



Appendix 14

Transport To Work Areas (TTWAs) – further analysis



Cambridgeshire and Peterborough Travel to Work Areas: supplementary analysis and insights

Travel to Work Areas (TTWAs) are a statistic produced by the Office for National Statistics (ONS), based on census data concerning commuting and employment. They have been regularly used, by the ONS, Civil Service and Local Authorities (LAs) to indicate the 'economic gravity' of cities and centres of employment.

The last revision to the TTWA boundaries was based on data from the 2011 census, making them now 14 years old. The 2021 census was not used to update the official TTWA boundaries, as the COVID19 pandemic reduced the reliability of the collected statistics, as employment and associated travel was significantly affected.

There are 4 TTWAs in Cambridgeshire and Peterborough. Cambridge's TTWA is significantly larger than the other 3, being, from largest to smallest, Peterborough, Huntingdon and Wisbech. The image below shows these 2011 TTWA boundaries.



The following document uses 2021 census data to reach conclusions about commuter geography and thus economic interlinkages across the region. It does not attempt to recreate the ONS methodology to update boundaries, but rather to investigate what conclusions can be drawn, and what trends are strongly evident.

Self-Containment

'Self-containment' measures the percentage of working people living in a given Local Authority (LA) who, in Census 2021, reported working within the same LA as they live.

For the purposes of this comparison, only workers (i.e. not those who are out of work for any reason) who indicated a location of their workplace in England, Wales or Scotland (i.e. not in Northern Ireland, overseas or working remotely) are counted.

Due to the COVID19 pandemic at the time of the data collection, the amount of workers who fit in these categories is likely significantly above what may be expected to be in 'normal' circumstances.

At the LA level, geographic proximity is the main factor determining workplace distribution. This becomes less true at Middle Layer Super Output Area (MSOA) level and below, as major employment centres cause clustering. Thus, most workers do work within their LA of residence in this dataset, and insights should be drawn in the variation between LAs. This trend was likely amplified due to the influence of the COVID19 pandemic.

Greater Cambridge

Cambridge

For Cambridge, this figure is very high, at 85.6%. A further 7.2% of employees working in Cambridge lived in South Cambridgeshire. West Suffolk is a distant 3rd at 0.9%.

Possible factors playing into this may be:

- Cambridge acts as the central urban hub for the area, with a high concentration of jobs
- The COVID19 pandemic resulted in many workers working from home. Roles that were able to be performed remotely are disproportionately professional-managerial or technology-focussed roles, which may involve travel to extra-urban campus locations or London based headquarters in normal years

South Cambridgeshire

The figure for South Cambridgeshire is lower, at 72.1%. Cambridge is 2nd, at 17.1%. Huntingdonshire is 3rd at 2.1%.

- This reflects Cambridge's position as the major hub of employment in the area

For **Greater Cambridge**, **91.1%** of relevant respondents living in the constituent LAs also work there. This means under 10% of employed residents who travelled to work crossed into another LA.

North Cambridgeshire and Peterborough

East Cambridgeshire

East Cambridgeshire's self-containment is 71.8%.

It is notable that unlike South Cambridgeshire, which saw a similar figure, much of the remaining ~28% is comprised of many other LAs. Cambridge (8.7%), West Suffolk (6.8%) and South Cambridgeshire (6.6%) all comprise over 5% of this dataset.

- East Cambridgeshire is a smaller and more rural district, so comparatively many job sites are outside of the LA
- It is geographically close to Cambridge, and Newmarket and Mildenhall, in West Suffolk

Huntingdonshire

Huntingdonshire's self-containment is 78.8%. No other LAs comprise over 5%, though Peterborough (4.1%), South Cambridgeshire (3.8%) and Cambridge (3.6%) are significant.

- Huntingdonshire has areas with good connections to Cambridge, and areas with good connections to Peterborough
- It is the largest district by population in the area and has multiple employment sites

Fenland

Fenland's self-containment is 72.4%. 7.9% of relevant workers here worked in Peterborough. 4.75% worked in Huntingdonshire, 3.8% work in King's Lynn and West Norfolk, and 3.3% worked in East Cambridgeshire.

- Fenland is a rural and agricultural area, with good transport links to Peterborough
- Wisbech straddles the border with Norfolk

Peterborough

Peterborough has the highest self-containment in North Cambridgeshire and Peterborough, with 83.9%. Huntingdonshire is second, with 4.2%, and no other LAs are above 3%.

- It is a large urban centre with significant transport connections north-south and east-west

The overall self-containment for **North Cambridgeshire and Peterborough** is **85.5%**. Of residents working in the area, over 70% work in either Peterborough or Huntingdonshire.

Peterborough	30.40%
Huntingdonshire	29.77%
Fenland	13.12%
East Cambridgeshire	12.18%
Cambridge	3.00%
South Cambridgeshire	2.74%
West Suffolk	1.22%
Bedford	0.89%
South Kesteven	0.89%
King's Lynn and West Norfolk	0.81%
North Northamptonshire	0.81%
South Holland	0.61%
Central Bedfordshire	0.41%
Milton Keynes	0.24%
North Hertfordshire	0.22%
Rutland	0.18%

Workplace Locations by MSOA

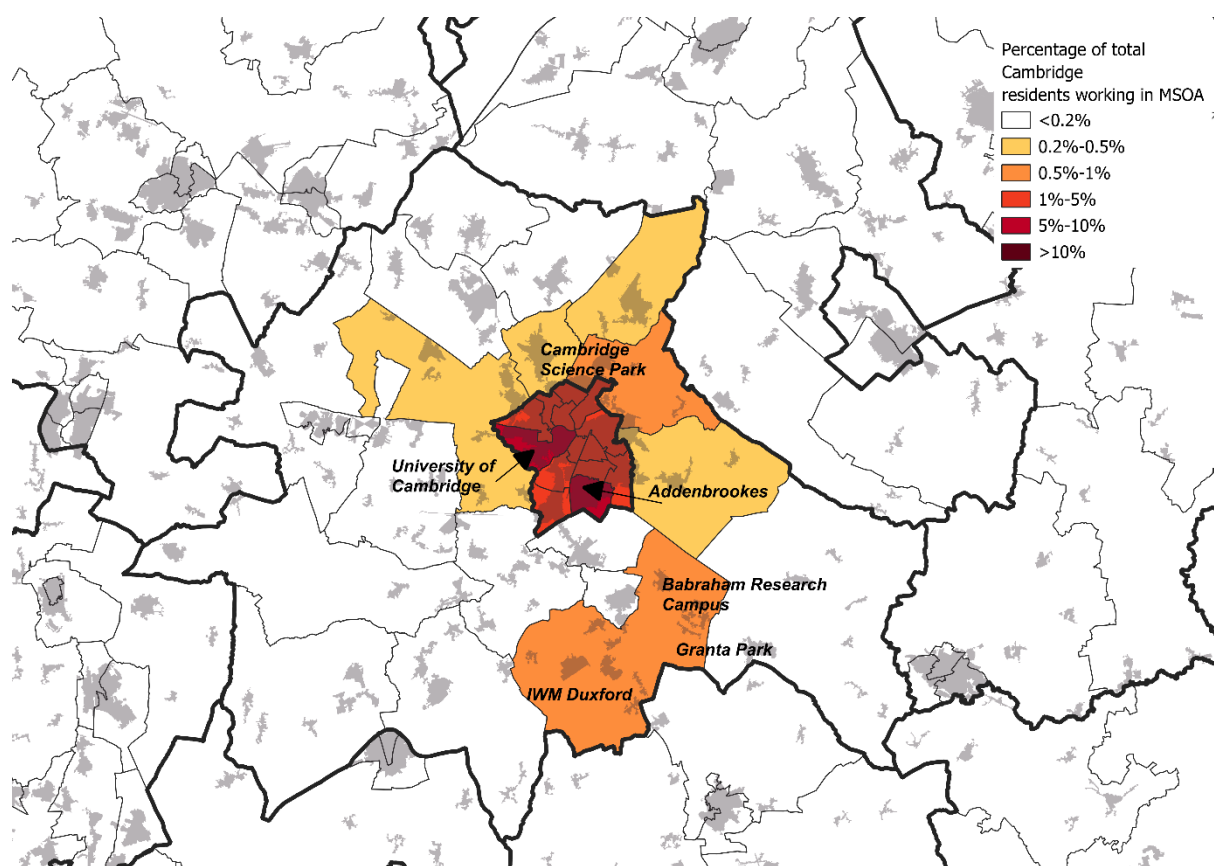
For increased granularity, the locations of workers' workplaces can be mapped. This allows a visualisation of where Cambridge residents work, with detail beneath the LA level. This has been here conducted at the MSOA level, as higher levels of granularity can be difficult to interpret, and difficult to visualise effectively.

