Urban demographics
Where people live and work

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Executive Summary

There has been something of an “urban renaissance” over the 10 years between 2001 and 2011. The suburban population of cities grew by 8 per cent over this time, from 28.45 million to 30.77 million, and are now home to 55 per cent of the total population of England and Wales. And city centres, which make up just 1.6 per cent of the total population of England and Wales, grew by 37 per cent over this period, from 0.66 million to 0.9 million residents.

But this growth has not happened everywhere – it has been driven primarily by the city centres of large cities, and by young, highly educated, single residents, sometimes referred to as ‘millennials’ or ‘Generation Y’. In some places, such as Sheffield and Newcastle, they are more likely to be students. In other cities, such as Manchester and Liverpool, they are more likely to be workers.

The city centres of smaller cities, however, have seen much slower growth over this period. Residents in these city centres tend to be older, less highly qualified, and more likely to work in lower skilled occupations. They are also more likely to own their home and to drive, rather than to walk to work.

Where people choose to live, who those people are, and why they choose to live there all have a significant impact on a wide range of policy areas. This report sets out a demographic overview of the city centres, suburbs and hinterlands of all 59 cities in England and Wales, and shows how these demographics have changed between 2001 and 2011. It offers some general reflections for how we might understand these trends, their implications for policy-making, and some questions for further analysis.

- Does the importance of being close to employment opportunities differ at different points in a person’s life?
- Large-city centres on the whole have strong economies as well as good amenities. Should strategies to encourage city centre living in small cities reflect this and focus on strengthening the employment base of their city centres, as well as providing amenities?
- How can policies that aim to create ‘mixed’ communities in certain neighbourhoods take account of the fact that different people have preferences for different places – and that different factors drive their residential decisions?
- A significant driver in the growth of city centres has been the presence of students, and not only professionals. Should decisions of where to locate
universities and university accommodation be made with consideration of their impacts on the growth and make-up of city centres?

- What does the policy focus on home ownership – which will predominantly affect suburbs and hinterlands – mean for the housing agenda in city centres?

- The distance over which people commute and the method by which they travel are closely related to the proximity of their home to their workplace. How can cities ensure that policies aimed at encouraging sustainable transport are in line with commuting patterns?

The report is the first part of a major project which aims to better understand who lives in different parts of cities, why they choose to live where they do, and how this differs between cities. It aims to support national and local policy-makers in developing policy that is informed by a better understanding of where people live and work in the 21st century.

The second report in this project, to be published in November of this year, will use polling data and city case studies to better understand the specific factors that guide people’s residential decisions.
Introduction

Policy needs to adapt and respond to the changing way people live their lives. Housing policy needs to respond to preferences and trends, both in terms of where houses are built, and the type and tenure of those houses. Transport infrastructure should support travel patterns between where people live, work and consume amenities. The provision and location of public services – from GPs and hospitals, to recycling centres, to fire stations – needs to align with the needs of local residents, as do local amenities such as shops, restaurants, libraries and open spaces. And public policy can also shape preferences and trends – walkable neighbourhoods and lifestyles can have a positive effect on residents’ civic engagement, health and energy usage.

Previous work by the Centre for Cities has highlighted the need for a better understanding of the demographics of cities in policy-making. But where people live and why they live there is not typically accounted for across the range of policy areas that such decisions affect.

City growth strategies often seek to attract certain firms and people into certain parts of cities, particularly city centres. But while we know more about how and why jobs and businesses are drawn into city centres, our understanding of the types of people drawn to live in different parts of cities, and why they choose to go there, is rather more limited.

The same is not true in the US, where residential patterns, and in particular, the return of “millennials” to cities, has hit the mainstream. Over 5,000 web pages match the search term “best city for millennials”. The young, digitally-engaged and well-educated generation born between 1980 and 2000 are transforming urban America by rejecting the car-dependent lifestyle of previous generations and instead embracing public transport, walking and cycling, preferring dense, mixed-use neighbourhoods to zoned urban sprawl.

