

Local Government Boundary Commission for England

# Electoral Forecasting

User Guidance

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## Introduction

1. The Commission has a statutory duty to ensure that all its reviews are based on robust forecasts of future electorates. If they weren't, many would become almost immediately obsolete. The Commission also understands the challenges and problems associated with forecasting.
2. This methodology is to be used only if you do not have access to the historical polling district data requested. The results that it produces (predicted future electors) should be added to column 10 of the Forecasting Tool spreadsheet, with your current electorate per polling district added to column 8.
3. Guidance on locating and interpreting the relevant data follows (section A), before the guidance on preparing electorate forecasts is provided (section B).

## A. Data Requirements

4. Forecasts should be prepared using information which has been published by the local authority, its local partners, or regional and national agencies. The timing of electoral reviews may not match the chronology of published data and some adaptation may be required. Similarly, the definitions of some types of data may not reflect the purposes of electorate forecasting.

## Development & Housing Data

5. Housing stock information can provide information about the number of dwellings in an area, the presence of speciality housing – for older people or for students for example, the number of houses in multiple occupation, and the impact of high-density housing, including tower blocks, which might constrain the drawing of new ward boundaries. This helps in the illustration and understanding of the distribution of the total electorate and the likely consequences for electoral registration of new housing development in particular localities.
6. Housing stock information will be found in:
  - Council Tax Records
  - Census of population
  - Electoral registration systems.
7. Often, the largest factor contributing to increases in the number of electors in small areas is the addition to the total housing stock from new housebuilding. Housing demolition can have similarly profound impacts. Council planning services generally hold comprehensive detailed records on this sort of thing.
8. **Simply identifying where new housing may be built is not adequate:** it will be the completion and occupation of new housing which will add to the electorate of an area. Forecasters will need to identify which of the identified potential housing developments are likely to come to fruition in the period for which forecasts are prepared. We have seen how those preparing forecasts are more likely to over-estimate, rather than under-estimate the number of new dwellings which will be built and occupied.
9. Planning authorities prepare Strategic Housing Market Assessments as part of the evidence base, they rely on to prepare spatial strategies and local

development documents. They are intended to give a thorough understanding of the needs of areas, particularly the opportunities and constraints that exist.

10. Information from councils' Land Charges service can also be a good indicator of the economy as well as the number of property sales.

### Electoral Data

11. Electoral registers are published by local electoral registration authorities (unitary councils and two-tier districts councils) on 1st December each year and are updated monthly (from January to September). This means that for any review, very accurate electoral data are available with a residential address for every elector. Our calculation of electoral equality can only be based on those registered, not those eligible to register.
12. The introduction of the new system of individual electoral registration (IER) will present a discontinuity of data across which comparisons may not be valid. We ask you to use only data collected after the introduction of IER; whilst this sacrifices some temporal depth, it improves the validity of our calculations.
13. Most electoral registration systems contain data giving the number of dwellings with electors. This can be used at polling district level to illustrate broad differences in the numbers of electors per dwelling in areas of different types of housing.

### Demographic Data

14. The 2011 census provides extensive population and household data, although its relevance diminishes over time. Small area information is produced for electoral geography except that where a parish has only a small number of electors, data for that parish will be added to that of one or more others to ensure that publication of census results does not reveal anyone's personal details.
15. The Office for National Statistics (ONS) publishes estimates of population by age group, and projections of population change by age group for local authorities. These are generally reflected as mid-year figures.
16. Some councils produce population estimates and forecasts at authority and sub-authority level. In two-tier local government areas, the county council often produces district level forecasting. These estimates and forecasts may be prepared by bespoke or by branded products.
17. When forecasting electoral change, some councils use birth and death data from their local primary care trust (PCT) and National Health Service patient migration data in order to formulate assumptions about the elements of population change; natural change and migration.

