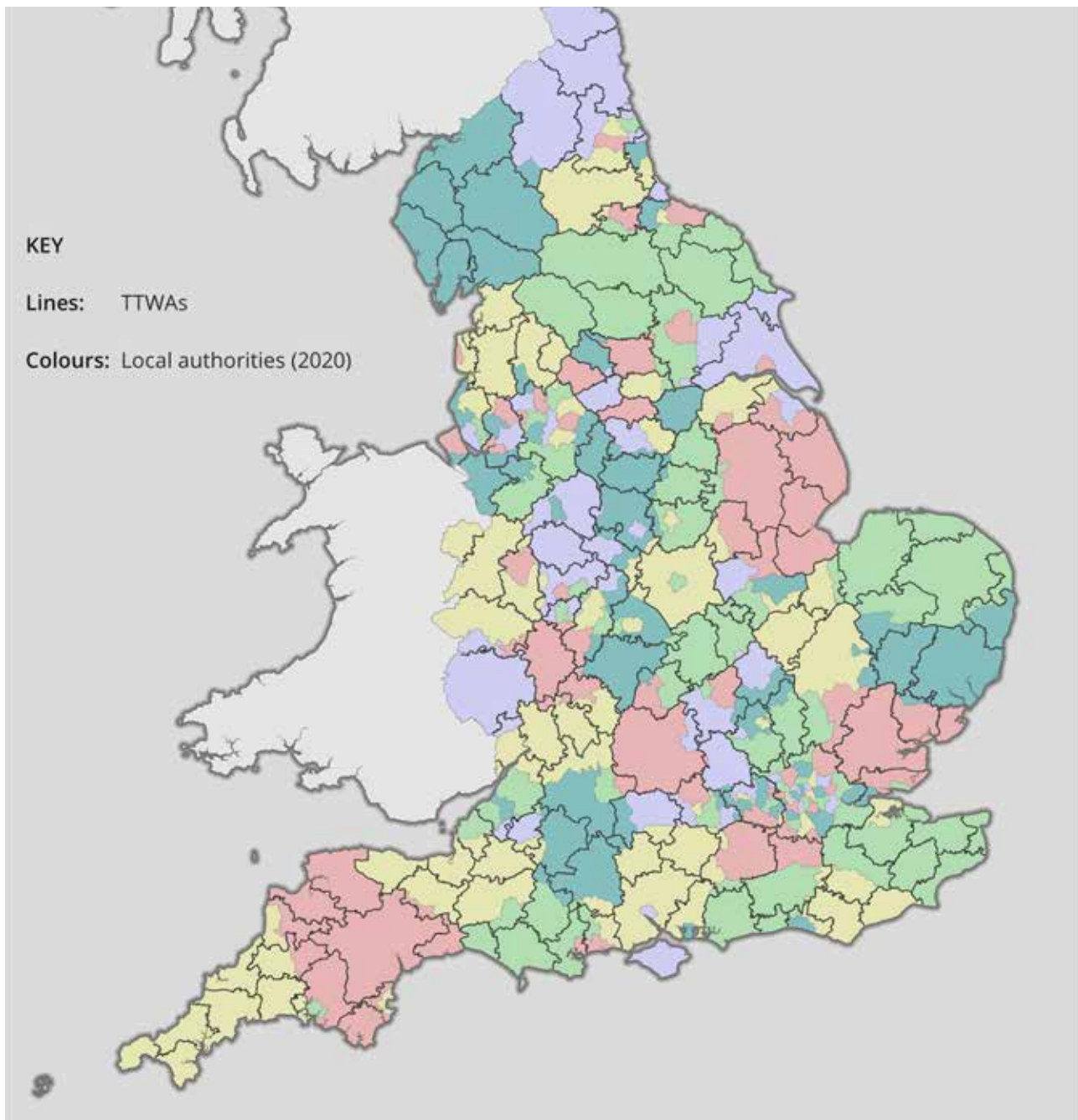
Academic literature suggests that when funding and governance is aligned to the economic geography of an area it can be beneficial to economic growth. A recent OCED paper found that 'with good quality institutions and limited fragmentation across functional economic areas, devolution is positively associated with productivity.'¹⁰⁹

Travel to work areas, which the Office for National Statistics has developed to reflect roughly the size of local labour markets, are not always very well aligned with local authority boundaries as shown in Figure 2.2. Across much of the country, local authority areas are larger than travel to work areas – suggesting that they should be well placed to set transport strategies covering the span of their main commuting

zones, provided attention is paid to the specific needs of each commuting area. Major cities such as London and Manchester also have strategic transport authorities, not shown on the map in Figure 2.3 which cover the core of their travel to work area.

Figure 2.3: Travel to work areas and upper tier authorities in England

Map showing travel to work areas as outlines (areas defined by ONS to reflect patterns of commuting) and local authority districts as coloured areas



Source: House of Commons Library (2020), [Mapping the Places](#)

Some travel to work areas are split between more than one local authority – for instance around York or Swindon – which illustrates how the functional economic geography of an area can span several local authorities. Mayoral combined authorities have been designed to address this challenge in some areas, but other areas lack this governance and coordination model. To facilitate cooperation, in the absence of boundary changes which were out of scope of this report, the government could consider flexible or bespoke arrangements to support economic regeneration in some places. This could involve cooperation between neighbouring authorities, or a growth board type arrangement spanning several authorities that better reflect a functional economic area.

Recommendation 2: The government should give local areas greater control over funding and decision making on local infrastructure investment. It should provide all county and unitary authorities, or combined authorities where they are in place, with devolved five year budgets for infrastructure, to match the arrangements in place for mayoral combined authorities. Funding should be allocated on a simple basis that reflects population and the size of the transport network being managed.

Targeted additional investment in towns

Spread evenly, the devolved five year budgets are not likely to be sufficient for more significant infrastructure projects that could contribute to transformation opportunities, or to help places that have demonstrably poor connectivity. In order that towns can seize these strategic opportunities, government should also provide targeted funding to deliver on these priorities.

In the previous chapter the Commission identified two possible routes for how infrastructure could support transformative change in towns: better integrating a town into its nearest city and enabling a town to take advantage of external economic changes. These opportunities will only apply to a subset of towns, but prioritising them for targeted infrastructure investment could help support more significant changes.

These routes would both be strong candidates for targeted funding. However, in practice the first of these should be deliverable through the Commission's recommendations in the *National Infrastructure Assessment* on devolved funding for cities and city regions.

A further criterion for targeted funding would be places with demonstrably poor connectivity. This may mean that some economically strong towns with poor connectivity would be eligible for targeted funding, but the Commission believes that this is sensible as it could help unlock further growth in towns where infrastructure is currently a constraint. And ensuring that successful places continue to grow needs to happen alongside supporting places that are performing less well.

The Commission published work in 2019 that has developed metrics for transport connectivity within places and between places.¹¹⁰ Places that score poorly on these metrics could be assessed as having poor connectivity – subject to further work on a place specific basis to understand why that is and what infrastructure could do to improve performance. As illustrated in chapter 1, connectivity performance varies widely across towns. For interurban connectivity (i.e. between towns and other places), there is not a clear urban / rural or regional divide in connectivity scores – understanding performance of transport networks requires attention to individual places. For intraurban connectivity (i.e. getting around within an urban area), towns near to or within big cities are likely to suffer from the effects of congestion.

These types of strategic opportunities should be the focus for the remaining local transport funding not consolidated into local devolved budgets. Government should prioritise places where funding is best placed to make a difference and there is a demonstrable opportunity – working with local authorities to do so. Local authorities in opportunity areas should then be responsible for identifying which infrastructure projects are required. Targeted funding should therefore be dependent on authorities having credible strategies in place for additional infrastructure funding and on demonstrating that adequate delivery capacity is in place.

The larger sized infrastructure projects required to meet these needs might include, for example, a new or improved link road connecting a town to new employment sites, better local connections onto national road and rail networks, a bypass to take traffic round a town, or redeveloping public transport interchanges.

