

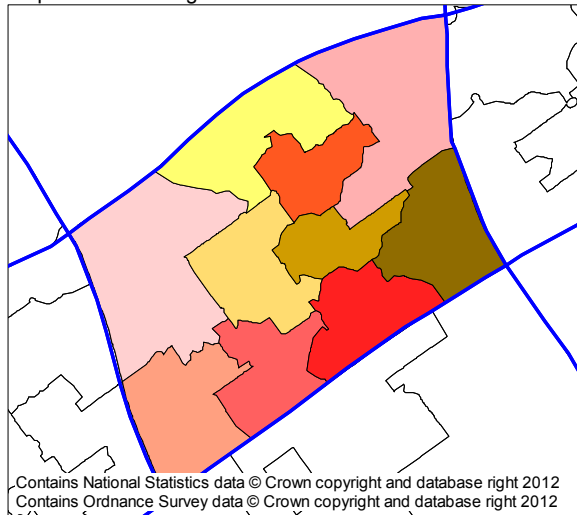
## Estimating 2011 Census data to Estates

The 2011 Census data was not released at estate level by the Office for National Statistics. The Research and Intelligence team at Milton Keynes Council therefore added together Output Area (the smallest Census geography) data to provide an estimate at estate level. As Output Areas (OAs) boundaries and estate boundaries do not always match the data for OAs is weighted to estates.

### Method

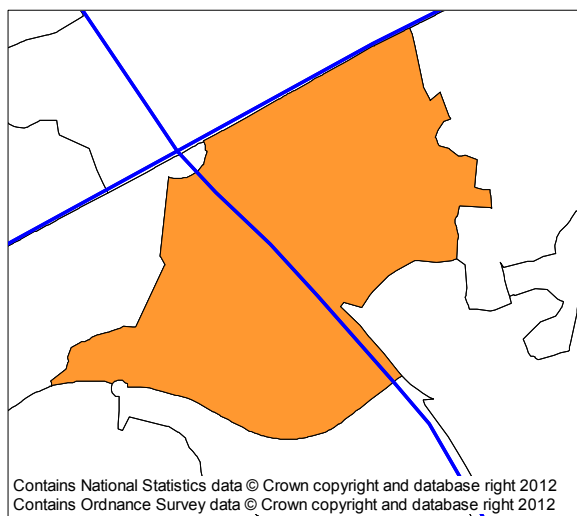
Where OAs follow the estate boundaries they are simply added together to form the estate. Map 1 shows how data for 10 OAs would be added together to get the data for the estate.

Map 1: OAs forming an estate



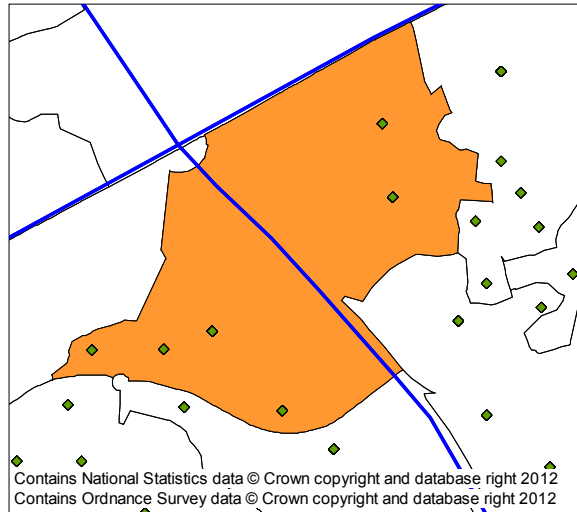
However in a lot of cases OAs are split between two or more estates. Map 2 shows an example on an OA split between two estates.

Map 2: An OA split between two estates



When this happens the data for the OA needs to be split between the two estates. This is done by population weighting the data. Map 3 shows the location of residents taken from the 2011 GP list. It is used to calculate what proportion of the OA is in each estate.

Map 3: An OA split between two estates with GP data



In the example above 48% of the population in the OA is in estate A and 52% in estate B. These proportions are then applied to all 2011 Census data. So if the 2011 Census states there are 50 people unemployed in that OA 24 would be added to the total for estate A and 26 to estate B.

## Limitations

There are two main limitations to this methodology.

1. It assumes that the characteristics of the population in the OA are evenly spread across the OA. In reality this is not the case, clusters of people with the same characteristics may occur. In the example above the people who were unemployed were split simply on the basis on the size of the total population. In reality all the unemployed people in the OA may have been concentrated on one side of the OA.
2. The data source for the population weighting was GP data which has issues of reliability.

The method used is the best available, however due to the limitations mentioned above 2011 Census data published at estate level should be seen as estimates. Those estates which don't have split OAs will be more reliable than those with multiple OAs split within their boundaries.