This report is the first of two which together aim to provide a more detailed picture and understanding of where people live, why they live there, and how that has changed since the turn of the century, in order to better inform the wide range of policy areas affected by living patterns.

3 There is a wide literature on the compact city and its effect on energy consumption and pollution. For example, see Jenks, M, Burton, E and Williams, K (eds) (1996) The Compact City: A Sustainable Urban Form? Abingdon: Spon Press
For the purposes of this report the ‘city’ is divided into three parts: city centre, suburb and the hinterland.

**City centres tend to have a mix of jobs and amenities** that are accessed by people from surrounding areas, as well as people living in them. In 2011, 28 per cent of the 14 million people living and working in cities across England and Wales worked in city centres, and 1.6 per cent of the population of England and Wales lived in city centres.

**Suburbs are primarily residential areas and house the majority of the city and the country’s population.** In 2011, 55 per cent of the total population of England and Wales lived in suburbs.

**Rural hinterlands are crucial for cities.** 33 per cent of the population of England and Wales lived in the rural hinterlands around cities in 2011, and more than one in five of these residents work in a city.

**Figure 1:** City centres, suburbs and hinterlands in England and Wales

Source: Centre for Cities, see appendix for details.
Box 1: Methodology

This analysis is built up from three parts of each city: city centre, suburb and hinterland. It also makes a distinction between four types of cities: London, large cities, medium cities and small cities.

City centres are defined based on all the lower super output areas (LSOA, the lowest geography available from census data, roughly equating to a neighbourhood) that fall within a circle of:

- London – radius of 2 miles;
- Large cities – radius of 0.8 miles;
- Medium and small cities – radius of 0.5 miles.

Suburbs are the rest of the Primary Urban Area, a standard statistical geography which reflects the continuous built up area of a city.7

Hinterlands are the areas around a city that are within commuting distance. They are bespoke to each city, and are dependent on the average distance travelled by those who live outside of the city but commute into the city. In Plymouth, for example, the radius used is 56 km; in Bradford it is just 30 km.

The majority of this research is built from census data from 2011 and, where comparable, from 2001 in order to understand the demographics of these areas. For a full explanation of the data used, refer to the appendix.

The next section takes a closer look at the people who live in city centres, suburbs and rural hinterlands across the 59 cities of England and Wales. It sets out seven main findings of the demographic characteristics seen across cities in 2011.

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7 For more details about the Centre’s use of PUAs, please visit centreforcities.org/city-by-city/
What are the demographic profiles of English and Welsh cities?

1. Residents in city centres, particularly those in large cities, are younger than those in suburbs and hinterlands

There are many more young adults in city centres than in other parts of cities, with around one in three aged between 20 and 29 (Figure 2). In suburbs, residents tend to be older, or under 19, suggesting that families with children are more likely to locate in these areas. In the rural hinterlands, 45-64 year olds make up the largest share of residents, and the over 65s make up more than double the share of residents that they do in city centres.

**Figure 2: Age breakdown within cities**

As Figure 3 shows, the young profile of city centres overall is driven by large cities, rather than London, or medium and small cities. Almost half (49 per cent) of the residents of large-city centres are aged between 20 and 29, compared to 30 per cent or less in other cities.
People aged between 20 and 29 are also the largest group in the city centres of small and medium cities. But what distinguishes city centres of small and medium cities, as well as London, from those of large cities is the substantially higher share of those aged over 45.

2. The majority of city centre residents are single

Just as residents in city centres are likely to be younger, they are also more likely to be single (Figure 4). Nearly half of residents in city centres are single, while just 22 per cent of residents are married or in a civil partnership and living together.

![Figure 3: Age breakdown across city centres](source)

![Figure 4: Living arrangements within cities](source)
This pattern is reversed in suburbs and hinterlands, reflecting the tendency of people to locate further away from the city centres as they get older, get married or cohabit, and start families. In the suburbs, single people make up 29 per cent of all residents, but married couples living together make up 43 per cent.

In the hinterlands, 51 per cent of residents are married and living in a couple. Single people, meanwhile, make up just 21 per cent of all residents. And while the trend is broadly similar between suburbs and hinterlands, the proportion of widowed residents is highest in hinterlands.