As these opportunities will only be relevant to a subset of places there could be a role for competition in delivering this targeted funding – as long as it is designed effectively and does not limit which towns can access opportunities. However, a deal based approach is likely to be more effective as it would allow greater flexibility, including to balance funding across different strategic priorities and over time. It could also help encourage cooperation, with funding a lever to encourage places to cooperate across boundaries – funding could be made conditional on cooperation where appropriate to the economic geography.

Recommendation 3: In addition to devolved budgets for infrastructure, the government should provide targeted funding for key strategic priorities: where infrastructure outcomes are particularly poor, or where infrastructure could help towns seize economic opportunities. To access this targeted funding, places will have to demonstrate that they have a credible infrastructure strategy and wider place based plan in place.

Funding local authority infrastructure budgets

The Commission proposes that the government should support local authorities in England by enabling them to spend up to around £6 billion per year on transport investment in the next five years, ensuring that investment keeps pace with increased investment in centrally managed transport infrastructure.

Consistent with its aim to use infrastructure improvements to support growth across the UK's regions, government policy has been to increase spending on infrastructure. From 2015/16 to 2019/20, annual investment in central government managed road and rail networks in England increased by 20 per cent in real terms,¹¹¹ while investment in local transport in England outside London increased by around 6 per cent in real terms.¹¹²

The fiscal remit set for the Commission by the government, for infrastructure investment to reach up to 1.2 per cent of GDP, represents a further increase in infrastructure investment for the 2020s. As calculated for England at the time of the *National Infrastructure Assessment*, planned investment in national roads during the period between 2020 and 2025 will amount to spending more than doubling in real terms since 2015/16, while investment in rail will increase by around 60 per cent.

It is vital that local transport investment keeps up with investment in national networks. Nearly 60 per cent of car trips are local journeys of under 5 miles,¹¹³ and three quarters of major roads are managed by local authorities.¹¹⁴ Local connections onto highway and rail links need to be adequate to support increased usage of these interregional routes, and it is important that the benefits of infrastructure investment reach into towns that are not benefiting directly from investment on the national network.

The Commission's proposal for investment in local transport outside London to reach up to around £6 billion per year would mean an increase by around half in real terms since 2015/16, or around 40 per cent compared to 2019/20. This is a substantial rise in investment, but no more than the increase seen on national roads and railways.

Funding at this level would contribute to levelling up by ensuring that the benefits of improved infrastructure are felt across the country. Local authorities that are responsible for towns will be able to ensure that local priorities are being addressed even in areas that are not affected by larger scale investment in inter urban road and rail. It would mean:

- Authorities could make progress in bringing the condition of local roads up to a universally good standard. The Commission estimated in the National Infrastructure Assessment that addressing the current maintenance backlog requires £5 billion spread across the next few years, in addition to the £1.5 billion per year that has been spent on this in recent years.
- Smaller scale projects such as junction improvements, road access for new development and upgraded bus or cycling provision for town centres could be taken forward. Although individually these projects are not expensive, the collective cost of these across more than a thousand towns of varying sizes is substantial.
- Larger projects such as bypass roads, new strategic links or an updated public transport interchange in targeted towns where these will have the most impact. In the past five years Department for Transport have funded nine such projects with an average contribution of £66 million each.¹¹⁵ Making levelling up a reality will require funding to be available for a higher number of projects such as these, reaching more towns.
- Increasing the funding available for devolved budgets to urban mayoral combined authorities, reflecting that this is necessary not just for the performance of the city's economy but also to ensure that suburban and outlying towns are able to benefit from improved access to the city.

The Commission's proposal for up to around £6 billion per year to be made available covers all public spending by English local authorities outside London on transport, whether funded by central government grants or locally raised income. Authorities outside England are not included, as spending on transport is devolved in Scotland, Wales and Northern Ireland.

In 2019/20 around £2 billion of local transport investment was funded from locally raised income.¹¹⁶ This means that sustaining up to around £6 billion per year would require around £4 billion to be funded by central government. This funding will need to include a balance between: devolved budgets to urban mayoral combined authorities; devolved budgets to other authorities as discussed in recommendation 2; and targeted funding for priority areas as discussed in recommendation 3. The larger part of funding should be allocated through devolved budgets, reflecting that maintenance and locally prioritised improvements are necessary in all places, while only some places will need to be selected for larger interventions. Devolved funding for basic maintenance and smaller projects should be made available at a level that is justified by the assets to be maintained and renewed in each area. Targeted funding for priority areas should be released subject to government satisfying itself of the value for money prospects of addressing the specific issues identified in specific places.

In the longer term government could, as an alternative to central government grants, look to sustainably increase local government revenue raising – as it has for the Greater London Authority by devolving business rates.

Although there have been important changes in context since the Commission made the estimates in the *National Infrastructure Assessment*, particularly the effects of Covid-19 recovery measures on the public finances, it is also important for expenditure on infrastructure to remain steady and predictable, making it possible to plan for the longer term. The Commission will therefore not review its fiscal remit proposals fully until the next *National Infrastructure Assessment* in 2023, and so the advice here is based on this previous analysis.

Support for local authorities

In the Commission's experience, both from the roundtables and case studies carried out to support this study and from previous work such as the Cities Programme, local authorities often have strong leadership and the necessary analytical and project delivery experience to plan and deliver good infrastructure strategies. But some local authorities lack the capacity and capability to develop and deliver infrastructure strategies effectively, which is critical if levelling up is to happen.

Local government capacity and capability

There needs to be investment in local capacity to implement local infrastructure strategies.

Representatives at the Commission's regional roundtables said that funding uncertainty and competitive bidding had had a negative effect on skills and capacity within local authorities. In 2008/9 councils across England spent £791 million on transport planning, policy and strategy;¹¹⁷ by 2018/19 that figure had reduced to £247 million.¹¹⁸ This was seen to be a major challenge for the ability of local authorities to develop evidence based long term infrastructure strategies and limited their ability to evaluate the effects of interventions and share learning.

Those local authorities who have not been successful in bidding competitions have struggled particularly to recruit and retain staff with analytical and project delivery experience. The Commission heard at the regional roundtables that consultancy expertise is often required to fill gaps.

Expert support and advice

The proposed funding reforms in this report should free up capacity within local authorities. This released capacity should be able to focus on strategy development and managing delivery of investment programmes.

In addition, the government can help places build capacity and capability, where necessary, by making expert advice and support available. The Commission expects this could be provided through an existing institution, rather than creating a new one. It should have three roles:

- create a network for local authorities where best practice in developing and implementing infrastructure strategies can be shared
- advise places on developing and implementing plans for targeted funding opportunities, bringing in expertise from the private sector as appropriate
- help places that have historically lost out on competitive bids to build capacity and capability.

The government should determine which organisation has the best expertise to undertake these responsibilities and establish a dialogue with partners about how it can contribute to supporting local capacity. The UK Infrastructure Bank should provide advice on financing specific projects.

Recommendation 4: The government should make available expert strategic advice and support for places that lack the capability and capacity to develop their own infrastructure strategies and wider place based plans. The government should determine which national organisation or body is best placed to provide that support and ensure it is adequately funded.

3. Central government can help deliver high quality infrastructure in towns

The Commission's proposed reforms to funding will empower local authorities to develop and deliver infrastructure strategies for their towns that support levelling up and regeneration. These strategies will form part of wider place based economic development plans that are determined locally. Alongside providing multiyear devolved funding settlements, government can also support towns through broader infrastructure policy.

The Commission has identified two main areas where central government policy can create most value for towns:

- ensuring universal provision of key networks, such as gigabit broadband and electric vehicle charging points
- supporting innovation, including trials of on demand bus services and demonstrating possible use cases for new communications networks like 5G.

A focus on these areas will help ensure that towns are well placed to maximise the opportunities from new digital infrastructure and to meet the challenge of net zero.

