



# The changing geography of the UK economy

## A review of the Primary Urban Area definition

December 2015

This briefing sets out the results of the review of the primary urban area (PUA) definition of cities. The results of this review will be used as the base unit of analysis for Centre for Cities' work from now on, starting with *Cities Outlook 2016*.

### Why Primary Urban Areas?

From an economic point of view, a city is the concentration of a large amount of economic activity in a relatively small area. The best performing cities make the most of this density so that the value of what they produce is greater than the value of the inputs (workers, land etc.) that they use to produce it. This process is known as agglomeration.

Given that the mission of the Centre for Cities is to look at the economies of UK cities, it is the economic concentration perspective of the city that we are most interested in. This means that we require a definition that best matches this requirement. A number of different approaches could be used, but by defining cities principally on their built up area – that is, the physical footprint of a city – the PUA definition is, in our view, the best option.

Of course, the impact of a city is not limited to the borders of its built up area. All cities provide jobs (and amenities) not only for their own residents but for residents in their surrounding areas, with the most successful ones having a pull on a very wide area around them. The average commuting distance of people working in London but living outside of the capital was 62 km in 2011.

This is something we recognise in our research and advocate for in our policy recommendations; policies focused on skills and transport should be designed and delivered at the wider travel-to-work area. And this is why combined authorities, for example, rightly encompass wider areas than PUAs.

But it also means that within these travel-to-work geographies there needs to be an understanding of the role that cities play in being the concentration of economic activity, particularly high skilled, knowledge intensive activity. So, while this pull is of interest for specific elements of work that the Centre does, such as for transport and skills, it is distinct from the aim of measuring the impact of the concentration of people and businesses in a particular place.

## Why update the list of Primary Urban Areas?

Cities change over time – some shrink and some grow. For this reason it is important to periodically reassess how they are defined.

The recent release of built-up urban area (BUA) and travel-to-work area (TTWA) geographies, calculated using Census 2011 data, provide an opportunity to reassess how we define our cities. 10 years on from the State of the English Cities report, which originally defined PUAs, we have looked again at the boundaries of the UK's largest urban areas, with refinements made to the approach of measuring them.

## How do you define a PUA?

With the help of the academics at CURDS at Newcastle University (LINK), who originally defined PUAs, we went through the following seven step process:

**Step 1:** As with the 2005 definition, built-up urban areas were used as the base unit to measure cities. These geographies capture the contiguous built-up area of a settlement, where buildings are less than 200 metres apart. The methodology used by ONS to define the BUAs has changed from the one used for the original PUA definition. A full explanation of BUAs can be found on the [ONS website](#).

**Step 2:** To capture the largest urban areas in the UK, only BUAs with a workday population of 135,000 were retained. This step differed from the 2005 definition in three ways:

- Firstly, workday population was used rather than resident population to better reflect the economic role that a city plays in terms of a provider of jobs.
- Secondly, the threshold was raised from a cut off of 125,000 to reflect both the growth in the UK population in recent years and the switch of indicator.
- Finally, travel to work areas were given relatively less prominence, this means that it is possible to have more than one PUA in a TTWA – as in the case of Wigan and Warrington, which now fall within the same travel to work catchment area.

**Step 3:** The lower super output areas (LSOAs) that best matched this geography were then selected to create a fine grained definition that matched administrative geographies.

Like all geographies, BUAs don't perfectly capture our cities, so a number of refinements below were applied to produce a closer fit and to ensure the new PUA definitions could be used to undertake research and policy analysis:

**Step 4:** There are a number of BUAs, such as the West Yorkshire BUA, that include a number of cities. Where this was the case, the TTWA geographies were used to identify the different cities. In the case of West Yorkshire, this showed that Leeds, Bradford, Huddersfield and Wakefield function as separate entities.

**Step 5:** In some cases, this raised a further question about how to assign non-core local authorities that are within the BUA and between two cities e.g. Adur in the Brighton/Worthing BUA. In this case each LSOA within Adur was assigned to either Brighton or Worthing depending on which city it sent the most commuters to in 2011.

**Step 6:** The built-up area of London includes a number of sub-divisions that are not physically contiguous (i.e. there is clear space between the main BUA and the sub-division), for example St Albans and Bracknell. Given that these sub-divisions are not physically contiguous and are part of separate TTWAs, they were removed from the Greater London BUA.

**Step 7:** Most data at the local level is made available at the local authority level. This meant that the LSOA definition needed to be converted to a local authority one. In many cases this did not provide a neat fit, with BUAs spilling over into parts of surrounding local authorities. In this instance, if more than 50 per cent of the population of a local authority was in the BUA, then that local authority was included in the PUA definition. For example, this means that Broadland was added to the Norwich PUA but South Cambridgeshire was not added to the Cambridge PUA.

## What are the changes to the list of PUAs?

- Based on this revised and refined approach to defining PUAs, there are 63 Primary Urban Areas in the UK – 55 in England, three in Wales, four in Scotland and one in Northern Ireland – down from the 2005 list of 64.
- Three new cities are added. Basildon, Exeter and Slough are included as PUAs.
- Two cities fall out. Grimsby and Hastings fall below the workday population threshold and so are no longer classed among the list of largest concentrations of economic activity.
- Two cities are incorporated into Manchester. Bolton and Rochdale now form part of Manchester PUA. Wigan remains a separate PUA as it is in a separate BUA to Manchester's. Therefore Wigan continues to be a separate concentration of economic activity.
- 11 cities have seen an alteration to their boundaries. These changes are the result of either physical changes to the BUAs or the lesser weight put on TTWAs in the updated approach.
  - Four cities – Swansea, Newport, Bournemouth and Manchester – have expanded to incorporate neighbouring local authorities
  - Five cities – Crawley, Blackpool, Reading, Liverpool and Glasgow – have lost one local authority.
  - London has changed shape as a result of its revised BUA. Dacorum and Mole Valley are excluded, and Hertsmere is included.
  - Belfast also sees a change to its boundaries as a result of local government reorganisation in Northern Ireland.

The map below shows the changes.

**Figure 1: Comparison between the 2005 and 2015 PUAs**



Source: Newcastle University / Centre for Cities, 2015

## The new cities – a profile



Basildon has a very buoyant labour market. It has the seventh highest employment rate of all cities, and at £518 per week, only 13 cities have higher average workplace wages. But despite its high wages, it has very few residents with a degree qualification. Around one in four of its working age residents hold a graduate level qualification, which is half the number of some other cities in the Greater South East, such as Reading, Brighton and Cambridge. Just under one in 10 jobs are in manufacturing, which is one of the highest shares of any city in the Greater South East – only Luton and Portsmouth have a greater share of jobs in this sector.



Exeter plays a very important economic role in its wider area. In 2011, its day time population increased by 26,000 compared to its 'night-time' population (a 22 per cent increase), showing the pull of the city on the wider area. It has the smallest share of residents with no formal education of any city – just 1.2 per cent of the working age population, and one of the lowest claimant count rates of all cities. But it has smaller relative share of graduates, ranking 37th in terms of degree holders in its population. And only Oxford, Dundee and Cambridge have private sectors that make up a smaller share of their overall economies – 38 per cent of jobs in Exeter were in the public sector in 2014.



Slough has seen a sharp increase in its population in recent years – between 2004 and 2014 it was the fastest growing city in terms of population. It has the third highest workday wages of all cities, with average weekly wages being £636 in 2014. And it also has the second highest number of business starts of all cities. Along with Exeter it also has one of the lowest per capita benefits bill of all cities.

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