3. City centre residents are most likely to live in a flat

Three quarters of residents living in city centres live in a flat or an apartment (Figure 5). In suburbs, just over a quarter of residents live in flats but one in three live in semi-detached accommodation. Detached and semi-detached houses are the most common type of housing in the hinterlands.

![Figure 5: Accommodation type within cities](image)


London has the highest share of households that live in flats, at 90 per cent, followed by large cities (83 per cent). The city centres of small cities have the smallest proportion of flats. This reflects the higher population densities of London and large-city centres.

Levels of home ownership are much lower in city centres than in suburbs or hinterlands. 73 per cent of people rent in city centres, compared to 29 per cent in hinterlands. Small-city centres have the highest rate of home ownership, while it is lowest in large-city centres – more than half of households in large-city centres are privately rented. Interestingly, the most common tenure in central London is social rentership – the result of the large amount of social housing stock in central London.
4. Residents in city centres are more likely to be students than residents living elsewhere

The proportion of city centre residents who are employed (42 per cent) is lower than in other areas of the city (Figure 6). In suburbs and hinterlands the shares of employed residents are 45 and 47 per cent respectively. In city centres, students make up one in four residents, much higher than in suburbs and hinterlands. Compared to suburbs and hinterlands, the residents of city centres are also less likely to be economically inactive: 14 per cent of city centre residents are inactive, compared to 18 in suburbs and hinterlands.

Figure 6: Economic activity within cities

![Economic activity within cities](source: NOMIS (2015). Census 2011 data.)

Again, the trend is not the same across all city centres. In large-city centres, students account for 44 per cent of all city centre residents, while employed residents make up just 35 per cent of the total (Figure 7). London has the smallest share of students (16 per cent), and almost half (49 per cent) of all its residents are in employment.

In medium- and small-city centres there are bigger shares of people who are economically inactive: 18 per cent in medium-city centres and 17 per cent in small-city centres, compared to just 9 per cent in large-city centres.

Figure 7: Economic activity of residents across city centres

![Economic activity of residents across city centres](source: NOMIS (2015). Census 2011 data.)
5. Residents in city centres are well educated

People living in city centres are more highly educated than residents living in other parts of cities (Figure 8). One third (35 per cent) of working-age people living in city centres have a degree, compared to 27 per cent in suburbs and hinterlands. Over half (54 per cent) of city centre residents have at least A-level or equivalent qualifications.

City centres also have the lowest share of people (25 per cent) with either no formal qualifications or level 1 qualifications. In suburbs and hinterlands, 36 per cent of residents are in this category.

**Figure 8: Highest level of qualification attained within cities**

Large-city centres have a higher share of residents with high qualifications (37 per cent) than the city centre average. Half of central London residents have a degree, compared to 25 per cent of residents in medium sized city centres and 24 per cent in small-city centres. One in five residents in medium- and small-city centres have no formal qualifications, compared to below one in 10 (9 per cent) in large-city centres and 13 per cent in London.

Just as city centre residents in London and large cities are more highly qualified, they are also most likely to be employed in highly skilled professional jobs (Figure 9). London in particular has the highest share of residents who are managers or senior officials, professionals or associate professionals (66 per cent). City centres of small cities, on the other hand, have the highest share of residents working in lower skilled occupations – sales and customer service, process, plant and machine operatives, and elementary occupations (38 per cent).
6. City centre residents are less likely to use a car to get to work

In city centres, the proportion of residents who walk to work (32 per cent) is more than three times as high as in the suburbs and hinterlands (10 per cent). In city centres, less than a quarter commute by car or van, compared to just over a half in suburbs and two thirds in hinterlands (Figure 10).

This reflects the fact that city centre residents live closer to their workplace. 56 per cent travel less than 5km to work – while just 30 per cent of residents in the rural hinterlands travel less than 5km.