The following series displays MSOAs by the amount of people from the relevant LA that worked there in the 2021 census. It is displayed as a percentage of the total LA resident population (2024 mid-year estimates, to match figures used in the Option B proposal).

This means that percentages for each individual LA will be significantly lower than the above section. 0.2% has been used as a visual cut-off for significance; below this, the data becomes difficult interpret, and is subject to variation.

Greater Cambridge

Cambridge

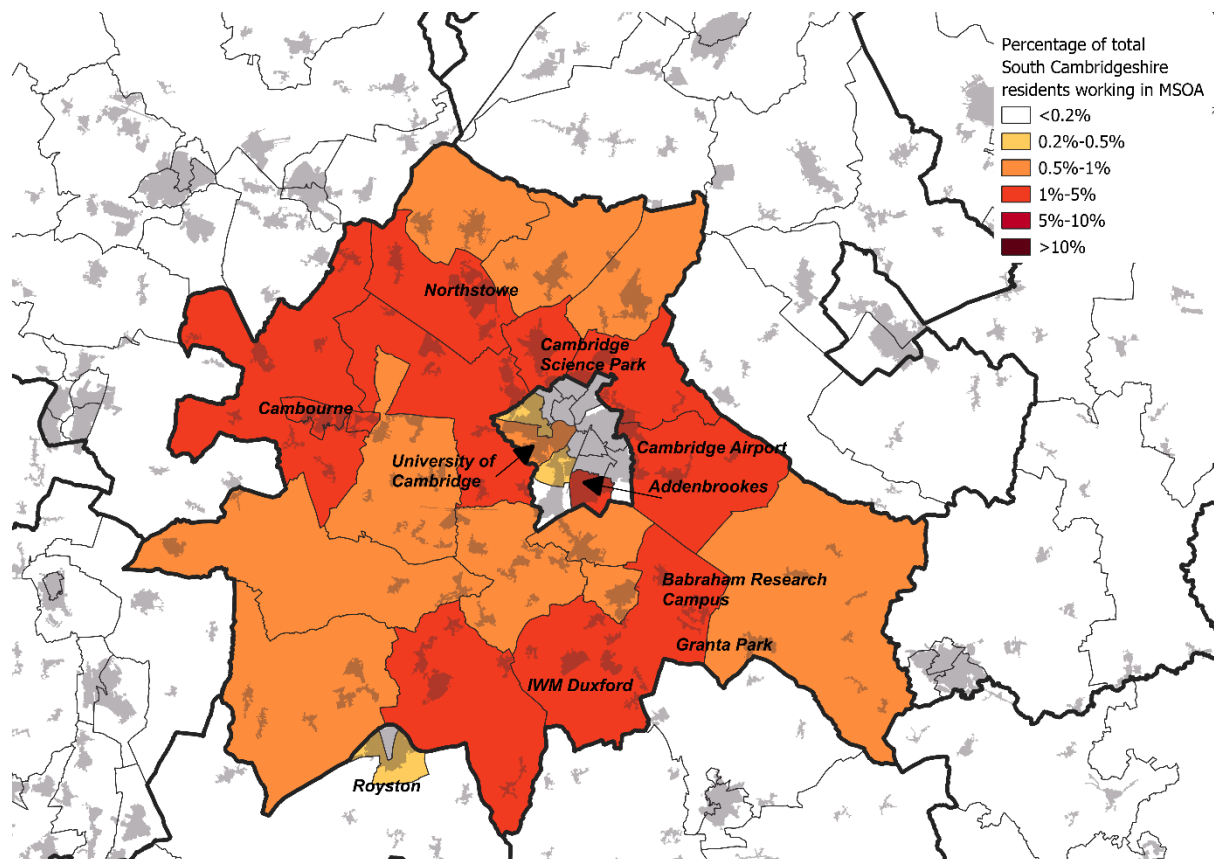


Cambridge City can be clearly seen, with the University of Cambridge and the CBD visible as an employment cluster, alongside Addenbrookes in the South.

In South Cambridgeshire, areas bordering the City see the highest commuter flows, especially the MSOA containing Cambridge Science Park.

An exception is in the South, where a set of large campus-based employment centres lead to high commuter flows from the City.

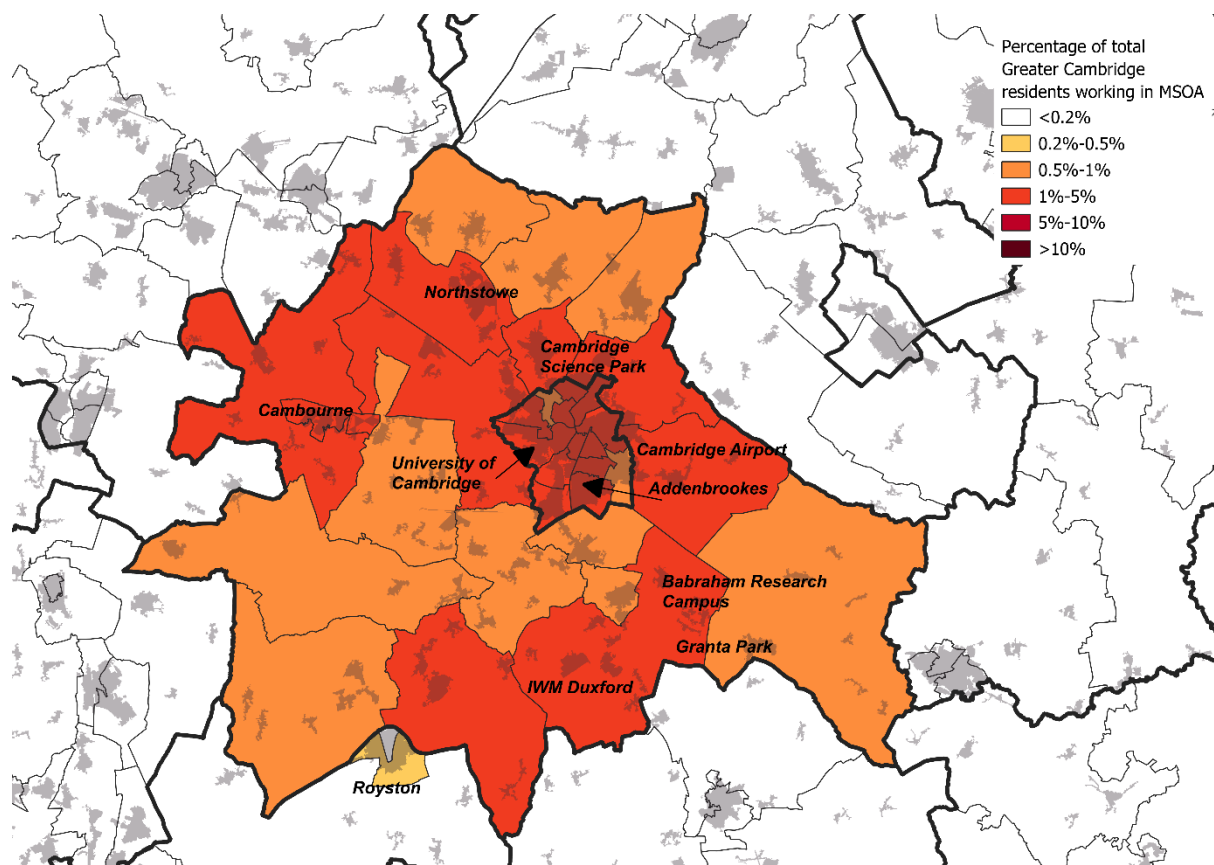
South Cambridgeshire



A distributed pattern is seen across South Cambridgeshire. Commuter flows into the City are concentrated in the academic-heavy Western wards, and especially in Addenbrookes in the South.

Royston is the only area outside the two LAs to see significant commuter flow, reflecting industrial parks around the town's edge.

