Cheshire East Council
Electoral Review 2023-24:
Electorate Forecasts Technical Report

Contents

1 Introduction

As part of the Local Government Boundary Commission for England's current (2023-24) Electoral Review of Cheshire East, it is necessary to produce forecasts of the future electorate for each of the Borough's existing wards.

The main rationale for producing these forecasts is to assess how the size and geographical distribution of electorates is likely to change in the coming years, so that electors can be fairly distributed between councillors. For example, housing developments can result in some small areas seeing much faster population and electorate growth than others – and hence the electors in these areas will be increasingly under-represented unless there is a change in electoral boundaries or the number of assigned councillors. Similarly, councillors representing areas of high population and electorate growth may become increasingly over-burdened unless boundaries or councillor numbers are revised.

Cheshire East Council has now produced electorate forecasts for its existing Borough wards,[1] for the purposes of the current review. This technical report sets out Cheshire East's methodology and the main results. The forecasts, and this report, were prepared by the Council's Strategic Planning Team, over the period from March to September 2023.

In developing these forecasts, the Borough Council has referred to guidance produced by the Local Government Boundary Commission for England (LGBCE).[2] In addition, Cheshire East has drawn on other relevant reference documents, namely:

- the electorate forecasting methodology report[3] produced by Cheshire West & Chester (CW&C) Borough Council, to explain the approach taken by CW&C in producing forecasts for the LGBCE's 2017-18 review of that authority. According to that report, the LGBCE reviewed CW&C's methodology and considered it fit for purpose.

- the electorate forecasts and accompanying technical report[4] produced by Cheshire East in 2019 (again by the Strategic Planning Team) for its 2018-23 Community Governance Review (CGR).

- the 2018-23 CGR Final Recommendations Assessment Report[5], which includes an overview of the 2019 forecasting approach, as well as details of the additional

[1] It will also be necessary to estimate future numbers of electors for any alternative administrative boundaries that are proposed during the Electoral Review.
[2] [1] 'Electoral Forecasting: User Guidance', LGBCE: https://www.lgbce.org.uk/sites/default/files/2023-03/electoral_forecasting_-_user_guidance.pdf . [2] 'Electoral reviews: Technical guidance (Updated April 2022)', LGBCE: https://www.lgbce.org.uk/sites/default/files/2023-03/technical-guidance-2021.pdf
[3] 'Cheshire West and Chester Electoral Review 2017: The Current and Forecast Electorate', Cheshire West & Chester Council, March 2017.
[4] Cheshire East CGR electorate forecasts technical report V9 (7 August 2019), Cheshire East Council. This report is the appendix under item 18 of the Constitution Committee 19 September 2019 agenda and minutes published here.
[5] Cheshire East Council Community Governance Review Final Recommendations Assessment Report, 25 March 2022. This report is Appendix 3 under item 81 of the 27 April 2022 Full Council agenda and minutes published here.

forecasting of future electorate numbers undertaken to assess the implications of the recommended changes to what were then the existing town and parish council boundaries.

Cheshire East's chosen methodology is based on CW&C's approach for its 2017-18 Electoral Review, which has been reviewed and accepted by the LGBCE. This chosen methodology also (albeit with some minor adaptations) follows that adopted for its 2018-23 CGR electorate forecasting work.

A few health warnings are worth highlighting in this introduction (other words of caution are issued at appropriate points later in this report):

- firstly, the electorate forecasts produced for this Electoral Review relate only to the number of electors eligible to vote in **local** government elections. This also applies to the current and historic electorate data (from the Electoral Register) that has been fed into the Borough Council's electorate forecasting model.

- secondly, the modelling set out in this report does not seek to estimate the past, current, or likely future numbers of **adults who are eligible to vote but who choose not to register or inadvertently fail to do so**. Registration rates for eligible adults are likely to vary significantly between different parts of the Borough, and so unregistered adults are likely to be more concentrated in some Borough wards than others. However, estimating levels of (and geographical variations in) under-registration is beyond the scope of the current forecasts and is not part of the wide array of evidence that the LGBCE has requested from the Borough Council for the purposes of this Review.

- thirdly, it should be noted that many of the figures cited in this report are rounded off, for ease of reading. However, the underlying calculations used for the Borough Council's modelling rely, wherever possible, on unrounded data. Therefore figures derived from the rounded numbers cited in this report may in some cases differ slightly from those generated by the Borough Council's modelling.[6]

The rest of this report is structured as follows:

- Section 2 explains the choice of the forecasting time period (July 2023 to December 2029).