Universal provision of key networks

Some infrastructure networks, such as broadband, should have common or minimum standards of provision across the country. Government has a role to play in reducing the differences in access to these networks and maximising the benefits that are derived from them. Ensuring appropriate universal provision can support economic growth, as well as contributing to improvements in quality of life, resilience to shocks and other societal outcomes.¹¹⁹

As new infrastructure networks – such as gigabit broadband or electric vehicle charging networks – are delivered across the country, government needs to ensure that everyone has the access to and quality of service they need to realise the benefits of the new networks.

Supporting the rapid rollout of gigabit broadband in towns

The restrictions put in place to manage the Covid-19 pandemic have reinforced the importance of digital connectivity in modern life. With a substantial increase in virtual working and the possibility of long term behaviour change, this enhanced need for high quality digital infrastructure will continue. A sustained increase in virtual working, especially if it leads to dispersal from cities, could possibly benefit towns that are attractive places to live. But this means making the right infrastructure decisions is even more important.¹²⁰

Superfast broadband (broadband with a minimum download speed of 30 megabits per second) is almost universally available in the UK, with over 96 per cent of premises having access.¹²¹ The government has now set an ambitious but achievable target to reach at least 85 per cent coverage of gigabit broadband (any broadband technology capable of delivering speeds of one gigabit per second) by 2025.¹²²

The rollout of gigabit broadband has been driven by network competition and a supportive policy and regulatory environment. Between June 2018 and August 2021, the number of UK homes and businesses able to access gigabit capable services jumped from 3.8 per cent to 46 per cent.¹²³ By the end of 2021, government expects coverage to reach 60 per cent.¹²⁴ Early rollout has included towns as well as cities, with the layout of premises in many towns meaning they are often relatively easy for providers to service with new fibre infrastructure. Data from Openreach suggests that the rollout to most towns is already happening alongside cities and appears to be proceeding at a comparable pace.¹²⁵

The commercial rollout is expected to cover the vast majority of premises by 2025. This is achievable as long as the UK's policy and regulatory environment remains pro investment and network operators deliver against the plans they have set out. For the remaining premises, which are in harder to reach areas which are not commercially viable, the government will subsidise delivery using public funds through the Project Gigabit Programme.¹²⁶ Some of these harder to reach premises will likely be in towns. The government has set out the first phases of its procurement programme to extend coverage to hard to reach premises.¹²⁷

The Commission has identified two risks to the rollout of gigabit broadband in towns. First, a significant subset of premises within towns may not be reached by commercial provision of gigabit broadband by 2025. Building Digital UK modelling suggests that in approximately 80 per cent of the towns considered by this study, only a low proportion (fewer than 20 per cent) of premises might not be connected commercially in this timeframe. However, this leaves a significant subset of around 20 per cent of towns that may be reliant on government support to reach more than 20 per cent of their premises, unless, of course, the market is able to reach more premises as rollout plans published by operators suggest it can. The commercial rollout footprint in towns should be maximised by reducing barriers and through the design of the switch off process for the legacy copper based network.

Getting government support right will be crucial to ensuring that a subset of towns is not left behind. Any significant delay, relative to other places, may make towns (or at least parts of them) less attractive places to live or to invest in. For those towns where the government's regional procurement programme is scheduled to start later, the government should work with local authorities, operators and, where relevant, the devolved administrations to identify opportunities for local solutions and facilitate voucher funded projects to accelerate coverage where possible.

Second, many towns have a large number of flats and apartments, or multiple dwelling units, with around two million across all towns in England. These can be complicated and challenging for infrastructure providers to access in areas where rollout is commercially viable, with representatives at the Commission's digital roundtable highlighting that unresponsive landlords make it difficult to obtain access through the wayleave process. This can result in delays to rollout to multiple dwelling unit premises or, in some cases, rollout ending up on hold, with these premises missing out on being connected.¹²⁸

Openreach has estimated that around 25 per cent of multiple dwelling unit premises risk being unserved by commercial rollout as a result of access issues.¹²⁹ The Commission estimates this could equate to around 500,000 flats or other divided premises across towns in England turning out to be inaccessible.¹³⁰ This is a concern as a higher proportion of households living in flats tend to be economically deprived and so risk being left behind if they receive gigabit broadband many years after other parts of a town.¹³¹

The government recognises this challenge and has recently passed legislation to reform wayleave rules to address the problem of unresponsive landlords. The task now is to ensure that the new system is implemented to maximise its usability by broadband operators.

Alongside national policy reforms, local infrastructure strategies should also consider how they can support the rapid rollout of gigabit broadband. Strategies should follow the Commission's recommendation in the *National Infrastructure Assessment* to designate 'digital champions' to coordinate and improve telecoms processes such as street work permissions and access to publicly owned assets.¹³²

Recommendation 5: The government should set out a clear plan, with milestones and funding, for delivery of gigabit broadband to the hardest to reach premises that will require public subsidy. In those towns where there are likely to be gaps in commercial rollout, and the government's regional procurement programme is scheduled to start later, the government should work with local authorities and operators to identify opportunities for local solutions and facilitate voucher funded projects to accelerate coverage wherever possible.

While this study is focused on English towns, these challenges are unlikely to be unique to towns in England. Assuming it wanted to apply this recommendation across the UK, government would also need to work with the devolved administrations to deliver this effectively in Scotland, Wales and Northern Ireland.

Supporting digital adoption among businesses

The government needs to widen its focus from rolling out broadband to stimulating demand for it, especially via encouraging smaller businesses to make full use of upgraded broadband networks and the digital tools and services they enable. It is important that the government sets out a strategy and a set of policy measures to address major barriers to digital adoption, working with local authorities.

Improving the digital connectivity of smaller businesses can help increase business productivity and foster economic growth.¹³³ The Covid-19 pandemic was a catalyst for digital adoption by many businesses across the UK. However, there remain a number of barriers to the widespread adoption of digital technologies and capabilities, particularly among smaller businesses, including a lack of understanding of the benefits, digital skills and cost.

A report from the government's GigaTAG advisory group – which considered how to drive consumer and business take up of digital technologies – highlighted three particular barriers to adoption by small and medium enterprises:

- a lack of understanding and awareness, coupled with market complexity – in December 2020, one third of small business and sole traders had not heard of gigabit broadband
- limited awareness of the potential return on investment – of those small and medium enterprises that had not adopted gigabit broadband, 31 per cent did not see the benefit of doing so
- a lack of digital skills – both to ensure successful adoption of gigabit and then to utilise gigabit capable technologies.¹³⁴

There have been some positive recent steps towards supporting the adoption of digital technology and services by smaller enterprises, with the announcement of the 'Help to Grow' scheme in the 2021 Budget,¹³⁵ as well as other programmes at a local level.¹³⁶ The government's strategy should build on such initiatives, identifying what works at a national and local level. It should aim to accelerate adoption by smaller enterprises by improving understanding of the benefits of new communications networks and services, closing digital skills gaps, and reducing financing constraints. As part of this, the government should support innovation pilots that demonstrate the benefits of new communications services – see below.

This challenge is not unique to towns, but there is a need to ensure that there is parity of treatment for businesses located in towns with any advice and support available to those in cities. This would be most effectively done on a UK wide basis, not just targeted at towns in England. The government should therefore work with both local authorities and the devolved administrations in Scotland, Wales and Northern Ireland to ensure that support is properly tailored to the needs of businesses in all parts of the UK.

Recommendation 6: The government should develop a strategy by 2022 for encouraging the take up of new communications networks and services by small and medium enterprises.