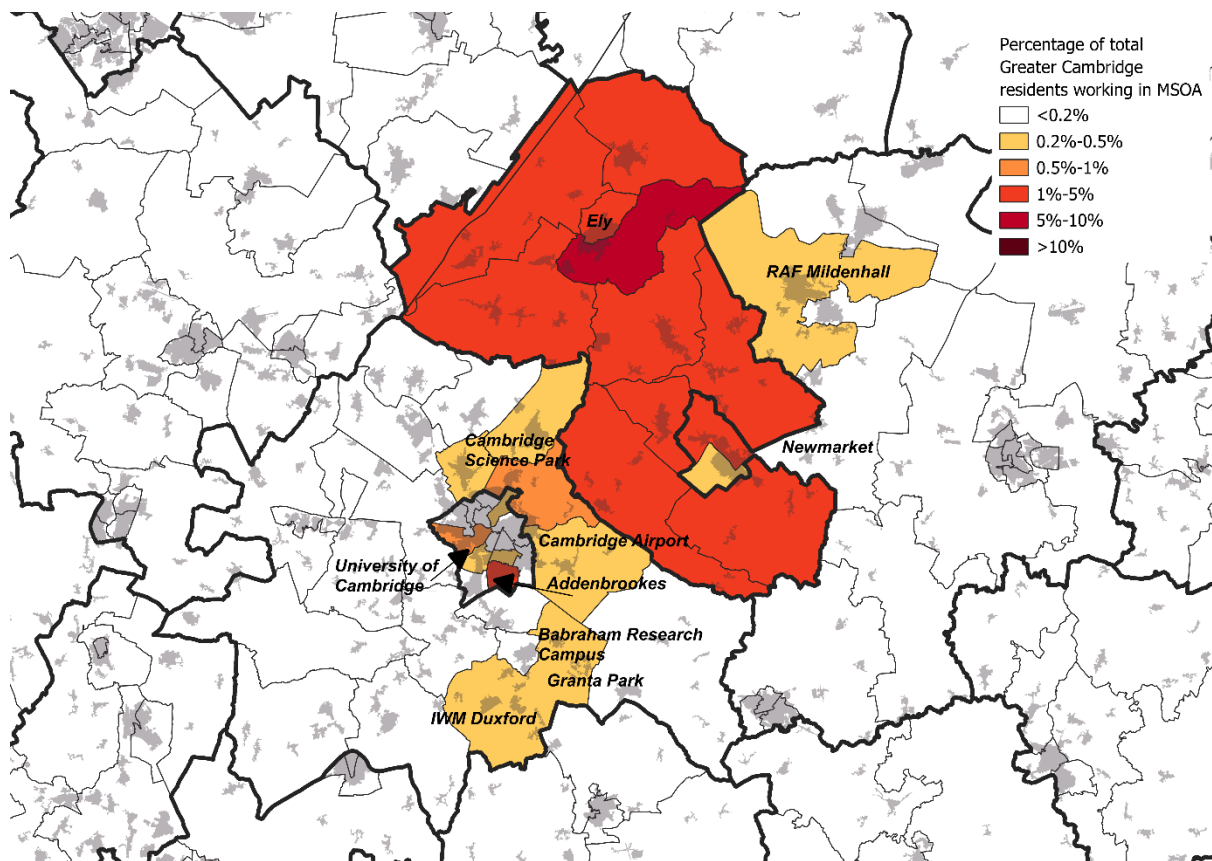
Combined results Greater Cambridge



There is an evenly distributed pattern across Greater Cambridge. The only MSOA that receives significant commuter flow outside of Greater Cambridge is Royston, in North Hertfordshire.

North Cambridgeshire and Peterborough

East Cambridgeshire



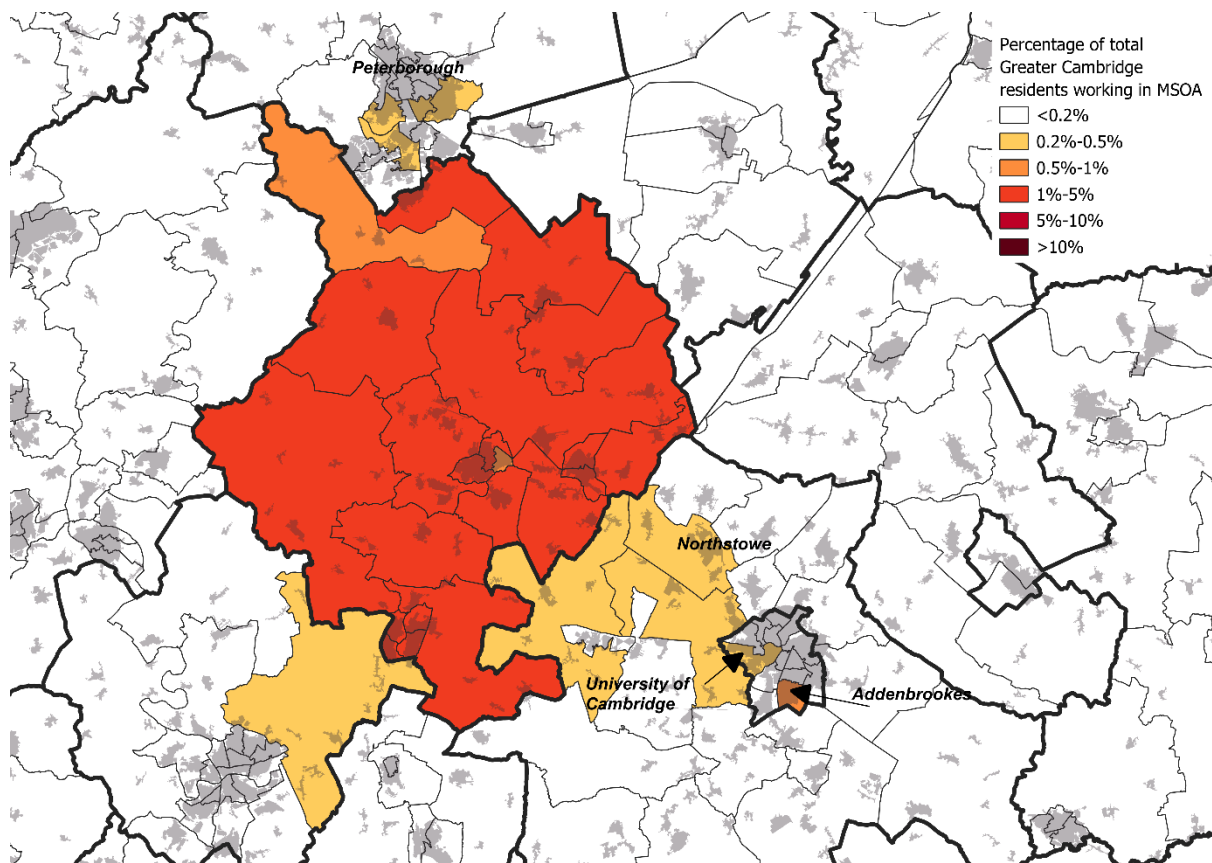
East Cambridgeshire sees workers concentrated particularly into South Ely. This is unsurprising, as this MSOA contains the district's largest employment corridor, from Ely centre to Witchford.

South Cambridgeshire sees significant commuter inflow, especially into the Science Park.

Cambridge has significant commuter inflow, into Addenbrookes alongside the University and the city centre. The high visibility of Addenbrookes is likely to be partially due to the COVID19 pandemic have greater need to work from the workplace in health settings relative to other job roles.