### Administrative Geography

18. In most electoral reviews, new electoral ward and division boundaries are drawn. The inclusion or exclusion of a single cul-de-sac, housing estate, block of flats, or site for housebuilding can have a significant effect on the electoral ratio for a ward either at the point of implementation, five years after that, or both. The

products of forecasting must therefore be capable of detailed spatial interpretation.

19. The making of electorate forecasts generally begins, however, with consideration of established levels of geography. These levels will include;
  - Authority area
  - Wards and Electoral Divisions
  - Civil Parishes
  - Polling Districts.
20. At the start of a review, we ask local authorities to provide us with the current number of electors in each area and forecasts of the expected number of electors in six years' time at these separate spatial levels.
21. In an electoral review, there will be no change to the boundary of the local authority or of any parish. A Principal Area Boundary Review may lead to changes in those boundaries.
22. Polling districts may be used initially as building blocks in the definition of wards, but their areas may be divided when new wards are drawn. The implementation of electoral reviews is usually followed by changes to polling districts to reflect new ward/division boundaries.
23. For the national Census of population and other statistical purposes, the country is divided up into census output areas, which are themselves aggregated to Super Output Areas. Some social and demographic information available for these statistical areas may help to demonstrate differences in the characteristics of one part of a local authority's area compared with those of another part. Those differences may then be reflected in the preparation of forecasts. Normally, data from the electoral register are not presented in ways which reflect this statistical geography. However, some authorities use Geographic Information Systems (GIS) to map the location of the electors on their registers and this allows the direct correlation of demographic data for statistical areas with the current electorate. This might facilitate the preparation of electorate forecasts. However, we will not dispense with our requirement for electoral data to be presented to us according to electoral geography.

## B. Electorate Forecasting Methodology

24. This method requires electoral statistics and forecasts at polling district level; this generally requires the interpretation of authority-level and ward-level demographic and housing characteristics. It also requires officers preparing forecasts to reflect ONS sub-national forecasts and to consider the impact of likely housing and economic developments, expected migration into, out of and within the authority and the expected difference between the number of adults in an area's population and the number of electors.
25. We stress that our experience has found that an increase in development in one part of a council's area does not necessarily result in an increase in electorate across the whole authority. New developments and housing clearance schemes are generally identifiable in advance by their specific location, and so can be worked into polling district level forecasting.

## Population Overview

26. At the outset, it is helpful to form an overview of the future size of the population and electorate in the authority as a whole. This is because forecasts which rely purely on bottom-up approaches which aggregate polling district level forecasts of total population run the risk of compounding errors of demographic assumptions (or lack of any) and miss-forecasting housebuilding. It is recommended that any authority approaching forecasting should “constrain” the total population figure which they reach to either the ONS projections or projections developed from some other tested methodology for authority-wide forecasting.

### Calculation of electors in future years = A x B

Where:

**A** is the adult population forecast for the local authority six years beyond the commencement of the review

**B** is the ratio of electors/ adult population

## Considerations

27. *Selection of Forecast*: ONS periodically produce population projections by age group for local authority areas. Projections are based on the latest available mid-year population estimates, a set of demographic assumptions about future fertility, mortality and migration based on analysis of trends and expert advice.
28. Some local authorities produce their own forecasts at authority and sub-authority level by using bespoke or branded products. These forecasts may incorporate assumptions about the effect of policy on population change – for example, the impact of a policy which encourages greater migration than has previously occurred.
29. Because the tendency has been for local authorities to over-estimate population and electorate growth, the Commission’s guidance recommends the use of ONS projections. Authorities who use their own forecasts of growth should provide firm evidence to justify selection of those forecasts. In particular, they should explain any differences between ONS migration assumptions and their own.
30. Some authorities have prepared ad hoc population forecasts for the purposes of electoral review. In some cases, they have made very broad assumptions: that births and deaths will cancel each other out or that there will be no future change in the number of persons per household for example. They have then forecast the number, type and distribution of dwellings to be built: some have concluded that all new housing will be occupied as a result of net inward migration, others have estimated household formation from the existing population then “topped up” the occupation of new housing by using inward migration assumptions. By adding the total net migrants to their forecast for the existing population they reach a forecast population for the authority as a whole. Such approaches are unlikely to be as accurate as the ONS projections.