Optimising mobile coverage

Access to reliable mobile services has become essential to how people live and work in all places. Network prediction models indicate that 4G signal coverage is available from at least one mobile network operator across 97 per cent of England's landmass, and this area includes nearly all households and businesses.¹³⁷ The Shared Rural Network agreement between government and the mobile operators will further expand signal coverage and close almost all 'partial not-spots' – areas where there is currently only signal from at least one but not all operators.¹³⁸

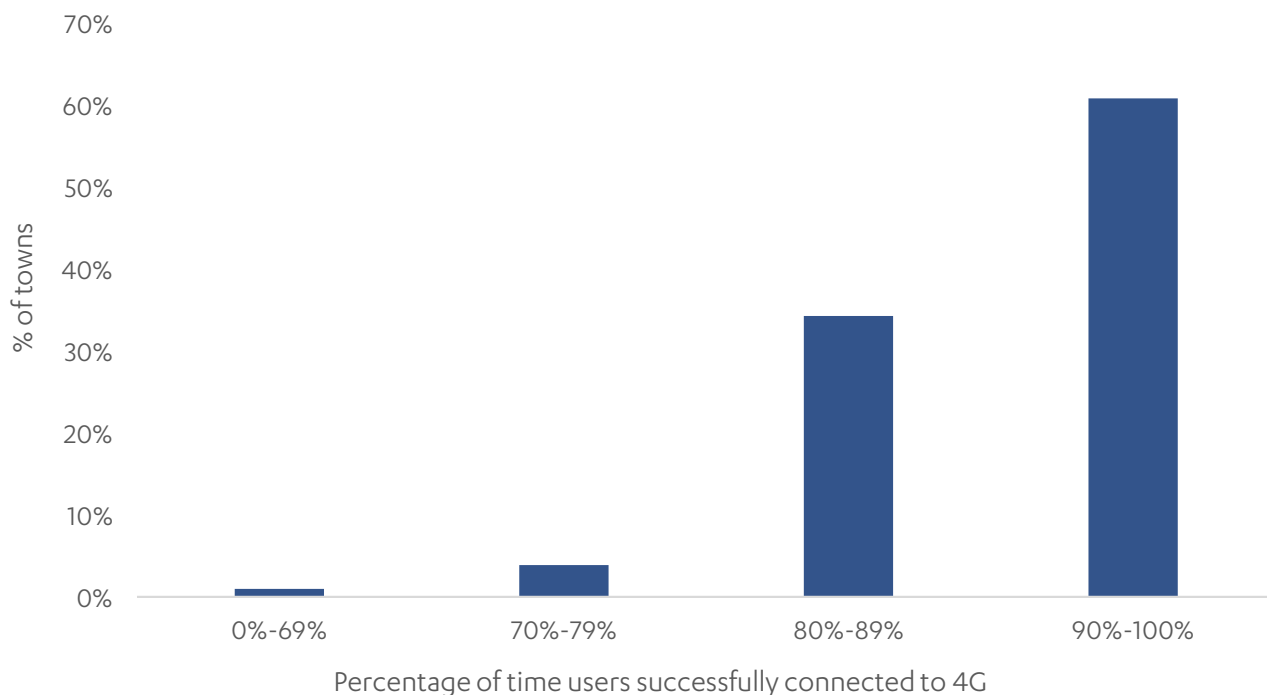
Social research conducted for this study found town residents were relatively satisfied with mobile services, particularly in larger towns. This is supported by previous research undertaken by the Commission, which also found high levels of satisfaction with digital communications.¹³⁹

However, coverage data is currently based on predictive modelling and, throughout the commission's engagement for this study, some stakeholders raised concerns about the level of actual mobile service in certain locations.

This is also borne out in data based on real user experiences, which suggests there may be issues with 4G availability in a few towns, as shown in Figure 3.1. Analysis suggests that in 45 of all the towns in scope for this study, or around 5 per cent, 4G mobile users can successfully connect to 4G less than 80 per cent of the time.¹⁴⁰

Fig 3.1: In some towns user experience of 4G availability falls short of universal access

Distribution of towns by percentage of time that mobile users are able to connect successfully to 4G



Source: From analysis of mobile experience by Opensignal shared with the National Infrastructure Commission

Mobile coverage predictions can vary from the coverage people actually experience as a result of local factors, such as trees and buildings. Similarly, predicting indoor or in car coverage is subject to variations, as signal loss can vary depending on the materials the signals must travel through. Variation over time in congestion on networks can also affect service availability. Ofcom recognises these issues in its mobile coverage reports that are based on predictions provided by the mobile operators, and has conducted some research already into user experience.¹⁴¹ Nevertheless, there are questions about how substantial the variations are and whether there is room for further optimisation of mobile coverage to improve the user experience in certain places.

Recommendation 7: Ofcom and the government should consider real world user experience data, alongside prediction models, to improve the understanding of how people experience mobile connectivity in different places and identify any significant patterns that need to be addressed. As part of this, consideration should be given to whether Ofcom's existing reporting on user experience can be extended to provide a more granular view of localised mobile user experience.

Supporting the rollout of electric vehicle charging points to meet net zero

The rollout of electric vehicle charging infrastructure is an important part of the government's plans for net zero. A reliable charging infrastructure will be essential to support the ban on the sale of new petrol and diesel vehicles that comes into force in 2030. There are around 25,000 public charging points today. It is estimated that somewhere between 280,000 to 480,000 public charging points will be needed by 2030.¹⁴²

The Commission's social research showed that a lack of electric vehicle charging infrastructure is one of the main reasons people who live in towns are reticent about switching to electric cars: 47 per cent of people said they would be unlikely or very unlikely to buy an electric vehicle in the next five years and of those people, 37 per cent said they would not do so because of the lack of charging points. Charge points not only need to be available at people's homes and destinations, but also en route to address 'range anxiety'. This aligns with other research which has found cost and charging infrastructure are the two key barriers to adoption of electric vehicles.¹⁴³

The first *National Infrastructure Assessment* highlighted that the pattern of charge points is likely to follow similar patterns to mobile and fixed broadband, with strong provision in densely populated areas, but rural areas being less well served.¹⁴⁴ And, at present, there is significant variation in the number of charging points in places in different local authorities. In a July 2021 report the Competition and Markets Authority described access to suitable charging points as a 'postcode lottery'.¹⁴⁵

On street charging points are an area where provision appears to be particularly challenging for some towns and cities. Precise estimates of the number of households likely to require on street parking vary, but it is likely to be around a quarter of households.¹⁴⁶ These households will not be evenly spread, but focussed on densely populated areas of towns and cities where space for off street charging, such as in driveways and garages, is likely to be insufficient. Provision outside London is currently low – out of 5,700 on street charging points in the UK, only 1,000 of those are outside the capital.¹⁴⁷ This is not a unique issue for towns – everywhere will need sufficient charging infrastructure – but the needs of towns require active consideration alongside those of cities.

In the *National Infrastructure Strategy* government committed to publish an electric vehicle charging infrastructure strategy by November 2021.¹⁴⁸ This is urgently required to help support the delivery of charging infrastructure that will encourage drivers to make the required switch to electric vehicles. It will also help both the market and local authorities plan the delivery of additional charging points.

Local authorities have a key role to play in charging provision. Practically, they are the controllers of kerbside access and owners of relevant assets like lampposts. They are also likely to have the best understanding of local need. In the first *National Infrastructure Assessment*, the Commission recommended that government should place a requirement on local authorities to allocate 20 per cent of their parking spaces (including on street) which may be converted to electric vehicle charge points by 2025.¹⁴⁹ Local authorities should take a more active role in planning and managing the rollout of on street charging, and local infrastructure strategies should include clear plans for facilitating the rollout of on street charging points.

Recommendation 8: The government should publish the electric vehicle charging infrastructure strategy, without further delay, followed by a roadmap for the rollout of electric vehicle charging infrastructure in towns. Local infrastructure strategies should also include an active role for the local authority in planning and managing the rollout of on street electric vehicle charging.

Supporting innovation

Central government also has a role to play in supporting innovative approaches. Tests and trials in specific locations can help to understand what may work for the country as a whole and, given their variety, towns provide a useful way of experimenting in a range of different place-based contexts. This does not always require central government involvement, but it can help to secure support from a wider range of stakeholders – including to secure private as well as public co investment – and making it easier to share and utilise learning and support trials at scale. Financial support may also help local authorities and the market to take risks they would not be willing or able to take alone.