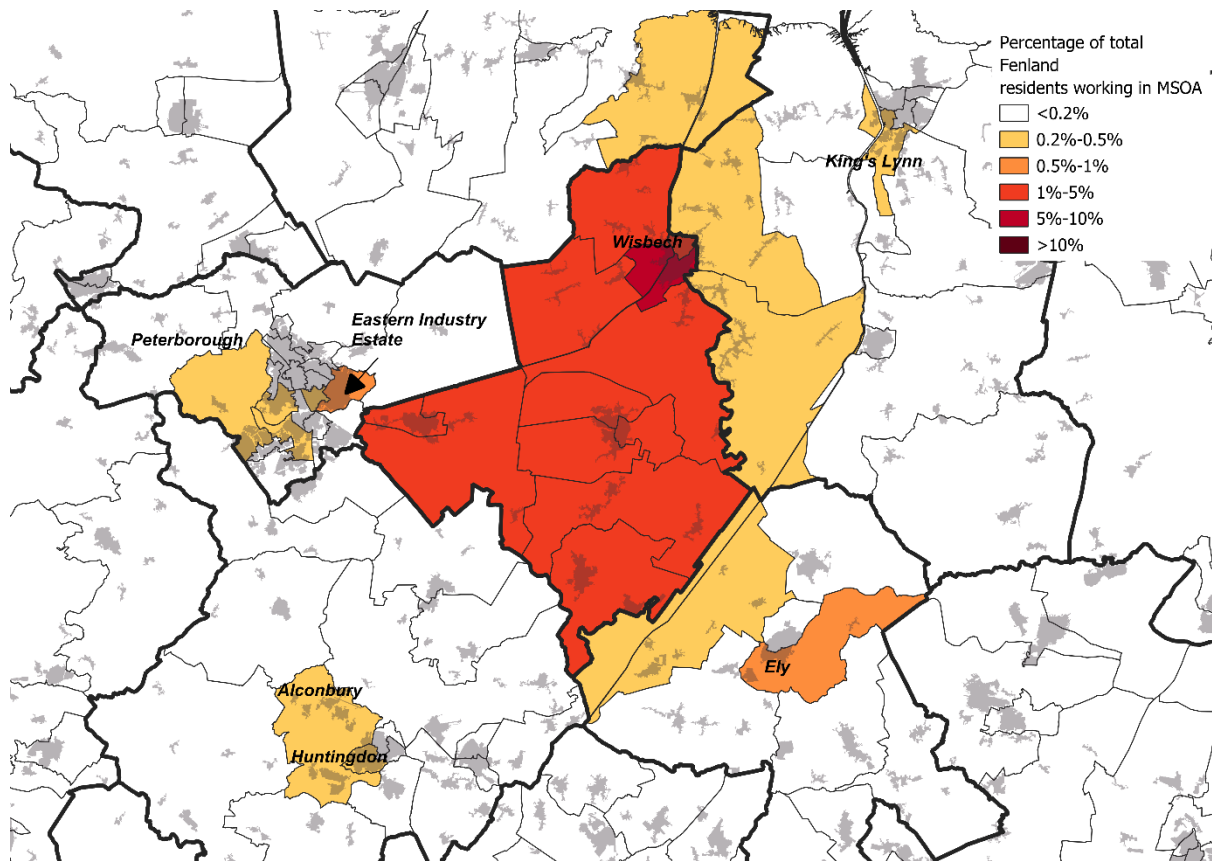
West Suffolk has two key employment centres that attracts commuters from East Cambridgeshire: Newmarket and Mildenhall, home to an RAF base.

Huntingdonshire



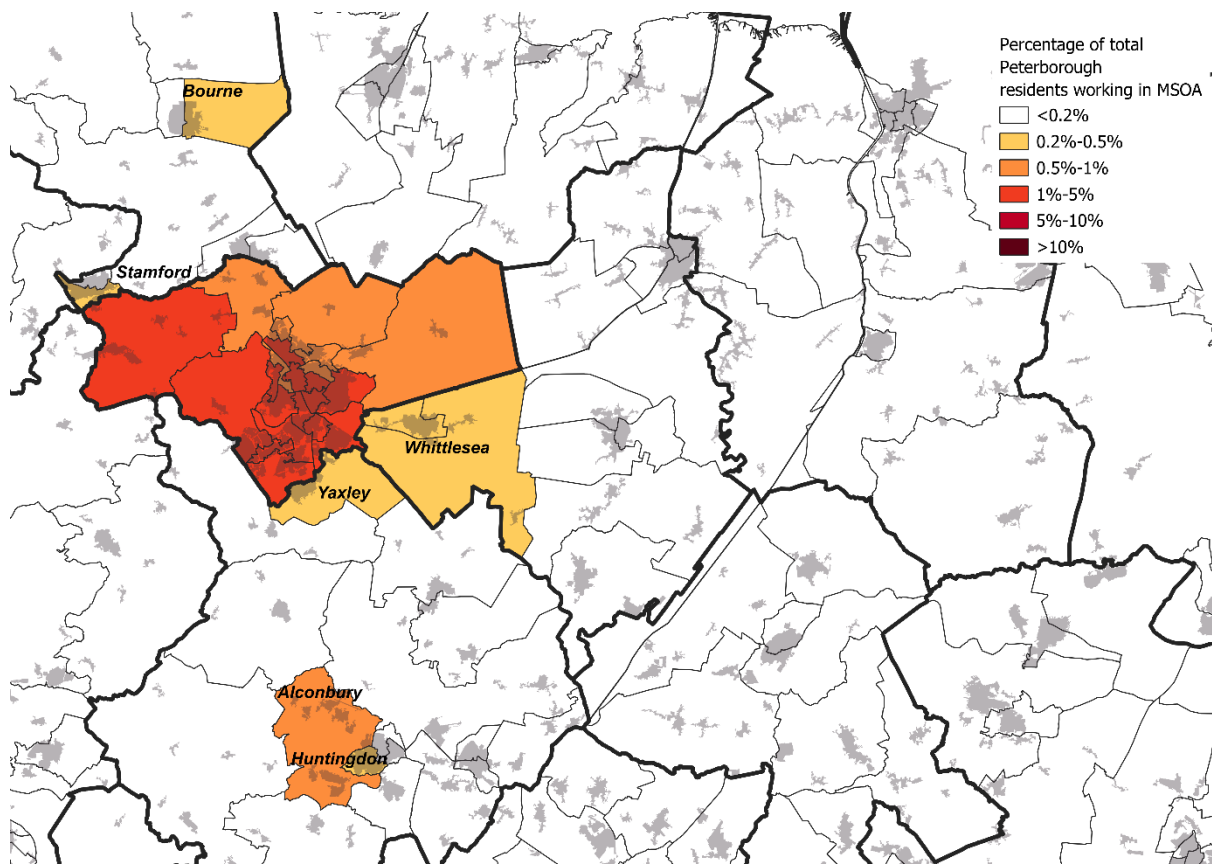
Key extra-LA employment sites for Huntingdonshire residents include core Cambridge MSOAs, Peterborough and neighbouring areas of South Cambridgeshire and Bedford.

Fenland



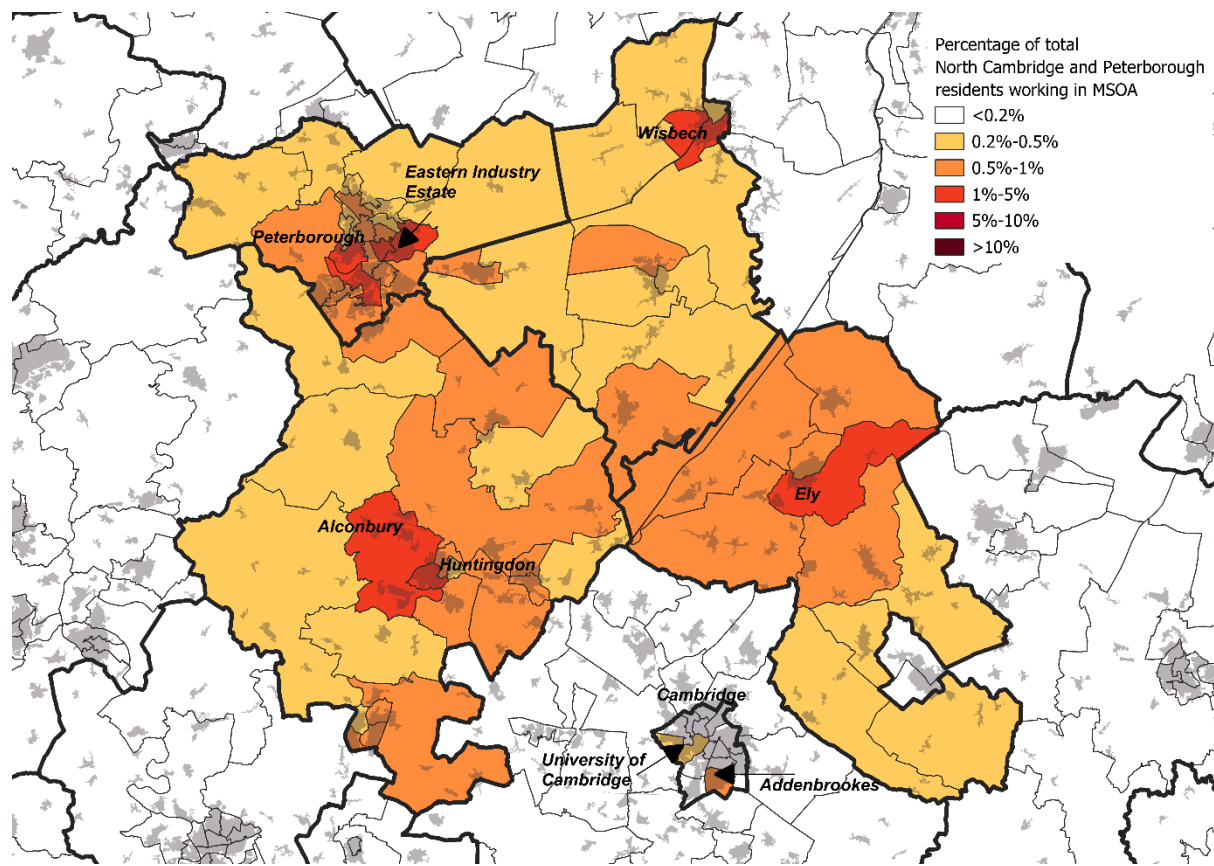
Ely is visible as a locus of commuter flow from Fenland, alongside the Eastern Industry estate in Peterborough. King's Lynn is also a relatively employment location, as are neighbouring parts of Norfolk, and Huntingdon & Alconbury form a cluster.