But these travel patterns are not uniform across all city centres (Figure 11). In London, just under a quarter of all journeys are made by underground, and 8 per
cent are made by car. In large-city centres, residents are more likely to walk, with 42 per cent of journeys to work made on foot, but they are also more likely to drive – journeys made by car account for a quarter of all journeys. As cities get smaller, commutes become longer, more journeys are made by car and fewer are made on foot. In small-city centres, 40 per cent of all journeys are made by car.

**Figure 11: Method of travel to work across city centres**

7. **City centres are home to a significant immigrant population**

In 2011, of the 56 million residents of England and Wales, 7.5 million were foreign-born. Cities and their hinterlands are home to nearly 95 per cent of them.

Across the different parts of a city, the share of immigrants is significantly higher in the city centres (Figure 12).

**Figure 12: Migration within cities**

On average, 35 per cent of city centre residents in 2011 were born outside of the UK. While the suburbs are home to the majority of immigrants – nearly 5.5 million immigrants (73 per cent of all immigrants across England and Wales) live there – this only represents 18 per cent of the total suburban population. Hinterlands are the least likely to be home to foreign-born residents, who make up 7 per cent of the total hinterland population.

Some cities are more likely than others to be home to foreign-born residents (Figure 13). Central London has the highest proportion of international migrants, accounting for 45 per cent of the total resident population. In large-city centres, one in three residents is foreign-born. City centres of small and medium sized cities have relatively lower shares of foreign migrants – 29 and 27 per cent respectively – but these shares are still significantly higher than suburbs and hinterlands on average.

**Figure 13: Migration across city centres**

![Migration across city centres](image)


**Box 2: How London differs from other cities**

London is more than just the UK’s largest city. Its success and growth meant that in 2014, the city as a whole accounted for 16 per cent of all jobs and one quarter of the UK’s economic output. And its dominant position in the economy means that residential patterns in the capital are very different to other large cities in England and Wales.

Residents in central London are highly qualified and most likely to be managers or professionals, but less likely to own their home than in small cities. This primarily reflects the high demand for housing in central London, where high house prices pushes those wanting to own their home into the suburbs.

London’s house prices – the second-least affordable in the UK – help to explain why younger residents in central London are more likely to be priced out, and are not the dominant group as they are in other large-city centres. The demand for housing, as well as good intra-city public transport, has meant that this young,
professional demographic, which in other large cities is found in the city centre, has instead spilled out into London’s suburbs.

53 per cent – the highest share in England and Wales – of all working residents in London’s city centre work in the city centre. This reflects the high concentration of jobs in central London. Partly as a result of this high containment, London’s travel patterns are characterised by a higher share of commuters travelling short distances. The most common method of travel in central London is on foot, while a higher share of journeys are made by bicycle than in other city centres. The capital’s extensive transport network and good transport provision mean that public transport is much more commonly used than private transport, unlike in other city centres.

Summary

In 2011, city centre residents were markedly different across a range of demographic characteristics compared to residents of suburbs and hinterlands:

- The typical resident of a city centre in 2011 was younger and more likely to be single than their suburban or rural counterparts, who were more likely to be married and living together, indicating that residential preferences change as people get older.
- Students made up a significant proportion of city centre residents, especially in large-city centres.
- City centre residents were more highly-skilled and more likely to work in a professional occupation than residents elsewhere.
- City centre residents were much more likely to rent a flat or an apartment. Suburban residents were more likely to own semi-detached homes, while residents in hinterlands were more likely to own semi-detached or detached homes.
- City centre living allowed people to travel shorter distances to work, and a greater share of these commutes were made on foot, by bicycle or on public transport. Residents in hinterlands were most reliant on cars for transport.
- In 2011, whilst the majority of foreign-born residents lived in suburban areas, as a share of the population, in city centres more than one in three residents were born outside the UK.
How did the demographic profile of cities change between 2001-2011?

Between 2001 and 2011 the population of city centres grew by 37 per cent, far faster than suburbs (8 per cent growth) and hinterlands (6 per cent) (Figure 14). This rate of growth in part reflects the relatively small size of city centre populations in 2001 compared to the populations of suburbs and their hinterlands.