There are two areas appropriate to towns that are particularly worth further testing – new communications services like 5G and on demand bus services.

Building the evidence base on the use cases for 5G

The use of wireless communication is expanding and benefiting a wide range of users from consumers to more specialised services. Additionally, technology developments such as 5G are opening up opportunities for more innovative use cases across areas such as transport and the industrial Internet of Things.¹⁵⁰

The government has set a target for 5G coverage to reach more than 50 per cent of the population by 2027.¹⁵¹ The first steps for 5G rollout have taken place in cities and some larger towns, but a lack of comprehensive coverage data means there is no clear picture of 5G availability across the whole of UK.

As the Commission set out in its Annual Monitoring Report 2021, the government and Ofcom should work with the mobile network operators to identify suitable metrics and begin measuring actual 5G coverage.¹⁵² The Commission understands that Ofcom is working on suitable metrics and is expected to publish data by the end of the year.

5G is still at an early stage of development. Its full technical functionality has not yet been agreed, nor has the route to monetisation. Potential applications and use cases are still in development.¹⁵³ However, there is scope for the technology to have substantial industrial and public service impacts.¹⁵⁴

The West Midlands 5G programme has shown both what can be learned from a successful 5G trial and that towns can play a strong role in this – further details are set out in box 3.1. The trial has not only provided valuable learning for the national deployment of 5G, but has also accelerated 5G deployment in towns such as Dudley and Solihull and has contributed to the West Midlands having the best 5G coverage of any combined authority.¹⁵⁵

Box 3.1: West Midlands 5G programme case study

West Midlands 5G (WM5G) was established in partnership with the seven constituent local authorities, mobile operators and the Department for Digital, Culture, Media and Sport. The programme has two key strands: 1) accelerating the 5G rollout across the West Midlands and 2) testing 5G use cases at scale. It has also brought together local authorities, government and operators to strengthen relationships and WM5G have worked with local authorities to build their capacity and capability on 5G and strengthen local digital connectivity strategies.

Accelerating rollout

WM5G worked with local authorities and mobile operators to develop a digital connectivity map of the West Midlands, showing all 4G and 5G masts together with over 400,000 public assets (such as public buildings and lampposts). Bringing this data together – much of which required non disclosure agreements – not only showed where connectivity problems existed, but also which public assets could be used to address them. Alongside this, WM5G worked to put in place best practice legal agreements, reflecting the latest legislation and providing solutions to common challenges with the upgrade and rollout of mobile sites.

Building evidence on the use case for 5G

The WM5G programme has trialled a number of different 5G innovations, including:

- **Transport** – the UK’s first 5G road sensor network to reduce congestion and pollution
- **Manufacturing** – testing the productivity benefits of connected and automated factories
- **Accelerators** – in Wolverhampton, Coventry and Birmingham providing support to SMEs to improve understanding and development of new 5G applications.

Impacts

As well as contributing valuable evidence on 5G use cases, WM5G has seen significant changes in connectivity across the West Midlands and an acceleration in 5G deployment of at least six months. As of June 2021:

- around 50 per cent of the region’s population were estimated to have 5G coverage
- the West Midlands had the best 5G geographic coverage of any region¹⁵⁶
- forty per cent of the 4G sites in the region had been upgraded to 5G.

Trialling on demand bus services

As set out in chapter 1, there are also challenges with current models of transport provision that are impacting quality of life and economic opportunity. The challenge of delivering effective and commercially viable public transport services – especially bus routes to employment sites – is an example that stakeholders have frequently raised during the study. On demand bus services are a possible solution to this and could either complement or replace conventional fixed route buses.

To use a demand responsive service, passengers request where they would like to go, usually through an app, and a shared vehicle picks them up at or close to their home, along with other people heading in the same direction. On demand services can help passengers to reach otherwise underserved locations, address safety concerns and improve public transport options where there are limited services in the evening or early in the morning.¹⁵⁷ The latter concern was picked up strongly in the Commission’s regional roundtables, as shift workers in towns starting early or finishing late were often not able to use public transport.

On demand services featured in the government's recent bus strategy and government has already funded 17 pilot projects in rural areas through the Rural Mobility Fund.¹⁵⁸ Extending trials to towns and suburban centres – which the government has indicated it is open to – would be a sensible next step to test the commercial viability of on demand services in different contexts and in areas where there is potentially a strong use case to provide better connectivity to employment sites.¹⁵⁹

Government support is not essential to running such trials, but it is likely to give them a greater chance of success. Some attempts to set up demand responsive services in more urban areas have failed commercially, such as the PickMeUp service in Oxford.¹⁶⁰

A local innovation fund

By partnering with local authorities and providing financial support to run trials, government can ensure that good ideas are taken forward and learned from. Transparently and consistently reporting outcomes from each trial would help this, but learning could also be proactively built into the government's activity to build capacity and capability in local authorities – see chapter 2. This would ensure that good practice and widely applicable lessons are shared widely and contribute to an expanded evidence base on what works. A flexibly designed local innovation fund could support co investment with the private sector in trials of varying scales in different local authorities across transport and digital sectors. New communications services like 5G and on demand bus services are high potential areas but should not be the only focus for the fund.

Based on the costs of the West Midlands 5G trial (around £20 million),¹⁶¹ the Commission suggests that government allocate at least £100 million to the fund for further innovation pilots for new communications technologies and digital skills development. This would ensure that further trials can take place at an appropriate scale.

For transport, government has already committed £19 million for experimentation in rural areas through the Rural Mobility Fund.¹⁶² However, it is more difficult to predict the level of funding required for future trials, given this is likely to vary depending on the characteristics of towns (particularly population density) and the involvement of commercial providers. Government should ensure that trials are funded sufficiently to be run at scale, draw robust conclusions and run for a sufficient period of time.

Recommendation 9: The government should support innovation in towns where trials would be too costly and risky for local authorities to run on their own, and where government involvement can accelerate progress substantially. This should be delivered via a local innovation fund and should include:

- partnering with towns to run innovation pilots for new communication technologies, including 5G use cases
- supporting experimentation and early rollout for innovations in on demand bus services.

Government should ensure that lessons from trials are transparently and proactively shared.

Acknowledgements

The Commission is grateful to everyone who engaged with the development of this study.

The list below sets out organisations that have engaged with the Commission in delivering this report, including those who attended the 10 technical and regional roundtables.

The Commission would also like to acknowledge the contribution of its Young Professionals Panel to the report; Ann Zhang, Calum Askins, Caroline Bryce, Sam Cocking, Mike Davis, Sophie Deas, Jo Garvey-Rae, Brittany Harris, Monica Laucas and Cissie Liu.

And also to the members of the Commission's Design Group: Anthony Dewar, Clare Donnelly, Andrew Grant, Professor Hanif Kara, Madeleine Kessler, Lucy Musgrave, Judith Sykes and Louise Wyman.

The Commission would also like to thank members of its expert advisory panel on 'levelling up': Diane Coyle, John Cridland, Sarah Longlands, Philip McCann, Henry Overman, Chris Richards, Jessica Rushworth, Elliot Shaw, Laura Shoad, Tony Venables, Cecilia Wong and Ann Zhang.

The Commission is grateful to officials from across government and other individuals who have engaged with the assessment in an individual capacity.

The Commission would like to acknowledge the members of the Secretariat who worked on the report: Hannah Brown, Jen Coe, Tom Hughes, Andrew Jones, Kirin Mathias, Greg McClymont, Ben McNamee, David Menzies, Vasilis Papakonstantinou, Rachel Strachan and Simon Weaver.