Peterborough



Neighbouring towns and villages, including Yaxley, Whittlesea and Stamford see significant commuter flows from Peterborough. Bourne and especially Huntingdon and Alconbury are further afield employment clusters.

Combined results for North Cambridgeshire and Peterborough



Each constituent LA in North Cambridgeshire and Peterborough has a clearly visible core employment centre, attracting workers from across the area – central/eastern Peterborough, Wisbech, Alconbury and Ely.

Outside the North Cambridgeshire and Peterborough authority boundaries, only Cambridge attracts significant commuters as would be expected of a major regional employment centre.

Incoming commuter patterns

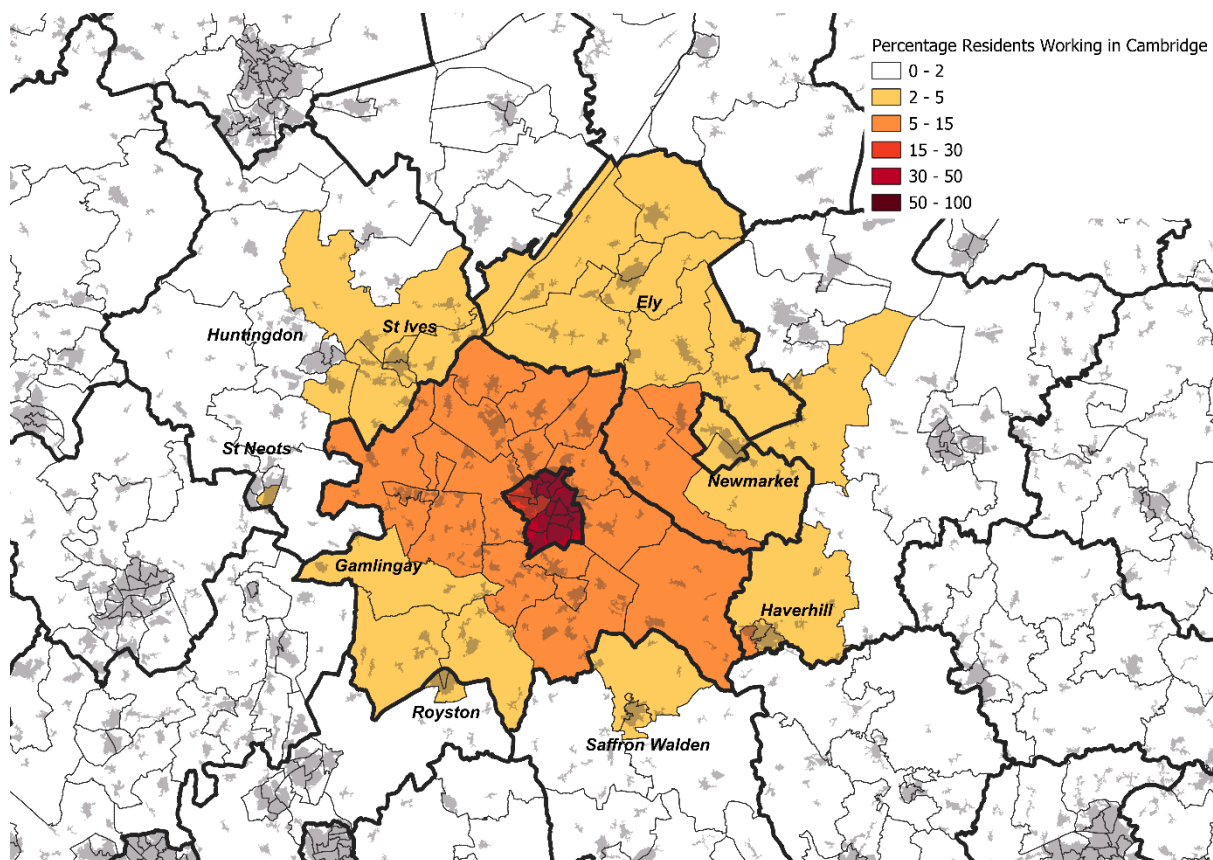
Taking the inverse approach produces a data showing where people working in each LA live. This is relevant for understanding where employment centres attract workers from.

This is accomplished by mapping the amount of people living in each MSOA who work in the relevant LA. It is expressed as a percentage of the total number of people living in the MSOA. E.g. an MSOA with a figure of 50% indicates that 50% of the total people resident there work in the selected LA.

These percentages are higher than the inverse approach, so a significance threshold of 2% was chosen to maintain legibility.

Greater Cambridge

Cambridge



People living in Cambridge tend to also work in Cambridge, with most MSOAs seeing 30-50% of residents also working in the City. Exceptions are MSOAs in the North-West, with a very high student numbers, and thus non-working populations.

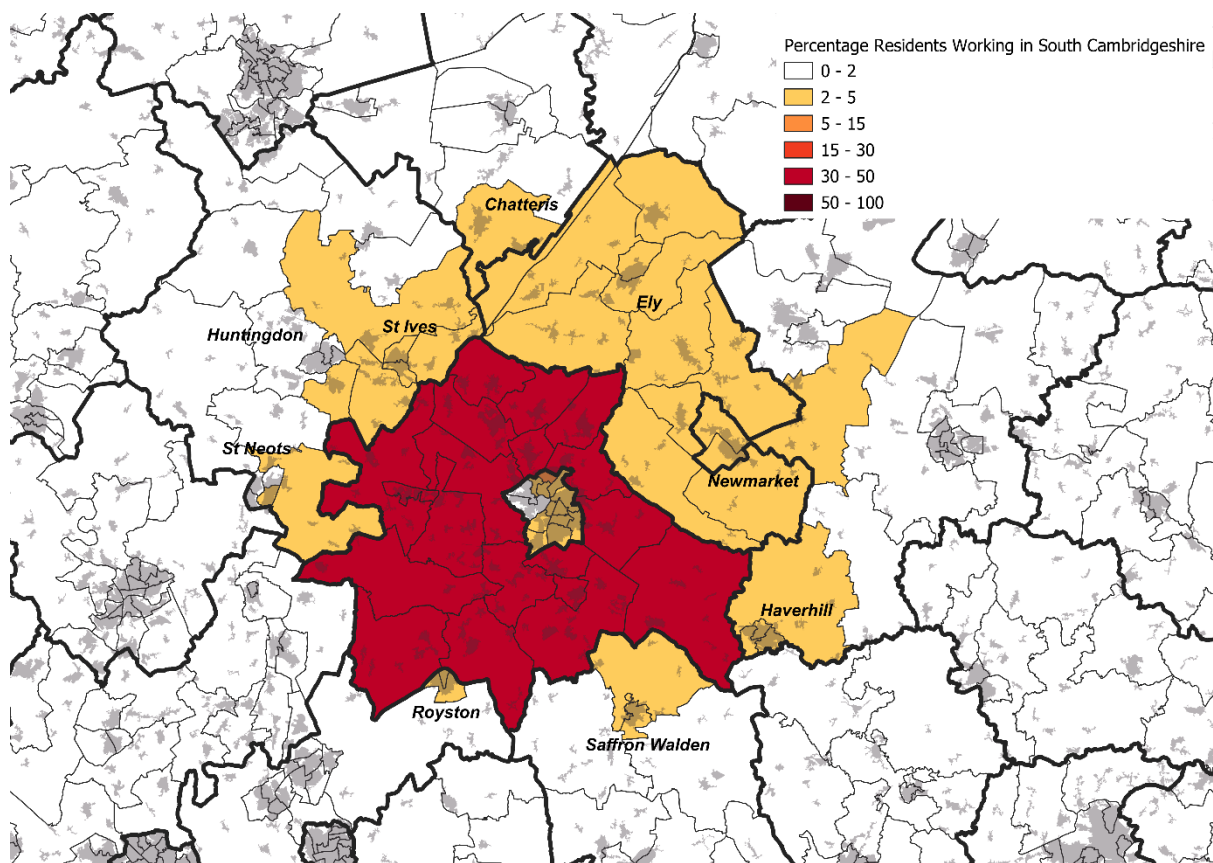
Large areas of Huntingdonshire have significant commuting into Cambridge, with 2-5% of St Ives and surrounding areas working in the city.