**Figure 14: Change in population within cities, 2001-2011**

![Figure 14: Change in population within cities, 2001-2011](source: NOMIS (2015). Census 2001 and 2011 data)

The divergence between city centres of large and smaller cities has also grown over this period. Large cities have seen a notable increase in city centre living; the
populations of large-city centres more than doubled in size over 10 years (Figure 15), driven by young professionals and students living close to their workplace and walking to work. This put significant pressure on housing in those city centres – the share of households in large-city centres classed as overcrowded increased by 69 per cent between 2001 and 2011.

Medium-sized city centres also saw growth in population, increasing in size by 35 per cent, while small-sized cities experienced slower growth (22 per cent). Interestingly, central London saw the slowest growth. This is partly a result of very limited growth in the City of London. But it is also likely to be caused by a combination of constraints on further development in the already tightly bounded urban area and an affordability challenge. London’s population growth was instead seen primarily in its suburbs, which grew by 13 per cent over the ten years, more than twice as fast as the suburbs of large cities.

1. The change in residents in cities was driven by those in work and by students

In city centres, as shown in Figure 16, the majority of the change in residents was driven by those in work. The student population, which more than doubled in city centres over the period 2001-2011, made the second largest contribution. Growth in the suburbs and hinterlands was also driven by those in work and across the three areas, there was a decrease in the number of people who are economically inactive. The number of people aged 75 and over living in city centres declined, but it increased in suburbs and hinterlands.

Figure 16: Change in economic activity within cities, 2001-2011

employed residents more than doubled in number between 2001 and 2011 in large-city centres and increased by 33 per cent in central London (Figure 17). In the city centres of medium and small cities, employed residents increased by 51 and 36 per cent respectively.
The increase in students between 2001 and 2011 (by 188 per cent) was the most significant driver of the growth of large-city centres. By comparison their contribution to the overall population change in medium- and small-city centres was much smaller.

The number of people aged 75 and over declined across all city centres, while the number of children increased in the city centres of all cities, with the exception of London, which saw a decline.

**Box 3: A comparison of growth in Manchester and Sheffield, 2001-2011**

Manchester’s population change between 2001 and 2011 (198 per cent) was driven by those in work, while in Sheffield most of this growth (110 per cent) was accounted for by rising student numbers.

Both cities saw an increase in highly skilled residents during the period. Manchester city centre saw the third fastest increase in residents with at least a degree level qualifications over ten years: a 366 per cent increase, compared to 196 per cent in Sheffield. Sheffield city centre also saw the second fastest growth nationally of residents with A levels, which reflects its higher share of students studying for higher qualifications.

Both city centres have seen an increase in short commutes – the share of journeys made by bicycle increased by eight times in Manchester, and nine times in Sheffield. Both cities also saw a significant increase in journeys made on foot, with these journeys increasing by 436 per cent in Manchester and 187 per cent in Sheffield.
2. There was a substantial growth in residents working in high skilled occupations in city centres, but small cities lagged behind

Not only did large-city centres see the most significant growth in those in work over 10 years, but importantly, residents working in high skilled occupations nearly tripled (195 per cent growth). In central London, high skilled occupations increased by 47 per cent. In small cities, high skilled occupations grew more slowly (by 28 per cent), while lower skilled occupations grew by 52 per cent.

Figure 19: Change in occupation across city centres, 2001-2011

3. Most city centres have seen an increase in people both living and working in them

Over 10 years, 56 out of 59 cities saw an increase in the share of their city centre residents who also work in the city centre. In 2011, residents of central London and other large-city centres were more likely to also work there than was the case in medium- and small-city centres. The containment – or share of city centre residents who work in the city centre – was 53 per cent in London, compared to just 20 per cent in small-city centres (Figure 20).

**Figure 20: Containment across city centres, 2011**


The cities that saw the largest growth in both containment and in the share of jobs in their city centres have been large cities, and in particular London. On the whole, there is a close relationship between the growing containment of the city and the share of jobs in the city centre, as Figure 21 shows.