ADEPT	CityFibre	Dr Danielle Sinnett
Andy Westwood	Community Transport Association	Dr Katharine Wills
Anna Valero	Connected Places Catapult	Dr Katy Roelich
Arup	Coventry Chamber of Commerce	Durham County Council
Basingstoke and Deane Council	Cumbria LEP	East Lancashire Chamber of Commerce
Bath Enterprise Zone	Danny Mackinnon	East Midlands Councils
British Chambers of Commerce	Department for Digital, Culture, Media and Sport	Enterprise M3
BT	Department for International Trade	Gloucestershire County Council
Bury Council	Department for Transport	Greater Manchester Combined Authority
Cabinet office	Devon County Council	Halton Borough Council
Cambridge Wireless	Diane Coyle	Hartlepool Council
Carnegie Trust UK	Doncaster Council	Heart of the South West LEP
CBI	Dorset Council	Hitachi
CBI South West		HMT Treasury
CBI Wales		Iain Docherty
Centre for Cities		

Institute for Government	Philip McCann	Tameside Metropolitan Borough Council
Institute of Directors, Northern Ireland	Profesor Peter White	Tech UK
James Laird	Professor Cathy Parker	Three
Lancashire County Council	Professor Flora Samuel	Tony Venables
Liverpool City Region	Professor Susan Grant Muller	Transport Focus
Local Government Association	Public Health England	Transport for the North
Mace	PWC	Transport for the West Midlands
Mark Gregory	Reading Council	Urban Transport Group
Michael Kenny	Redcar & Cleveland Council	Virgin Media
Mid Devon District Council	Rehema Msulwa	Vodafone
Midlands Connect	Richard Johnston	Wakefield District Council
Midlands Engine	Salford City Council	Warrington
Ministry for Housing, Communicates and Local Government	Scotland's Towns Partnership	Warwickshire County Council
National Highways	Scottish Government	Welsh Government
Network Rail	Sheffield Chamber of Commerce	Welsh Local Government Association
North East CBI	Sheffield City Region	West and North Yorkshire Chamber of Commerce
North East Derbyshire District Council	Sheffield University	West and North Yorkshire Chamber of Commerce
North East England Chamber of Commerce	Sir Paul Collier	West Midlands 5G
North East Lincolnshire Council	Solihull Metropolitan Borough Council	West Yorkshire Combined Authority
North of Tyne Combined Authority	Somerset County Council	West Berkshire Council
Northern Ireland Executive	South Tyneside	West Sussex County Council
Northern Railway	South West Infrastructure Partnership	What Works Centre for Wellbeing
O2	St Helens Chamber of Commerce	Wiltshire County Council
Ofcom	Stagecoach buses	Worcestershire LEP
Openreach	Stevenage Borough Council	
Oxfordshire County Council	Suffolk Growth	
	Surrey County Council	
	Sustrans	

The Commission

The Commission provides the government with impartial, expert advice on major long-term infrastructure challenges. Its remit covers economic infrastructure: energy, transport, water and wastewater (drainage and sewerage), waste, flood risk management and digital communications. The Commission considers the potential interactions between its infrastructure recommendations and housing supply but housing itself is not in its remit. Also out of the scope of the Commission are social infrastructure, such as schools, hospitals or prisons, agriculture, and land use.

The Commission's objectives are to support sustainable economic growth across all regions of the UK, improve competitiveness, and improve quality of life.

The Commission delivers the following core pieces of work:

- a *National Infrastructure Assessment* once in every Parliament, setting out the Commission's assessment of long term infrastructure needs with recommendations to government
- specific studies on pressing infrastructure challenges as set by the government, taking into account the views of the Commission and stakeholders, including recommendations to government
- an *Annual Monitoring Report*, taking stock of the government's progress in areas where it has committed to taking forward recommendations of the Commission.

The Commission's binding fiscal remit requires it to demonstrate that all its recommendations are consistent with, and set out how they can be accommodated within, gross public investment in economic infrastructure of between 1.0 and 1.2 per cent of GDP each year between 2020 and 2050. The Commission's reports must also include a transparent assessment of the impact on costs to businesses, consumers, government, public bodies and other end users of infrastructure that would arise from implementing the recommendations.

When making its recommendations, the Commission is required to take into account both the role of the economic regulators in regulating infrastructure providers, and the government's legal obligations, such as carbon reduction targets or making assessments of environmental impacts. The Commission's remit letter also states that the Commission must ensure its recommendations do not reopen decision making processes where programmes and work have been decided by the government or will be decided in the immediate future.

The Infrastructure and Projects Authority (IPA), a separate body, is responsible for ensuring the long term planning carried out by the Commission is translated into successful project delivery, once the plans have been endorsed by government.

The Commission's remit extends to economic infrastructure within the UK government's competence. Across much of the Commission's remit there is currently substantial devolution to Northern Ireland, Scotland and Wales. The Commission's role is to advise the UK government. But the Commission works with both the UK government and the devolved administrations where responsibilities interact.

Table: Devolved administration responsibilities, by infrastructure sector

Sector	Devolved administration responsibility		
	Northern Ireland	Scotland	Wales
Digital	Reserved	Reserved	Reserved
Energy	Devolved, except nuclear	Reserved, except energy efficiency	Reserved, except energy efficiency
Flood risk	Devolved	Devolved	Devolved
Transport	Devolved	Largely devolved	Devolved, except rail
Waste	Devolved	Devolved	Devolved
Water and sewerage	Devolved	Devolved	Devolved

References

- 1 HM Treasury (2020), **National Infrastructure Strategy**
- 2 HM Treasury (2021), **Terms of Reference for Study on Infrastructure, Towns and Regeneration**
- 3 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 4 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 5 Office for National Statistics (2013), **Built-up Areas - Methodology and Guidance**
- 6 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 7 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**; for an alternative definition of towns, see for example: House of Commons Library (2018), **City & Town Classification of Constituencies & Local Authorities**
- 8 National Infrastructure Commission (2018), **National Infrastructure Assessment**, page 136
- 9 Office for National Statistics (2021), **About the area classifications**. The classifications from the Office for National Statistics are perhaps the most well known, but more general categories, such as ‘working’, ‘residential’ or ‘commuter’ towns are also widely used.
- 10 For example, ‘coastal’ and ‘seaside towns’ are a commonly used typology and while they do share some common challenges, they are far from uniform – see House of Lords (2019), **The future of seaside towns**
- 11 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 12 Office for National Statistics (2016), **Travel to work area analysis in Great Britain: 2016** and **Census geography Office for National Statistics (ons.gov.uk)**. There are 149 travel to work areas in England. Of the towns with populations between 10,000 and 225,000 which are the focus of this study, 34 per cent of towns are in the travel to work area of a major conurbation, 45 per cent in the travel to work area of a large town, and 21 per cent in the travel to work area of a small town or rural settlement. Over the last 30 years, as more people commute longer distances to work, there has been an increase in the average size of a travel to work area, both in terms of geographical area and population size, leading to a decrease in the overall number of areas: there were 308 travel to work areas in the UK in 1991, 243 in 2001 and 228 in 2011. Travel to work areas are determined from census data.
- 13 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 14 Commission’s own analysis. Different geographic units are used for each chart depending on availability of data: ‘town’ corresponds to the definition of built up area subdivisions from the Office for National Statistics; ‘built up area’ represents the larger urban settlement that a town belongs to, corresponding to the definition from the Office for National Statistics of these and excluding built up areas that contain large cities; and local authority district data includes all district areas containing one or more towns, but not a city. These geographic units are then categorised by which type of travel to work area they are in (travel to work areas have been developed by the Office for National Statistics to reflect typical commuting patterns and are divided along an urban to rural spectrum).
- 15 Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 16 Census (2011), Usual resident population (analysed by region and urban rural split)
- 17 Network Rail (2019), **Five years since we reopened Dawlish**
- 18 Based on analysis from the Office for National Statistics, but with minimum population of 10,000. Office for National Statistics (2019), **Understanding towns in England and Wales: an introduction**
- 19 National Infrastructure Commission (2020), **Growth Across Regions**
- 20 HM Treasury (2020), **National Infrastructure Strategy**, page 34
- 21 Department for Transport (2020), National Travel Survey **NTS0303: Average number of trips, stages, miles and time spent travelling by main mode: England**
- 22 Department for Transport (2020), National Travel Survey **NTS9904: Average distance travelled by mode, region and rural urban classification: England**
- 23 Department for Transport (2020), National Travel Survey **NTS9902: Household car ownership by regional and rural urban classification: England**
- 24 Department for Transport (2020), **National Travel Survey: England 2019**, page 2
- 25 National Infrastructure Commission (2019), **Transport Connectivity Discussion Paper**
- 26 Department for Transport (2020), **Decarbonising Transport**, page 88
- 27 Department for Transport (2021), **Gear Change: One Year On**, page 10
- 28 Department for Transport (2020), **Gear Change: a bold vision for cycling and walking**, page 12
- 29 Department for Transport (2020), **London Mini Hollands**; Rachel Aldred, Joseph Croft and Anna Goodman (2019), **Impacts of an active travel intervention with a cycling focus in a suburban context: One-year findings from an evaluation of London’s in-progress mini-Hollands programme**, Transportation Research Part A: Policy and Practice, Volume 123, pages 147-169.
- 30 Department for Transport (2021), **Gear Change: One Year On**, page 21