- Section 3 sets out which geographical areas the forecasts were produced for (and why) and includes the forecast figure for the total (Borough-wide) electorate by 2029 and the change this represents from its current total. This section also explains how the forecasts deal with a few unusual cases where a property is

[6] For instance, in Section 6, it is noted that the Office for National Statistics' (ONS) latest (2018-based) subnational projections for Cheshire East's population in mid-2029 and mid-2030 are 400,914 and 402,349 respectively. However, the unrounded figures published by ONS are 400,914.111 and 402,348.731. As the Borough Council's modelling is based on the unrounded data, this report gives the midpoint of these figures as 401,631 (the midpoint of the unrounded figures), rather than 401,632 (the midpoint of the rounded figures).

recorded in the July 2023 Electoral Register as being in one polling district but will be listed under another polling district from December 2023 onwards.

- Section 4 explains the terminology and abbreviations used in this report.

- Section 5 presents the forecasting methodology and summarises the forecast results.

- Section 6 highlights the results of constraining the forecasts so they are consistent with the Office for National Statistics' latest (2018-based) subnational population projections: an approach that was tested (in line with LGBCE guidance), but which, as Section 6 also explains, was found to be less suitable than the Borough Council's preferred forecasting approach.

Appendix 1 (a separate sister document) contains the tables of electorate forecasts resulting from this work.

2 Time period for the forecasts

LGBCE guidance on electorate forecasts highlights a requirement for an electoral review to consider changes in the electorate that are likely to occur within five years of the end of the review's final recommendations. Hence local authorities are required to produce forecasts for six years from the start of the review: so, for the current review, that means forecasts up to 2029.[7]

The base date for the forecasts is 1 July 2023, as (at the time the forecasts were produced) this was the date of the most recently available Electoral Register data.

The resulting forecasts are therefore for the period from mid-2023 (1 July 2023) to the end of 2029 (31 December 2029)[8], although (for reasons explained in Section 3) statistics are presented for 2021-29 as well as 2023-29 changes in electorate numbers.

[7] This is set out in paragraphs 3.9 and 4.68 of the LGBCE's 'Electoral reviews: Technical guidance (Updated April 2022)' and paragraph 20 of the LGBCE's 'Electoral Forecasting: User Guidance'.
[8] At the time of writing, the LGBCE intended to agree its final recommendations for Cheshire East in December 2024 and publish these in January 2025, so the end date of December 2029 for the electorate forecasts is five years ahead of that final decision.

3 Geographical coverage of the forecasts

Although the forecasts requested by the LGBCE for this stage of the Electoral Review are only for existing Borough wards, the findings of the Review and the resulting decisions may involve a change to these wards' boundaries. Hence there is a need, as far as data limitations and resource constraints will allow, to be able to break down the current and future electorate into small sub-areas of each ward, so that the impact of any boundary change that the LGBCE propose or recommend can be readily assessed.

With this in mind, the Borough Council has followed a forecasting methodology that enables the production of forecasts for its smallest electoral tier, namely polling districts. The reasons for generating forecasts down to this specific geographical level are twofold. Firstly, Electoral Register data, which include statistics on both the number of electors and the number of properties, are readily available at polling district level. Secondly, all polling districts are subdivisions of parish wards, parishes and council wards and therefore forecasts for polling districts can be readily aggregated, if required, into figures for those higher electoral tiers.[9]

The other key data input required for electorate forecasts, Council data on completed new build housing and on future development sites, includes coordinates (eastings and northings) for individual housing development sites. Housing completions and expected future developments can therefore be mapped to any existing electoral tier, or indeed any potential subdivisions of these.

It is also recognised that the LGBCE seeks to use parishes, or else any town and parish council warding, as the building blocks for Borough wards.[10] Furthermore, there are some obvious advantages in keeping an entire town and parish council within a single Borough ward, so electorate forecasts at town and parish council level are also a key part of the evidence base.