All of East Cambridgeshire sees some level of commuting into Cambridge. This is especially concentrated in the South-East of the district.

West Suffolk has high levels. Newmarket is notable, but Haverhill sees the only non-Cambridgeshire MSOA to have over 5% of it's residents work in Cambridge.

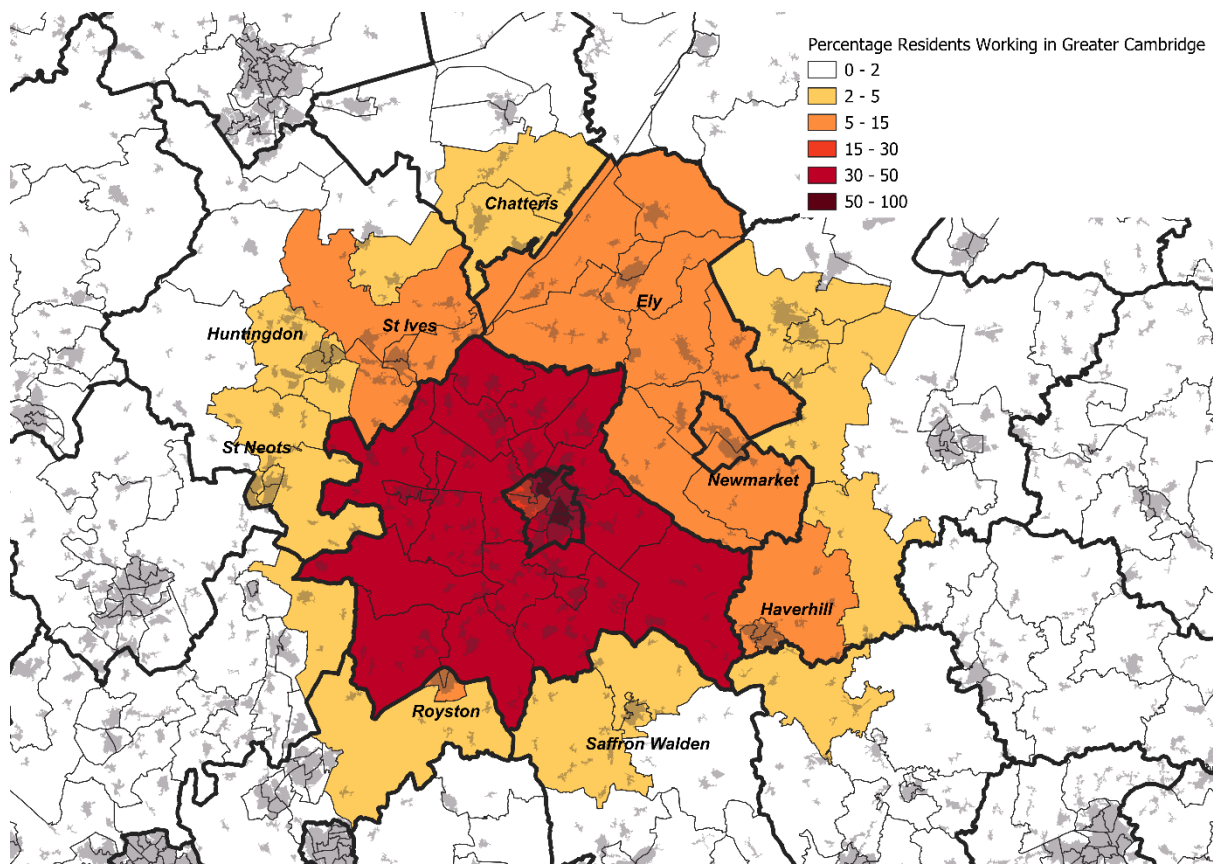
Saffron Walden in Essex and Royston in Hertfordshire are also notable.

South Cambridgeshire



A similar pattern to Cambridge can be observed. Differences include a lower intensity of commuting from East Cambridgeshire and Haverhill, as well as from Huntingdonshire, and a cluster from southern Fenland.

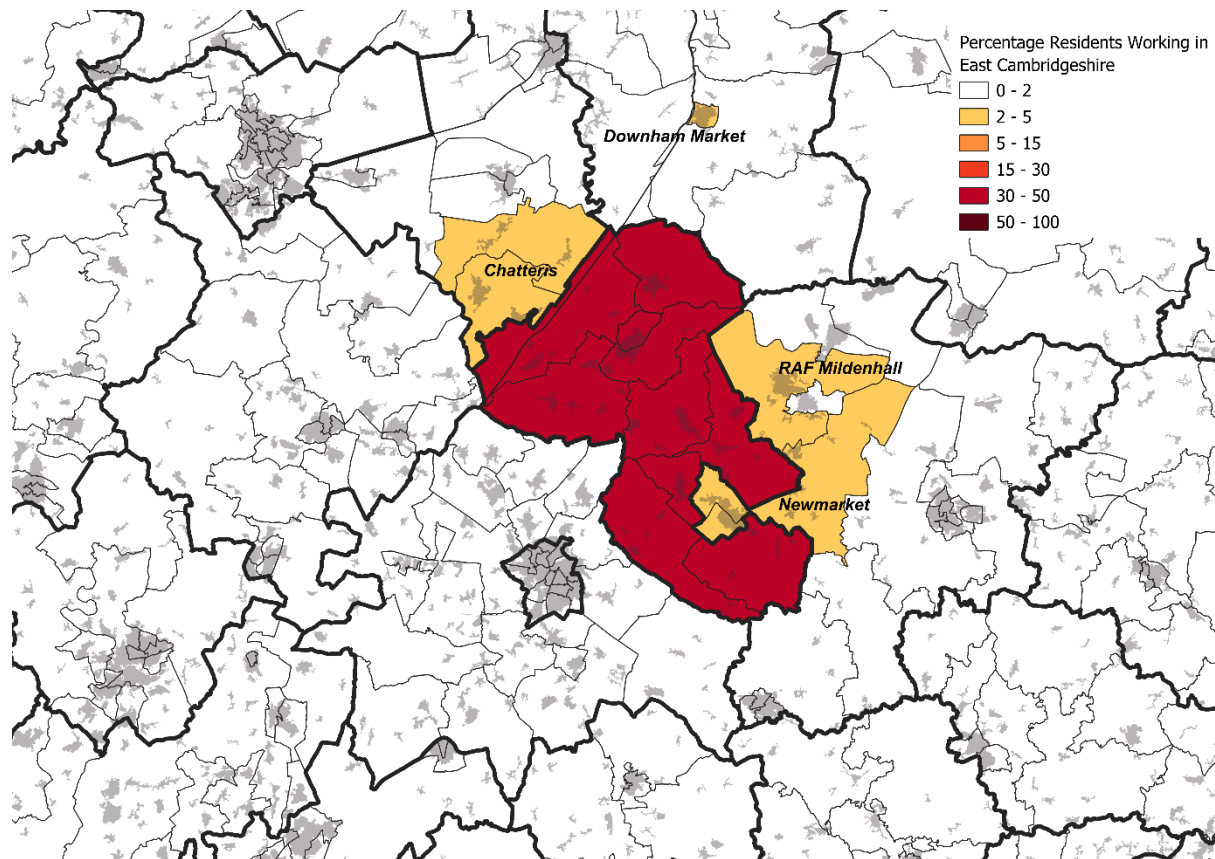
Combined results for Greater Cambridge



Over 5% of East Cambridgeshire works in Greater Cambridge. This is shared with Newmarket, Haverhill, Royston and St Ives.