31. *Adult Population to Electorate Ratio*: The registered electorate does not necessarily equate to the population of voting age: it is not only children and young people under 18 who can't vote, but also those who are ineligible or who choose not to register or fail inadvertently to register. For example, one authority estimated that in 2010, registration rates ranged from 75% in one ward to 99% in another.
32. A ratio to be applied to forecast populations may be found from the average ratio observed at authority level in recent years or by extrapolating by eye or by regression analysis, those observed data. We accept that neither approach offers a guaranteed representation of actual ratios in the future.
33. We would caution against calculating an adult population to electorate ratio from data from a single year. To do so would introduce a risk that the ratio calculated may not be representative. Change in the electorate can be much more volatile than in the population as a whole. This may be because of a particularly effective, or ineffective, electoral canvass or because a vigorous cleansing of the register has taken place.
34. Changes to the process of electoral registration, from 2014 onwards may result in a change to an authority's adult population to electorate ratio. One of the aims of this change to registration processes is to obtain a more complete and accurate electoral register, although some fear that the opposite effect may be seen. If any authority includes any assumptions about the effect of the change to voter registration in their forecasts, they should make those assumptions clear to the Commission when presenting their methodology. We also ask that they do not include data collected before the introduction of IER in their calculation of ratios (or anything else).
35. *Attainers*: Those young people who will become eligible to vote within the "life" of the electoral register may be included on it, denoted by the date on which they reach (attain) the age of 18: electoral registration systems indicate the number of attainers on any register. Their registration rate may, however, be lower than the rate of registration of people aged 18+ and, if authorities find this to be the case, they may wish to apply a ratio which is different to that used for adult population to electors.
36. *Students*: When someone studies away from home, they are eligible to vote in local government elections both in their town of origin and also the town where they reside as a student. Where a local authority contains a higher education institution which attracts a large number of students from outside of its area, the impact on the overall electoral roll can be significant. The number can fluctuate dramatically depending on the vigour with which electoral registration campaigns are conducted. Authorities presenting methodologies to the Commission should set out the considerations they have made about student sections of their population.

### Development Forecasting

37. Next analyse small area data, housing data and choose a method for forecasting the electorate of small areas.

38. The forecast of local authority electorate should, ideally, take account of:
- Expected new housing development; and
  - Movement within the existing housing stock.
39. In some areas, population change is highly associated with housing development. However, in most areas, most population movement triggered by new housing development will be local and within, rather than into, the local housing market. For example, in a local authority with 100,000 electors living in households, and an average of 1.8 electors per household, 55,555 dwellings would be required. If after six years, the average number of electors per household has fallen to 1.75, a total of 57,143 dwellings would be required, simply to accommodate the original number of electors. The implied building rate to deal with this need would be around 265 dwellings per year.
40. Forecasts based on housing development tend to over-estimate the population growth associated with new housing. However, population change can be rapid even where there is little new housing. This is often the case in inner urban areas which have experienced either depopulation or new immigration and in urban areas with changing populations of students or armed forces.
41. Plot on a spreadsheet the total electorate for each ward in recent years and the net number of dwellings completed (accounting for demolitions, conversions and new-build housing). Use this data to examine whether in the recent past, electorate change has been associated with housing development.
42. *In wards which show electorate change unrelated to housing development*, reflect this change in the forecast for the ward and smaller areas within it by continuing the recent past trend in electorate before applying the additional effect of the expected housing development:



**Initial future electorate forecast =  
current electorate + change in electorate in the last six years.**

Now consider the effect of additional new housing:

**New housing addition =  
net new dwellings expected in the next six years – net new dwellings created  
in the last six years.**

(This may produce a negative number)

Convert this new housing addition to electors:

**Additional electors from new housing =  
Number of new dwellings x electors per dwelling**

Complete the area forecast:

**Initial future electorate forecast + Additional electors from new housing**

43. *In wards which show a strong relationship between electorate change and housing development:*

**Initial future electorate = current electorate**

Now add the effect of new housing:

**New housing addition = the net number of new dwellings expected in the  
next six years.**

Convert this new housing addition to electors:

**Additional electors = New housing addition x factor for vacant dwellings x  
electorate per dwelling factor**

Complete the area forecast:

**Initial future electorate forecast + Additional electors from new housing**

(If there are no historical data available, use this method for all parts of the local authority area).