- 31 Department for Transport (2020), [Household car ownership by region and Rural-Urban Classification](#)
- 32 Sheffield Hallam University, Centre for Regional Economic and Social Research (2017), [Addressing transport barriers to work in low income neighbourhoods](#), page 7
- 33 Joseph Rowntree Foundation (2018), [Tackling transport-related barriers to employment in low-income neighbourhoods](#), page 42
- 34 Case study based on information provided to the Commission by Wakefield District Council
- 35 Arriva (2021), [TK1/TK2 Wakefield to TK Maxx Distribution Centre Timetable](#)
- 36 GWS (2020), [Inadequate home internet speeds are contributing to the 'digital divide' during lockdown across both urban and rural areas](#)
- 37 National Infrastructure Commission (2021), [Behaviour change and infrastructure beyond Covid-19](#)
- 38 5G Factory of the Future (2021), [Industrial Applications](#)
- 39 West of England Combined Authority (2018), [5G-enabled Smart Tourism in the West of England](#)
- 40 National Infrastructure Commission (2020), [Growth across regions](#)
- 41 Based on Office for National Statistics analysis Office for National Statistics (2019), [Understanding towns in England and Wales: an introduction](#)
- 42 HM Treasury/Department for Transport (2006), [The Eddington Transport Study](#)
- 43 National Infrastructure Commission (2020), [Rail Needs Assessment Social Research](#)
- 44 Pusa (2009), [The magnitude and causes of agglomeration economies](#)
- 45 Stevenage Borough Council (2019), [Georgian and Victorian Stevenage](#)
- 46 GSK (2021), [GSK unveils plan for one of Europe's largest life science campuses in Stevenage](#)
- 47 National Infrastructure Commission (2019), [Economic growth and demand for infrastructure services](#)
- 48 Salford City Council (2008), [The story of Salford Quays](#)
- 49 Centre for Cities (2021), [Fast Growth Cities – 2021 and beyond](#)
- 50 HM Treasury (2020), [The Green Book \(2020\)](#)
- 51 National Infrastructure Commission (2020), [Growth Across Regions](#), page 23
- 52 BBC (2013), [Grimsby: Harnessing the power of renewable energy](#)
- 53 Alex Thorp (2017), [What does the Hornsea Project Two announcement mean for Grimsby?](#), Grimsby Telegraph
- 54 Peter Craig (2021), [A look inside Grimsby's huge Ørsted vessel supporting world-leading offshore wind farm](#), Grimsby Telegraph
- 55 North East Lincolnshire Council (2021), [New Humber Link Road officially opened](#)
- 56 Centre for Cities (2018), [Talk of the Town](#)
- 57 Centre for Cities (2018), [Talk of the Town](#), page 18
- 58 Centre for Cities (2018), [Talk of the Town](#), page 19
- 59 Cities defined here in line with Office for National Statistics (2020), [Understanding towns in England and Wales: spatial analysis](#)
- 60 Specifically, the household income of the median 'middle layer super output area' among all the 'middle layer super output areas' in towns within the city's travel to work area.
- 61 West Midlands Metro, [Expansion Programme – Where we are going](#)
- 62 National Infrastructure Commission (2018), [Manchester tops traffic congestion league](#)
- 63 Metro Dynamics (2019), [Our Towns: A practical guide to policy for towns](#), page 20
- 64 Department for Transport (2018), [Rail passenger numbers and crowding on weekdays in major cities in England and Wales: 2018](#)
- 65 HM Treasury (2020), [Budget 2020](#)
- 66 National Infrastructure Commission (2021), [Behaviour change and infrastructure beyond Covid-19](#)
- 67 Humber LEP (2019), [Humber Industrial Strategy Prospectus](#)
- 68 National Infrastructure Commission (2020), [Rail Needs Assessment for the Midlands and the North](#)
- 69 National Infrastructure Commission (2021), [Behaviour change and infrastructure beyond Covid-19](#), page 32
- 70 Welsh Government (2020), [Aim for 30% of the Welsh workforce to work remotely](#)
- 71 Welsh Government (2021), [Remote working locations confirmed across Wales](#)
- 72 Buser et al (2021), [Literature review on the impacts of infrastructure on quality of life](#)
- 73 Foundation for Integrated Transport (2018), [Transport for New Homes](#); Commission's own analysis of 2011 census data
- 74 Department for Transport (2020), [Gear change: a bold vision for cycling and walking](#), page 8
- 75 Panter (2019), [Can changing the physical environment promote walking and cycling? A systematic review of what works and how](#), Health & Place, volume 58
- 76 National Infrastructure Commission (2019), [Design Principles for National Infrastructure](#)
- 77 Joseph Rowntree Foundation (2018), [Tackling transport-related barriers to employment in low income neighbourhoods](#), page 49