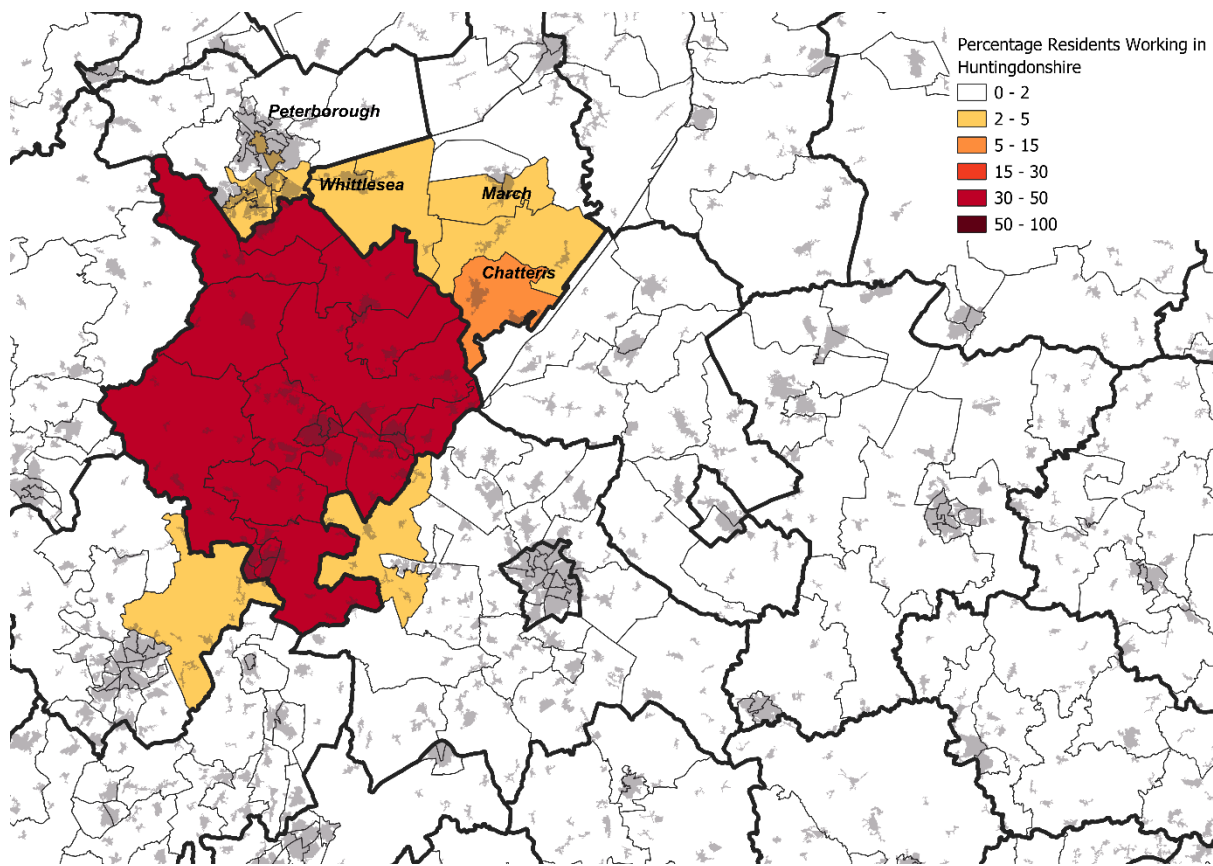
North Cambridgeshire and Peterborough

East Cambridgeshire



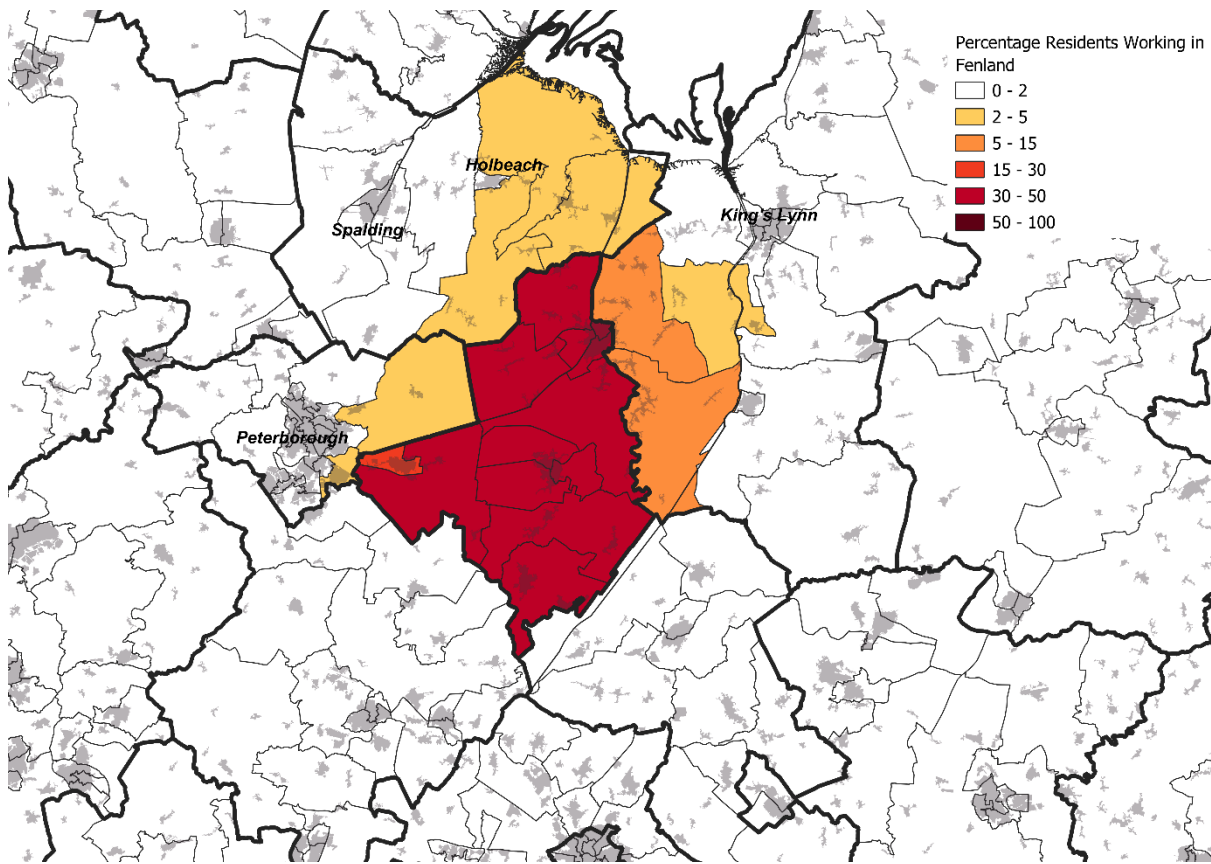
Bordering areas of Suffolk and Fenland, alongside Downham Market in Norfolk, form the only areas where over 2% of the population work in this LA. East Cambridgeshire attracts insignificant amounts of commuters from Cambridge and South Cambridgeshire, with no MSOAs in Greater Cambridge contributing over 2% of their residents as workers here.

Huntingdonshire



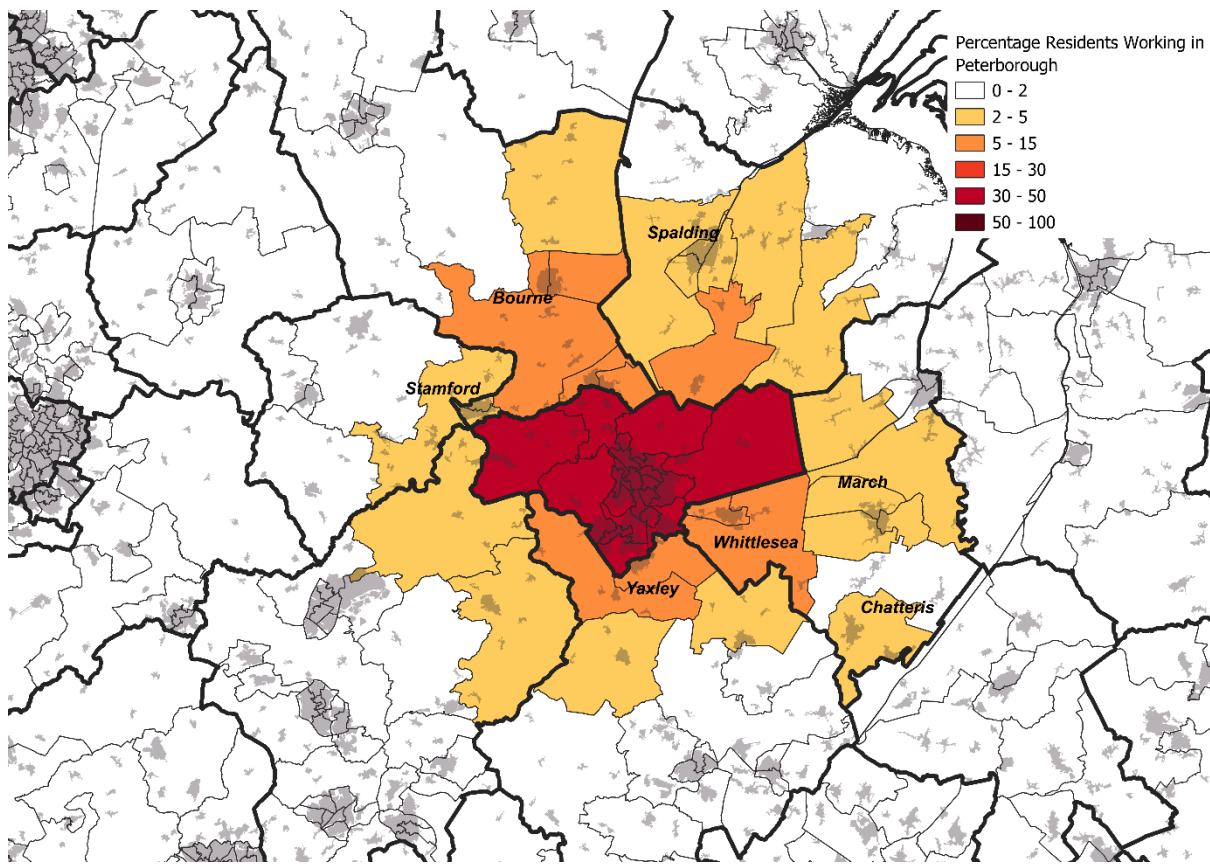
Huntingdonshire attracts commuters from neighbouring areas of South Cambridgeshire, Peterborough, Bedford and especially Fenland.