**Figure 21: Relationship between change in containment and change in jobs in city centres**

4. Walking to work became increasingly common in city centres

The increase in people both living and working in the city centre over 10 years – which has been particularly significant in large cities – is reflected in changing travel patterns, which have seen journeys get shorter and more journeys being made on foot and by bicycle. In comparison, as Figure 22 shows, driving made the largest net contribution to increasing number of journeys to work made by suburban and hinterland residents.

**Figure 22: Change in method of travel to work within cities, 2001-2011**

This trend is reflected in the change in method of travel to work in city centres (Figure 23). All city centres saw an increasing number of workers commuting to work on foot (66 per cent) or by bicycle (98 per cent), but in large-city centres the change was higher than in the centres of medium and small sized cities (journeys made on foot increased by 198 per cent in large-city centres, compared to 52 per cent in medium-city centres and 25 per cent in small-city centres).

In central London, an increasing number of journeys were made on public transport, on foot or by bicycle, while the use of the car decreased. In medium- and small-city centres, trips made by car contributed the most to the growth in journeys to work, although in medium-sized cities commutes on foot also increased significantly.
Summary

- City centres grew much faster than suburbs and hinterlands between 2001-2011, and that growth was primarily driven by large-city centres.

- The majority of new residents in suburbs and hinterlands were employed. In city centres, there was a more even split between employees and students. But in large-city centres, nearly 55 per cent of new residents were students.

- Growth in high skilled occupations made the most significant contribution to increasing employment in central London and in large-city centres. In contrast, in centres of small cities it was the growth in low skilled occupations that drove the increase in the employed population.

- The share of city centre residents who also work there increased significantly in London and large-city centres. But this growth was much lower in small- and medium-sized cities.

- Large-city centres saw the fastest increase in journeys made under 2km, and the majority of these new journeys were made on foot.
Reflections

The precise factors that influence people’s residential decisions, and how these vary across people and places, are not well understood. Policy-makers have long tried to attract young professionals into city centres – often focusing on retail or residential-led strategies in order to do so⁹ – even though they have limited knowledge of whether these are the factors that attract young people to city centres.¹⁰

In fact, there are likely to be many reasons why young people come to city centres, and why families are attracted to suburbs. Cost of housing, proximity to workplace, availability of public transport, size, type and tenure of housing, local shops, schools, restaurants, leisure and cultural facilities, open and green spaces and safety are all likely to play a role – as are cultural ties to certain places, or previous knowledge of an area. Previous work has suggested that city centre living is driven more by factors such as convenience and proximity to shops and facilities than by leisure and cultural activities.¹¹ Currently, we can observe these patterns, but until we have a more thorough understanding of what drives residential decisions we are less able to ultimately influence it.

However, the divergence between the types of people living in city centres, suburbs and hinterlands raises further questions for future research.

- Does the importance of being close to employment opportunities differ at different points in a person’s life?
- Large-city centres on the whole have strong economies as well as good amenities. Should strategies to encourage city centre living in small cities reflect this and focus on strengthening the employment base of their city centres, as well as providing amenities?
- How can policies that aim to create ‘mixed’ communities in certain neighbourhoods take account of the fact that different people have preferences for different places – and that different factors drive their residential decisions?

• A significant driver in the growth of city centres has been the presence of students, and not only employed residents. Should decisions of where to locate universities and university accommodation be made with consideration of their impacts on the growth and make-up of city centres?

• What does the policy focus on home ownership – which will predominantly affect suburbs and hinterlands – mean for the housing agenda in city centres?

• The distance over which people commute and the method by which they travel are closely related to the proximity of their home to their workplace. How can cities ensure that policies aimed at encouraging sustainable transport are in line with commuting patterns?