Given all this, Cheshire East's CGR electorate forecasts have been produced for five geographical tiers:[11]

- the 370 polling districts
- the 184 separate areas for which councillors are elected (town and parish council wards, where warding exists, and parishes in other cases) or for which there are parish meetings (for a definition of parish meetings, see Section 4)
- the 120 parishes[12]

[9] Forecasting at polling district level is also consistent with the advice in paragraph 24 of the LGBCE's 'Electoral Forecasting: User Guidance' and with the approach taken by CW&C for the 2017-18 review of its council ward boundaries.
[10] As noted in paragraph 1.12 and Chapter 7 of the LGBCE's 'Electoral reviews: Technical guidance (Updated April 2022)'.
[11] The figures given relate to the electoral areas that came into effect from 1 April 2023, following the CGR changes.
[12] One of these 120 parishes, Lower Peover, is unique in being split between Cheshire East and a neighbouring local authority. This parish (which covers the same area as Lower Peover Parish Council) consists of two parish wards: Peover Inferior (the same geographical area as polling district

- the 106 town and parish councils and parish meetings[13]
- the 52 Borough wards
- the Borough as a whole.

The chosen approach, following that taken by CW&C in its 2017-18 Review, was to produce forecasts firstly for Borough wards and add these up to obtain a Borough-wide total, and then generate forecasts for polling districts. The forecasts for each polling district were calculated using (amongst other input data) estimates of the average number of electors per dwelling for the Borough ward in which the polling district lay. The resulting electorate forecasts for each polling district were then constrained so that they summed to the electorate totals for each Borough ward.

The polling district figures were then grouped into their constituent parish wards, parishes and parish councils, in order to generate forecasts for these other geographical tiers that summed to the same Borough ward sub-totals and overall (borough) totals.

In presenting the forecast results up to the LGBCE's specified end date of 2029, it is useful to include data on the expected changes in electorate numbers for two key periods:

- December 2021 to December 2029, as the LGBCE's starting point for this Review is the Electoral Register data as at (December) 2021
- July 2023 to December 2029, as (by the time these forecasts were produced), Electoral Register data for 1 July 2023 was available for feeding into the model and so 1 July 2023 marks the base date for the forecasts.

There are rare instances where a property is recorded in the July 2023 Electoral Register as being in one polling district but will be listed under another polling district from December 2023 onwards. For each of these, the forecasts assign these properties and their electors to the polling district that the Register records (or will record) them as being in at the time in question. This approach is based on LGBCE advice on how to treat such cases. The cases are as follows:

- **Handforth/Styal parish boundary decision (affecting one property and its two electors):** In spring 2023, the Borough Council decided to uphold a resident's complaint about their property's transfer (under the CGR) from the

3CN1), which is in Cheshire East, and Nether Peover, which is in CW&C. However, given that this Electoral Review is limited to Cheshire East, the electorate forecast figures produced for the Review relate only to the numbers of electors in the Peover Inferior parish ward; this is so even for the figures produced at parish and parish council level.

[13] The figure of 106 includes eight separate groups of parishes which technically are not parish councils in their own right: rather, they are 22 individual parishes which group together for administrative purposes. These eight groups are: Bickerton and Egerton; Brindley and Faddiley; Cholmondeley and Chorley; Cholmondeston and Wettenhall; Hatherton and Walgherton; Leighton, Minshull Vernon and Woolstanwood; Sound and District (the parishes of Austerson, Baddiley, Baddington, Broomhall, Coole Pilate and Sound); and Worleston and District (the parishes of Aston Juxta Mondrum, Poole and Worleston).

parish of Styal to Handforth Town Council. The Register will not be updated to reflect this decision until the annual canvass (scheduled for the summer and autumn of 2023) has been undertaken. Therefore the electorate forecast model treats this property and its two electors being as part of Handforth Town Council and polling district 8FKT as of the forecast base date (July 2023), but as part of the parish of Styal and its polling district (8FK1) from the end (December) of 2023 onwards. However, this case has no impact on the electorate figures at Borough ward level, as both 8FKT and 8FK1 are part of the same Borough ward (Wilmslow Lacey Green).

- **Alsager property (with three electors) recorded under incorrect polling district in the July 2023 Register:** In order to provide the LGBCE with the detailed Register data that it requires for the current Review, the Borough Council undertook an extensive amount of work in checking its existing records of mapping coordinates (eastings and northings) for properties on the Register and in obtaining accurate coordinates for those properties where no eastings and northings were previously listed. This work identified a few cases where a property was in a slightly different location to that recorded in the existing Register. These included one instance where the existing Register was found to have assigned one property, in Alsager, to the incorrect polling district. The July Register lists this property and its electors as being in polling district ALEF, but it is actually in ALEG. Again, the Register will not be updated to reflect this error until the annual canvass has been undertaken. However, this case has no impact on the electorate figures at parish ward and higher electoral levels, as both ALEF and ALEG are part of the same Town Council ward (Alsager West) and the same Borough ward (Alsager).