#### Considerations

44. If the electorate is changing for reasons other than housing change, consider why it is changing and whether it will continue to change in the same way.

45. *Identifying future housing development:* This should rely on a selection from a list of known housing sites. The selection should be based on firm evidence and realistic expectations. Because their inclusion will involve a site-by-site assessment of the likelihood of development, the specific locations of each site can be allocated to the appropriate polling district. Where development sites straddle boundaries, estimate, or use site plans to determine the number in each polling district.
46. Blanket assumptions that all sites with planning permission or allocated in land-use plans will be developed within the six-year forecasting period are generally unrealistic. When deciding whether to include a housing site, consider any constraints on their development, the level of housing market activity in the surrounding area and an overall assessment of housing development pressures. Those sites which engender a low level of certainty of completion generally should be excluded.
47. A housing development which is under construction at the time of making the forecast is more likely to contribute additional dwellings to the housing stock in six years' time than is a site which has been allocated for housing in a development plan but for which no planning permission has been granted – especially if there are known development constraints such as a requirement for decontamination, or a requirement that highway infrastructure improvements precede development or its occupation. The inclusion of a site which does not even have a planning permission will require justification.
48. There may be an expectation that a very large housing scheme will be started but not completed in six years' time. Assumptions about the rate of housebuilding on such sites can be formed by considering the rate of progress on similar schemes within the same housing market. Again, consideration should reflect on whether there is a requirement for major on-site and/or off-site infrastructure works before any housebuilding commences.
49. The consideration of housing sites described above will allow comparison of the total additional housing with past completion rates and with published housing trajectories.
50. Some authorities have sufficiently detailed information to enable them to identify, assess and plot all expected housing development. It is generally not necessary to do so for small sites, of up to 10 dwellings, but if detailed information for smaller sites is readily available, then use it.
51. *Windfall Sites:* These are defined as ones which unexpectedly comes forward during a plan period. Typically, they will be spread throughout a local authority's area. As there is no good way of assessing precisely what will come forward and when, it will not be helpful to impute notional assumptions of new housing through windfall sites, because the definition of new ward boundaries requires the ability to be site-specific when testing the impact of new housing on electoral equality.
52. *Housing Occupancy:* When using expected levels of housebuilding to make forecasts of change in the electorate of small areas, consideration should be

given to the levels of occupancy and vacancy of those dwellings. Assumptions are required but these will be more reliable if they are founded on observable data. Some authorities have examined data from housing areas completed in the years preceding the review. They applied a factor for the number of electors per dwelling having identified the average number of electors in that recent housing to the new housing anticipated in the forecast. In the absence of such data, other authorities have taken the current average elector occupancy rate per property per polling district to calculate the number of electors per new property within each polling district.

53. It is known that on some sites, new housing will be specifically designed for the elderly, e.g. sheltered accommodation. It would not be appropriate to assume that these new dwellings would house the same number of electors as a family house. Where new housing is known to be for elderly people, an average of one elector per new dwelling is used. In this assumption, dwellings with more than one elector compensate for vacant dwellings in this specialised part of the housing stock.
54. *Vacancy Rates*: Local information can also be used to estimate how many of the anticipated new dwellings are likely to be unoccupied or have no registered electors at any one time. In forming this estimate, remember that there will be houses completed towards the end of the forecast period which will not have their first occupiers by the end of the period.
55. Forecasting the electorate for areas smaller than wards and tabulating results