The second part of this project, to be published in November 2015, will use polling data to delve more deeply into these questions and others.
Appendix

Unit of analysis

The spatial units used in the analysis are Lower Layer Super Output Areas (LSOAs). The statistics for LSOAs were originally released in 2004 for England and Wales and LSOAs are defined by the following minimum and maximum population and household thresholds:

<table>
<thead>
<tr>
<th>Geography</th>
<th>Minimum population</th>
<th>Maximum population</th>
<th>Minimum number of households</th>
<th>Maximum number of households</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSOA</td>
<td>1,000</td>
<td>3,000</td>
<td>400</td>
<td>1,200</td>
</tr>
</tbody>
</table>

Source: ONS

Where population growth over period 2001-2011 resulted in the population exceeding the maximum threshold, the LSOA has been split into two or more areas; if the population fell below the minimum threshold, the LSOA has been merged with the adjacent LSOAs. As a result, the count of LSOAs within England and Wales differs between the Census 2001 and the Census 2011 releases:

<table>
<thead>
<tr>
<th>Geography</th>
<th>England</th>
<th>Wales</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>LSOA in 2001</td>
<td>32,482</td>
<td>1,896</td>
<td>34,378</td>
</tr>
<tr>
<td>LSOA in 2011</td>
<td>32,844</td>
<td>1,909</td>
<td>34,753</td>
</tr>
</tbody>
</table>

Source: ONS

Three geographies: city areas

For each individual city in England and Wales, LSOAs were used to define three separate geographies:

- City centre
- Suburb
- Hinterland

**City centre**

The city centre is defined as a circular area, composed of all LSOAs that fall within a radius from a pre-defined city centre point. The radius is 2 miles for London, 0.8 miles for large cities and 0.5 miles for medium and small cities.

Where an LSOA only partially falls within this circular area, more than 50% of its land mass must fall within it for it to be classed as a city centre.

**Suburb**

Suburbs are defined as comprising all LSOAs within the respective Primary Urban Area (PUA) that are not classed as city centres LSOAs.

Suburbs of different cities do not overlap, as these are perfectly nested within the local authorities that make up the PUA.
The Primary Urban Area (PUA) definition is a standard statistical geography which reflects the continuous built up area of a city. It is defined for English cities only. For Welsh cities, a city definition is based on the corresponding local authority area.

City centres and suburbs combined make up the PUAs.

**Hinterland**

The hinterland is defined as a circular area, composed of all LSOAs that fall within a certain radius from the pre-defined city centre point. This radius is city-specific and depends on the average distance travelled by those who live outside of the city but commute into the city.

The average distance travelled figures are calculated in reference to Middle Layer Super Output Areas (MSOAs) rather than LSOAs, as commuting data for LSOAs would have been too complex to analyse. The MSOA-based average distance travelled figures are likely to be similar to the LSOA-based figures.

Where an LSOA only partially falls within this commuting radius, more than 50 per cent of its land mass must fall within it for it to be classed as a hinterland. By definition, the city centre or suburb of one city cannot be classed as the hinterland of another city, even if they fall within the commuting radius.

The hinterlands of different cities overlap and some non-urban LSOAs belong to a hinterland of more than one city, making it impossible to report the statistics for hinterlands of individual cities without double counting. However, the statistics that are reported for the hinterlands in total do not double-count LSOAs.

**Travel to Work Areas**

In the report, a bespoke definition of a hinterland is used, based on an average distance travelled by those who live outside of the city but commute into the city. Although there exists an alternative definition of commuting areas based on the Travel to Work Areas (TTWAs), which captures a set of non-overlapping labour market areas, this definition is not used in the analysis for the following reasons:

- TTWAs are non-overlapping and contiguous areas, and do not capture the possibility that a single location offers an easy access to multiple PUAs.
- TTWAs do not necessarily use cities as their centre point and sometimes are defined for a collection of two local centres of employment (e.g. Newcastle & Durham rather than Newcastle itself).

The rural hinterlands based on the average distance travelled employed in this report are defined for a single PUA. This better captures the relationship that rural areas may have with more than one urban area, especially important in areas with a large concentration of cities.
Adjustments to city centre definitions

The criterion for allocating LSOAs to city centres was that more than 50 per cent of the land mass must fall within the circular areas of defined city centre (which as explained above, varied by city size). Owing to the LSOA boundary revisions detailed above, city centre definitions also differed between 2001 and 2011.