For the Borough as a whole, the resulting forecast is that:

- between December 2021 (when the electorate was 307,800) and the end of 2029 (31 December), the electorate will increase by around 29,500 (9.6%), to reach 337,300

- between 1 July 2023 (when the electorate was 314,700) and the end of 2029 (31 December), the electorate will increase by around 22,700 (7.2%).

4 Terminology and abbreviations

Dates

Except where specified otherwise, references to 12-month periods spanning two calendar years are for the period 1 April to 31 March. For example, "2022/23" means the year 1 April 2022 to 31 March 2023.

Parish meetings

Parish meetings are parishes that have no elected councillors and where decisions are instead made at meetings of local residents. Cheshire East has four parish meetings.

Parish wards

For simplicity, this report uses the term "parish wards" to refer to the 184 areas with separate councillor representation (180 areas) or with a parish meeting (four areas), though some of these 184 areas consist of a whole parish that is not divided into wards.

Residential properties

The chosen forecasting methodology involves the use of different assumptions for the different types of accommodation in which electors live, namely dwellings intended for occupation by a single household, houses in multiple occupation (HMOs) and specialist housing for older people.[14] However, apart from where specific mention is made of HMOs or specialist housing for older people, the references in this report to "dwellings", "residential properties", "properties", "housing" or "homes" means all accommodation for long-term residents, whether it is intended for single households, multiple households or older people.

Abbreviations

This report includes the following abbreviations:

- CGR: Community Governance Review
- CW&C: Cheshire West and Chester Borough Council
- DLUHC: Department for Levelling Up, Housing and Communities
- HMO: Houses in multiple occupation
- HMU: (Cheshire East Borough Council) Housing Monitoring Update Report
- LGBCE: Local Government Boundary Commission for England

[14] For the purposes of this report and the CGR electorate forecasts, HMOs and "specialist housing for older people" are defined as follows: "specialist housing for older people" is housing for older people that falls within the C2 premises use class, namely residential care homes, nursing homes and extra care housing; and HMOs are small shared houses occupied by between three and six unrelated individuals, as their only or main residence, who share basic amenities such as a kitchen or bathroom. These definitions are based on the use class descriptions given by the Planning Portal: https://www.planningportal.co.uk/permission/common-projects/change-of-use/use-classes . Extra care housing is housing primarily for older people, where occupants have specific tenure rights to occupy self-contained dwellings and where they have agreements that cover the provision of care, support, domestic, social, community or other services.

- LPS: Local Plan Strategy
- OA: Output Area
- ONS: Office for National Statistics
- ONSPD: ONS Postcode Directory
- ORS: Opinion Research Services
- SHLAA: (Cheshire East Borough Council) Strategic Housing Land Availability Assessment
- SNPP: Subnational population projections

5 Methodology

5.1 Overview and key data sources

One approach to forecasting future changes in the electorate is to produce forecasts of the future population change and then apply estimates of (or assumptions about) the number of electors per head of population. However, whilst population forecasts are commonly produced at local authority level, Cheshire East does not consider that such forecasts can be reliably generated for smaller areas, such as towns, parishes or Borough wards. This is because the key input data, such as official statistics on migration flows, are not generally available for these small areas. The 2011 Census includes migration data at small area level,[15] but only for short-term migration (people moving house during the 12 months before the Census): clearly longer-term migration trends cannot be identified from this alone. The 2021 Census data releases (ongoing at the time of writing) include some updated information on these short-term migration flows, but do not provide any more detailed evidence.[16] Furthermore, population forecasting requires specialist knowledge of demographic data (such as fertility rates, mortality rates and migration flows) and associated modelling techniques. Cheshire East does not have this in-house expertise.

The most obvious alternative approach (the one that the Council has followed) is to forecast future change in the number of residential properties and then apply estimates of the average number of electors per property. This approach is more suitable, as Cheshire East's Strategic Planning Team maintains a database of housing developments, which includes records of past housing completions and forecasts of expected future completions.