#### Polling District Level Forecasts

56. Accurately projecting the future electoral population at polling district level is difficult given that any small fluctuations in the number of deaths, migration, house building or clearance will have a significant effect. An analysis similar to that for wards described above can be conducted for parishes and polling districts. This will facilitate the forecasting of the electorates for new wards if the review changes current ward boundaries. However, for these areas, there may be fewer historical data available. It may be necessary to use conversion factors applicable at ward level in constructing forecasts for these smaller areas.
57. *Constrain the total electorate*. The “unconstrained” polling district electorate forecasts are summed. The whole-authority forecast electorate is divided by the sum of the “unconstrained” polling district forecasts to give a constraining factor. This constraining factor is applied to the unconstrained forecast of the electorate in each polling district to give a constrained forecast of the electorate in each polling district. The sum of these constrained forecasts for polling district will equal the forecast electorate for the authority as a whole.
58. This constraining exercise reflects the fact that ONS projections and local authority forecasts are based on data from a longer time series and use more sophisticated modelling procedures and hence provide more reliable electorate forecasts than will the sum of the individual projections and forecasts for polling districts or other small areas.

## Forecasts for alternative boundaries

59. As the review progresses, local authority staff may be asked to prepare proposals for ward boundaries. They will also need to provide forecasts for the wards they suggest. Where these new proposals do not coincide with existing polling districts, this will involve counting the electorate from registers (or using the data and address matching facilities of GIS systems and determining in which part new housing developments will take place.

## Information Management

60. Experience suggests that a review, from its announcement to the approval of the final electoral scheme may see a large number of alternatives being suggested and worked up in detail and working up any one scheme may be an iterative process of proposition and test for electoral equality. This means that detailed recording of all the schemes and part schemes is essential, partly to keep track of what is going on and partly because schemes are open to scrutiny by councillors and the public. This needs to include lists of the electoral areas and part areas included in each ward in each scheme and lists of new housing sites in each ward.

61. Naming wards in each scheme is a useful way of keeping track and distinguishing between different schemes as well as giving some indication of the area covered by each ward. Since at the end of the review each ward will have to have a name, this can be a useful way of testing the local acceptability of potential ward names.

62. Where it is necessary to split polling districts, it is worth keeping a detailed list of the streets (with house numbers and names) and the number of electors in each part, as this information can often be re-used for alternative schemes.

## The Use of Mapping

63. Some authorities facilitate the preparation of information and forecasts for electoral review using computer based Geographic Information Systems (GIS). These can map boundaries, the electorate and dwelling completions. In guidance relating to its requests to local authorities for information, the Commission sets out some preferences for electronic mapping.

64. Electronic boundary maps for the district wards, county electoral divisions and parishes and polling districts may be available at the start of a review. Data from electoral registers can be imported into an Access database for Geocoding. This is the process of matching a set of records against another set with similar attributes that also have a grid reference, which can be attached to the original records and enables them to be mapped.

65. Each new housing site has a grid reference and the expected dwelling completions can be mapped.

66. Mapping the electorate enables new warding schemes to be tested by overlaying proposed new ward boundaries and summing the electors within the wards.

67. Those preparing proposals for new ward boundaries may or may not be the same staff who prepare the forecasts. The work will therefore be aided by the

preparation by forecasters of clear descriptions of the methodologies, forecasting assumptions and site-specific housebuilding expectations used in the preparation of forecasts.

68. Making these descriptions available to the Commission will also mean that the Commission's review officers will be able to assess the local authority's proposals for electoral boundaries, along with proposals made by any other organisation or individual and may formulate their own recommendations on the basis of common understanding of demographic and housing change elements.

### Forecast Publication

69. When the Commission is satisfied that forecasts prepared by the local authority are appropriate for use in the review, it will publish them in order that the forecasts may be used by any other organisation or individual who wishes to prepare alternative proposals for electoral arrangements

### Acknowledgements:

Simpson, L. (editor), Making local population estimates, a guide for practitioners. LARIA, 1998.