- 78 For example, in this literature review commissioned by the House of Commons Business Innovation and Skills and Education Committees: House of Commons Business, Innovation and Skills and Education Committees (2015) [Education, skills and productivity: commissioned research](#)
- 79 Metro Dynamics (2019), [Our Towns: A practical guide to policy for towns](#), page 24
- 80 Metro Dynamics (2019), [Our Towns: A practical guide to policy for towns](#), page 25
- 81 Department for Transport (2020), [List of areas in England designated as a Civil Enforcement Area \(CEA\) for the purposes of enforcing parking contraventions](#)
- 82 Ministry of Housing, Communities & Local Government (2016), [Local government structure and elections](#)
- 83 Ministry of Housing, Communities & Local Government (2016), [Local government structure and elections](#)
- 84 HM Treasury (2021), [Terms of Reference for Study on Infrastructure, Towns and Regeneration](#)
- 85 Local Government Association, [Devolution Register](#)
- 86 National Infrastructure Commission (2020), [Behaviour change and infrastructure beyond Covid-19](#)
- 87 National Infrastructure Commission (2020), [Behaviour change and infrastructure beyond Covid-19](#)
- 88 National Infrastructure Commission (2020), [Principles for effective urban infrastructure](#), pages 31-34.
- 89 Mace (2018), [Stevenage appoints Mace as developer for £350 million town centre regeneration](#)
- 90 Ministry of Housing, Communities and Local Government (2018), [Government announces landmark Town Deal for Greater Grimsby](#)
- 91 North East Lincolnshire Council (2020), [Grimsby Town Centre Masterplan Framework](#)
- 92 Department for Transport (2020), [Decarbonising Transport](#)
- 93 Department for Transport (2020), [Decarbonising Transport](#)
- 94 Climate Change Committee (2019), [Net Zero – Technical Report](#)
- 95 National Infrastructure Commission (2020), [Principles for effective urban infrastructure](#)
- 96 What Works Centre for Local Economic Growth (2018), [How to evaluate?](#)
- 97 Institute for Government (2020), [Local government funding in England](#)
- 98 Ministry of Housing, Communities & Local Government (2021), [Final local government finance settlement: England, 2021 to 2022](#)
- 99 Ministry of Housing, Communities & Local Government (2021), [Local authority capital finance framework: planned improvements](#)
- 100 Local Government Association (2020), [Fragmented Funding](#)
- 101 Local Government Association (2020), [Fragmented Funding](#)
- 102 National Infrastructure Commission (2018), [Infrastructure Spend within the Commission’s Fiscal Remit](#)
- 103 Network Rail (2021), [Our Delivery Plan for 2019-2024](#)
- 104 Department for Transport (2020), [Road Investment Strategy 2: 2020–2025](#)
- 105 Ministry of Housing, Communities & Local Government (2019), [£9.75 million to clean our high streets](#); Bedford Borough Council (2019), [Record of Executive Decision Taken By An Executive Member](#)
- 106 Urban Transport Group (2020), [The Local Transport Lottery: The costs and inefficiencies of funding local transport through ad hoc competitions](#)
- 107 Department for Environment, Food & Rural Affairs (2018), [Litter Innovation Fund: further grants available for innovative community projects](#)
- 108 National Infrastructure Commission (2020), [Principles for effective urban infrastructure](#)
- 109 Jong et al (2021), [A comprehensive approach to understanding urban productivity effects of local governments: Local autonomy, government quality and fragmentation, OECD Regional Development Papers, No. 11](#)
- 110 National Infrastructure Commission (2019), [Transport connectivity](#)
- 111 Commission calculations based on: Department for Transport (2020), [Transport expenditure statistics TSGB1302](#); HM Treasury (2021), [GDP deflators at market prices](#)
- 112 Commission calculations based on Ministry of Housing, Communities and Local Government (multiple years), [Capital Outturn Return \(COR A1\)](#); HM Treasury (2021), [GDP deflators at market prices](#)
- 113 Department for Transport (2020), [National Travel Survey NTS0308: Average number of trips by length and main mode](#)
- 114 Department for Transport (2020), Road length statistics [RDL0103: Road length \(miles\) by road type in Great Britain](#)
- 115 Department for Transport (2018), [Major Road Network and Large Local Majors Programmes: programme investment planning](#)
- 116 Commission analysis and calculations based on: MHCLG (2020), [Capital Outturn Return \(COR A1\) 2019-20](#); HM Treasury (2020) analysis of central government grants by function provided to Commission; Transport for London (2020), [Annual Report and Statement of Accounts 2019/20](#)
- 117 Ministry of Housing, Communities & Local Government (2010), [Local authority revenue expenditure and financing England: 2008 to 2009 individual local authority data outturn](#)

- 118 Ministry of Housing, Communities & Local Government (2019), [Local authority revenue expenditure and financing England: 2018 to 2019 provisional outturn](#)
- 119 National Infrastructure Commission (2020), [Growth Across Regions](#), page 23
- 120 National Infrastructure Commission (2021), [Behaviour change and infrastructure beyond Covid-19](#)
- 121 Ofcom (2021), [Connected Nations Update](#)
- 122 HM Treasury (2020), [National Infrastructure Strategy](#), page 31
- 123 Think Broadband (2021), [Local Broadband Information](#)
- 124 Department for Digital, Culture, Media & Sport and Prime Minister's Office (2021), [PM and Digital Secretary welcome broadband jobs boom](#)
- 125 Openreach (2021), [Full Fibre Build Programme](#). The data shows exchanges in most towns are expected to be covered in the same time frame as cities.
- 126 Department for Digital, Culture, Media & Sport (2021), [Project Gigabit Delivery Plan, Summer Update](#)
- 127 Department for Digital, Culture, Media & Sport (2021), [Project Gigabit: Phase One Delivery Plan](#)
- 128 BT Group (2020), [The Telecommunications Infrastructure \(Leasehold\) Bill, Public Bill Committee Written Evidence](#)
- 129 Openreach (2021), Data shared with the Commission to inform study
- 130 Calculated based on Commission analysis of 2011 census data on number of flats/subdivided apartments
- 131 Ministry of Housing, Communities and Local Government (2019), [English Housing Survey Household Report 2017 18](#)
- 132 National Infrastructure Commission (2018), [National Infrastructure Assessment](#), page 29
- 133 GigaTAG (2020), [Gigabit Take-up Advisory Group: Interim Report](#)
- 134 GigaTAG (2021), [Gigabit Take-up Advisory Group: Final Report](#)
- 135 HM Treasury (2021), [Budget 2021](#)
- 136 GigaTAG (2020), [Gigabit Take-up Advisory Group: Final Report](#)
- 137 Ofcom (2021), [Connected Nations Update Spring 2021](#)
- 138 Department for Digital, Culture, Media & Sport (2020), [Shared Rural Network](#)
- 139 National Infrastructure Commission (2018), [National Infrastructure Commission Phase 2: public research](#); National Infrastructure Commission (2019), [Social Research: Regulation & Resilience](#)
- 140 From analysis of mobile experience by Opensignal that was shared with the Commission
- 141 Ofcom (2021), Mobile Matters
- 142 Competition & Markets Authority (2021), [Electric vehicle charging market study: final report](#)
- 143 For example: Ofgem and Ipsos Mori (2021), [Insights into consumer attitudes to decarbonisation and future energy solutions](#); Behavioural Insights Team and Transport research Laboratory (2020), [Driving and accelerating the adoption of electric vehicles in the UK](#)
- 144 National Infrastructure Commission (2018), [National Infrastructure Assessment](#), page 61
- 145 Competition and Markets Authority (2021), [Electric Vehicle Charging market study: Final report](#)
- 146 Estimates of the number of households without off street parking vary. For example, PwC found that in the UK 28 per cent of drivers do not have off street parking. Field Dynamics estimated that approximately 32 per cent of households in Great Britain outside London do not have access to off street parking (7.8 million households)
- 147 Competition and Markets Authority (2021), [Electric Vehicle Charging market study: Final report](#)
- 148 HM Treasury (2020), [National Infrastructure Strategy](#), page 95
- 149 National Infrastructure Commission (2018), [National Infrastructure Assessment](#), page 60
- 150 HM Government (2017), [Next Generation Mobile Technologies: A 5G Strategy for the UK](#)
- 151 Department for Digital, Culture, Media & Sport (2019), [UK Telecoms Supply Chain Review Report](#)
- 152 National Infrastructure Commission (2021), [Annual Monitoring Report 2021](#)
- 153 Department for Digital, Culture, Media & Sport and HM Treasury (2017) [Next Generation Mobile Technologies: A 5G Strategy for the UK](#), page 6
- 154 Some of the possible use cases for 5G were explored by the Commission as part of the Connected Future study. National Infrastructure Commission (2016), [Future Use Cases for Mobile Telecoms in the UK](#)
- 155 Umlaut (2020), [Audit Report 5G Coverage in the UK, 2020](#)
- 156 Umlaut (2020), [Audit Report 5G Coverage in the UK, 2020](#)
- 157 Department for Transport (2021), [Bus Back Better: National Bus Strategy for England](#), page 32
- 158 Department for Transport (2021), [Bus Back Better: National Bus Strategy for England](#), page 65
- 159 Department for Transport (2021), [Bus Back Better: National Bus Strategy for England](#), page 65
- 160 Route One (2020), [Oxford PickMeUp DRT to be withdrawn after pilot](#)
- 161 Department for Digital, Culture, Media and Sport (2021), [5G Testbeds and Trials Programme: complete list of 5G projects](#)
- 162 Department for Transport (2021), [Rural mobility fund: successful bids](#)

NATIONAL INFRASTRUCTURE COMMISSION

Better infrastructure for all

Finlaison House
15-17 Fumival Street
London EC4A 1AB



[nic.org.uk](https://www.nic.org.uk)



[@NatInfraCom](https://twitter.com/NatInfraCom)

September 2021