This database records only changes in the stock of residential properties (completions, demolitions, changes of use and conversions). Therefore it cannot be used in isolation to estimate the stock at any one time. However, small area data on the stock of residential properties are available from other sources, namely Official for National Statistics (ONS) dwelling stock statistics, the 2021 Census (and earlier Censuses), Cheshire East's Council Tax Team and from the Council's Electoral Register.

The property statistics from these sources can also be cross-checked against each other and against outputs from the forecasting work and can be used to inform the forecasting methodology and choices of input data.

[15] For example, for the statistical 'OAs' created by ONS, which generally contain smaller numbers of residents than polling districts.

[16] At the time of writing, the published 2021 Census data on migration is available down to OA level (Cheshire East is currently divided into 1,298 OAs, each of which are of broadly similar size in terms of population). However, this 2021 Census data identifies only the number of residents within the specified geographical area who had, within the previous 12 months, migrated to their current home from an address inside the UK, and the number who had migrated there from an address outside the UK. Therefore it does not yet identify the numbers of residents who migrated within Cheshire East or within a specific ward, and nor does it identify the numbers of people who had migrated out of Cheshire East in the previous 12 months. In any case, a single 12-month period may well be unrepresentative of longer-term migration trends, and this may be particularly so for the 12 months prior to Census Day 2021 (21 March 2021), given that it coincided with the COVID-19 pandemic and periods of lockdowns and COVID-related restrictions.

For data on the number of electors, the Electoral Register is the obvious (and only) source.

These data sets are summarised in Table 1 below.

Table 1: Key data sources available for the electorate forecasting work

Data	Source	Time period(s) for which data are available at small area level
Cheshire East Council housing database records on housing completions and current/future developments	Strategic Planning Team	2010 onwards
Electoral Register data on electorate size and property numbers	Electoral Services Team	2016-23*
Council Tax data on number of properties	Council Tax Team	2011 and 2019-23
ONS dwelling stock data	ONS	2010
Census dwelling stock data	ONS	2011 and 2021

*Registers as of August 2016, August 2017, November 2018, January 2020, December 2020, December 2021, January 2023, and July 2023.[17]

5.2 Estimating the current stock of residential properties

Sourcing, cleansing and mapping of data on historic (2010-23) and future housing completions

The Strategic Planning Team's housing database is the most comprehensive and reliable source of data on recent and potential future changes to the Borough's housing stock. It includes eastings and northings for sites where development is completed, underway or planned. This means that existing and expected future dwelling provision can be mapped to any current or potential future administrative areas.

The information on the housing database records the day (date, month, and year) of each completion. The data goes back only to 2010 and (a few exceptions aside) does not record dwellings built before then. However, the data can be used, in tandem with less up-to-date statistics on the residential property stock, to produce up-to-date estimates of this stock.

For the purposes of the electorate forecasting work, extracts were obtained from this database. These extracts included records of past completions and forecasts of future development, as well as supplementary data on completions of specialist housing for older people, and on dwelling losses. The extracts contained all data

[17] These were the dates for which Electoral Register data were readily available. For the purposes of the electorate forecasting work, those Register figures that predated July 2023 and that were for months other than December were treated as proxies for the December they were closest to: for example, the August 2017 figures were used as a proxy for December 2017 and the January 2020 figures were used as a proxy for December 2019.

fields deemed of potential use for the forecasting work and included records of all property completions to date and all development sites where housing construction has occurred since April 2010, is underway or is expected to commence during or beyond the current (2010-30) Local Plan period.

It should be stressed that the forecasts of future residential property completions are based on the status of the site (for example, whether it has planning permission) and realistic build rates (the number of properties that can be built per annum). They are not constrained or uplifted to reflect planning policy aspirations or subjected to any other kind of policy adjustment.

The extracted forecasts of future housing completions are those produced as part of the Strategic Planning Team's most recently published Housing Monitoring Update (HMU), a report that provides a yearly update on past and expected future housing completions.[18] These housing forecasts were provided in March 2023 and record full details of the site, including its address and the forecast number of completions on the site in each reporting year from 2022/23 to 2029/30.

The extracted data on historic (actual) completions included completions up to 31 March 2023 and were provided in two separate instalments:

- finalised figures for completions up to 31 March 2022 were provided in March 2023. These figures are consistent with the Strategic Planning Team's official (published) data on housing completions and forecasts, in the form of the most recent HMU. These figures were provided with separate records (individual data rows) for each property, including its plot address and its completion date.