Fenland



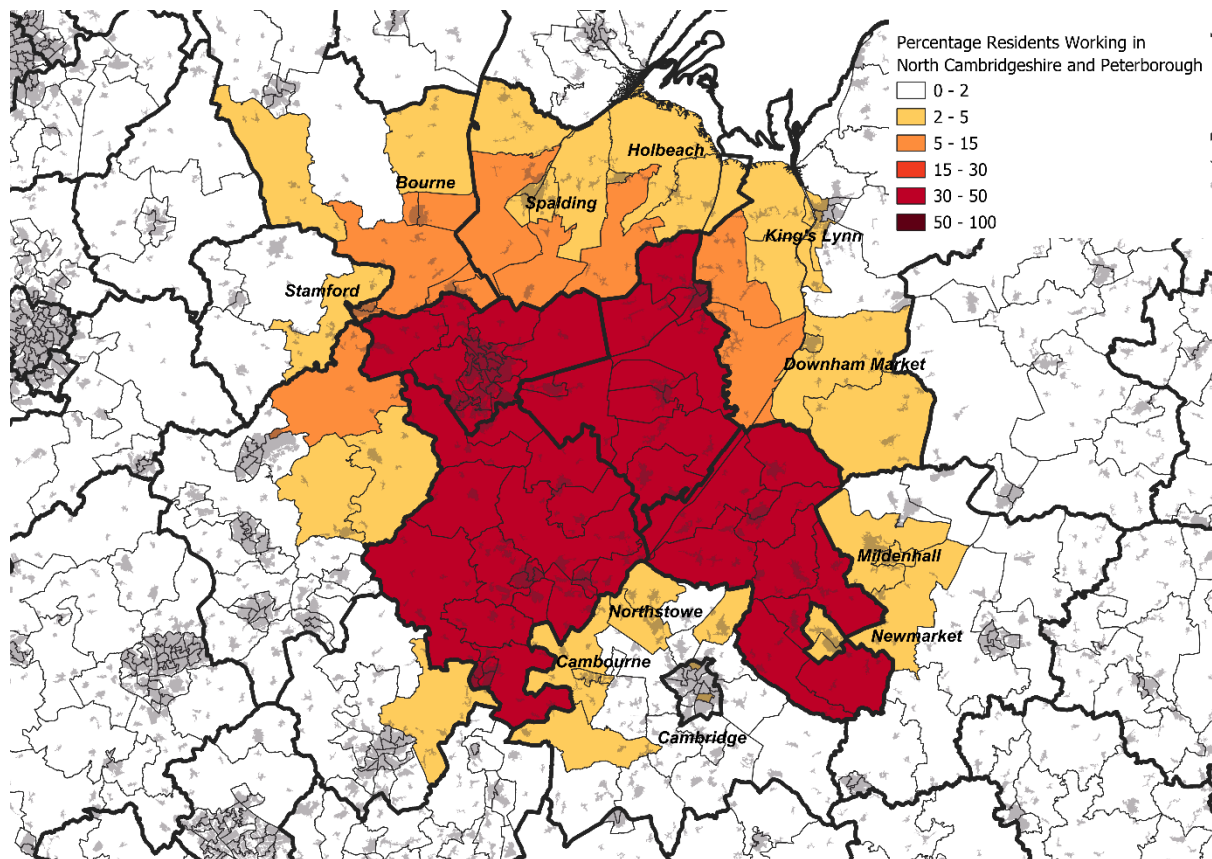
Those commuting into Fenland reside largely in bordering western Norfolk. Fenland also sees significant commuter flows from rural areas in Peterborough and southern Lincolnshire.

Peterborough



Whittlesea, Yaxley and Bourne all have over 5% of their population working in Peterborough. The City also attracts commuters from Spalding, Northamptonshire, Rutland, South Kesteven, South Holland, and Fenland.

Combined results for North Cambridgeshire and Peterborough



North Cambridgeshire and Peterborough has a significant pull in neighbouring areas to the North, East and West. Virtually all bordering MSOAs have relatively significant levels of inwards commuting.

It is notable that this includes South Cambridgeshire, and even two MSOAs in urban Cambridge City.

Conclusions

All areas attract some levels of commuting inwards, and all areas see some levels of outwards commuting. Cambridge and Peterborough, as the two largest cities and centres of employment, see a large inwards pull.

Peterborough receives large numbers of workers from surrounding areas, and sends out some commuters to Lincolnshire, Fenland and especially Huntingdonshire.

Fenland is strongly integrated into Peterborough, but with significant flows to and from Norfolk. The southern part of the district trades commuters with East and South Cambridgeshire.

Cambridge is relatively unique in sending few workers to many other of the regions LAs, with the key exception being an interdependent labour market relationship South Cambridgeshire.

Likewise, South Cambridgeshire's closest partner is clearly Cambridge City, though the district has more interplay with the rest of the area than the City, especially in areas close to Huntingdonshire.

Huntingdonshire has both a major sphere of influence on incoming commuters, and sends out a significant number of outgoing commuters. As suggested in the Option B proposal 'Huntingdonshire and East Cambridgeshire: complex local affinities' (p.x), these outgoing commuters are split between Cambridge and Peterborough. However incoming, commuters are concentrated in Fenland and Peterborough.

East Cambridgeshire is a starker contrast of 'complex local affinities'. This district has significant commuter flows into Greater Cambridge, reinforcing the 2011 TTWA boundaries, but notably sees very little incoming commuters from any individual area in either authority. Clusters are instead seen in southern Fenland and especially western West Suffolk.

This demonstrates how the scale at which data is investigated can dramatically change the conclusions drawn from said data. This is especially true of local authorities, where historic boundaries often join multiple economic areas together. The result is that border regions often have more in common with neighbouring authorities than distant areas within their own LA.

This is fundamentally not a solvable problem while also preserving historic identity and maintaining district borders. East Cambridgeshire in fact shows a 'triple affinity'; towards culturally similar rural Cambridgeshire and the fens, towards employment in Cambridge, and towards economically integrated areas in Suffolk.

Thus, key conclusions that can be drawn are:

1. Cambridge and South Cambridgeshire are very well integrated in a way unique to the region
 - a. Greater Cambridge boasts a self-containment of over 90%.
2. Peterborough attracts significant workers from both Huntingdonshire and Fenland, and both areas receive some commuters in return
 - a. These areas are all more integrated with each other than Cambridge or South Cambridgeshire
3. East Cambridgeshire does not neatly fit in any area.
 - a. While it contributes many commuters to Cambridge and South Cambridgeshire, it receives relatively few. This speaks more to Cambridge's role as a major centre of employment than a conjoined functional economic area. This is likely to be exacerbated by the high concentration of healthcare and laboratory jobs in certain MSOAs, less affected by home working during the COVID19 pandemic
 - b. There is a more bi-lateral exchange of commuters with West Suffolk
 - c. There is evidence of integration with neighbouring areas of Fenland, but this is a relative relationship due to the low population density in southern Fenland.