Adjustments were therefore made to the city centre definitions to ensure full comparability of data across time periods. Where the boundary of city centres differed between 2001 and 2011, adjustments were made, involving adding or removing individual LSOAs to or from these definitions. The adjusted city centre definitions cover the same land area of cities in 2001 and 2011.

Four categories of cities

The analysis distinguishes between four types of cities:

- London
- Large city (population is more than 550,000)
- Medium city (population is between 230,000 and 550,000)
- Small city (population is less than 230,000)

Based on the size of resident population in 2011, 59 cities within England and Wales were allocated into the above categories as follows:

<table>
<thead>
<tr>
<th>City name</th>
<th>Population (2011)</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>9,480,417</td>
</tr>
<tr>
<td><strong>Large cities</strong></td>
<td></td>
</tr>
<tr>
<td>Birmingham</td>
<td>2,419,500</td>
</tr>
<tr>
<td>Bristol</td>
<td>691,001</td>
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<tr>
<td>Leeds</td>
<td>751,485</td>
</tr>
<tr>
<td>Liverpool</td>
<td>787,616</td>
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<tr>
<td>Manchester</td>
<td>1,876,194</td>
</tr>
<tr>
<td>Newcastle</td>
<td>829,319</td>
</tr>
<tr>
<td>Nottingham</td>
<td>640,791</td>
</tr>
<tr>
<td>Sheffield</td>
<td>809,978</td>
</tr>
<tr>
<td><strong>Medium cities</strong></td>
<td></td>
</tr>
<tr>
<td>Barnsley</td>
<td>231,221</td>
</tr>
<tr>
<td>Birkenhead</td>
<td>319,783</td>
</tr>
<tr>
<td>Blackpool</td>
<td>325,571</td>
</tr>
<tr>
<td>Bolton</td>
<td>276,786</td>
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<tr>
<td>Bournemouth</td>
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<tr>
<td>Bradford</td>
<td>522,452</td>
</tr>
<tr>
<td>Brighton</td>
<td>334,551</td>
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<tr>
<td>Cardiff</td>
<td>346,090</td>
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<tr>
<td>Chatham</td>
<td>263,925</td>
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<td>Coventry</td>
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<td>Crawley</td>
<td>244,432</td>
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<tr>
<td>Derby</td>
<td>248,752</td>
</tr>
<tr>
<td>City name</td>
<td>Population (2011)</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------</td>
</tr>
<tr>
<td><strong>Medium cities</strong></td>
<td></td>
</tr>
<tr>
<td>Doncaster</td>
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</tr>
<tr>
<td>Huddersfield</td>
<td>422,458</td>
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<tr>
<td>Hull</td>
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<td>Leicester</td>
<td>479,924</td>
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<tr>
<td>Middlesbrough</td>
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<tr>
<td>Milton Keynes</td>
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<td>Norwich</td>
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<tr>
<td>Plymouth</td>
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<td>Portsmouth</td>
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<td>Reading</td>
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<td>Stoke</td>
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<td>Sunderland</td>
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<tr>
<td>Swansea</td>
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<tr>
<td>Wakefield</td>
<td>325,837</td>
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<tr>
<td>Wigan</td>
<td>317,849</td>
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<tr>
<td><strong>Small cities</strong></td>
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<tr>
<td>Aldershot</td>
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<td>Blackburn</td>
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<td>Burnley</td>
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<td>Cambridge</td>
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<td>Gloucester</td>
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<td>Grimsby</td>
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<td>Hastings</td>
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<tr>
<td>Ipswich</td>
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<td>Luton</td>
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<td>Mansfield</td>
<td>223,963</td>
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<td>Newport</td>
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<td>Northampton</td>
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<td>Oxford</td>
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<td>Peterborough</td>
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<td>Rochdale</td>
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<tr>
<td>Swindon</td>
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<td>Telford</td>
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<tr>
<td>Warrington</td>
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<tr>
<td>Worthing</td>
<td>104,640</td>
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<tr>
<td>York</td>
<td>198,051</td>
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</table>