- figures for the year 1 April 2022 to 31 March 2023 were provided in July 2023.[19] These figures provide a comprehensive record of completions during that 12-month period and have been subjected to extensive checks. Hence they were considered more than sufficiently accurate for input into the Council's electorate forecasting model.[20] However, unlike the completions data provided for earlier years, the completions figures for the 2022/23 year could only be provided at site level: that is, they show the number of net completions in 2022/23 for each site and the site's address details, but do not include completion dates and plot addresses for each individual property.

[18] 'Housing Monitoring Update – Base date: 31 March 2022', Cheshire East Council, February 2023: https://www.cheshireeast.gov.uk/planning/spatial-planning/research_and_evidence/strategic_housing_land_assmnt/housing-land-supply.aspx

[19] The extracted data on housing completions included one property that involved a change of use from a standard (C3 use class) dwelling to a residential institution (C2 use class) property that is intended to be a children's home. (This contrasts with the other C2 developments recorded in the housing database data extracts, which are for specialist older people's housing.) This change is therefore treated by the electorate forecasting model as a net loss of one standard (C3) dwelling, rather than a change of use (as the electoral forecasting approach includes only C2 accommodation for older people).

[20] However, the completions figures for the 2022/23 year will undergo further checks and potential further amendments, so the 2022/23 completions fed into the electorate forecasting model may not necessarily tally exactly with the final numbers that will be reported in the next HMU.

The housing database extracts were reviewed, and some extra data checking and cleansing was undertaken given the additional levels of precision required for some elements of the electoral forecasting work.[21] In particular:

- for some of the site records for which housing completions were forecast from April 2022 onwards, it was necessary to check the development location by referring to other Strategic Planning Team records, because of differences in the information provided about the location details. For example, in a few cases, different files or spreadsheet tabs recorded a different easting or northing for the same site; in a few others, the original easting and northing appeared to map to a location outside Cheshire East. In such cases, the site location and area covered were checked using the Cheshire East SHLAA (Strategic Housing Land Availability Assessment) map layer and the final easting and northing taken from the SHLAA.[22] Amended postcodes and revised coordinates were added in new data fields. However, these changes affected only 0.5% (five) of the 1,011 housing forecast sites included in the electorate forecasting.

- for the 21,768 gross completions between 1 April 2010 and 31 March 2022, no eastings or northings were available, as the housing database does not record coordinates for individual properties. However, the site address and (where also included) plot address entries in the database generally included detailed information, usually including a full, recognisable postcode. Eastings and northings for these 21,768 individual completions were therefore derived as follows:
    - if the property was the only one that had been (or would be) built on its development site, then the site easting and northing were taken as the property's easting and northing. 1,689 (7.8%) of the 2010-22 completions fell into this category. (These 1,689 included all the 164 completions (cited later in this report[23]) that were identified as being residential bedrooms for unrelated elderly residents.)

    - for the other 20,079 completions, namely those involving multi-property sites, work was undertaken to confirm the property's postcode and then match this to what (at that time of that data preparation work) was the latest (February 2023) ONS Postcode Directory (ONSPD), as the ONSPD includes eastings and northings for each UK postcode.[24] The procedure

[21] As the housing database is designed for recording and monitoring housing completions and other changes in the housing stock, not for informing electoral reviews, some of its records inevitably excluded some of the detailed information required for the electoral forecasting work.
[22] For some of these sites, the SHLAA includes the boundary of the site, but not an easting and northing; in such cases, the easting and northing used for the electorate forecasts were based on a relatively central point within the site area.
[23] The derivation of the 164 figure for residential bedrooms is covered later in Subsection 5.2, under the heading 'Distinguishing between different types of older people's specialist housing (individual properties and communal establishment bedrooms)'.
[24] Larger sites often consist of properties on multiple streets and covering multiple postcodes. In these cases, the postcode easting and northing are a more precise indicator of an individual property's location than the site coordinates. For very small sites, particularly those involving a single completion, the reverse may be true, with the site coordinates being more accurate than those for the property's postcode. However, to avoid undue complexity, it was deemed preferable to follow a consistent approach for all properties.

followed in each case depended on the type and accuracy of the available information on the property location:

- for most cases (19,874 or 99.0% of the completions on multi-property sites), the housing database plot address included a full postcode that could be matched to a postcode (and hence to an easting and northing) in the ONSPD that was located in Cheshire East.

- for eight other properties (all on the same development site), the ONSPD easting and northing for the housing database plot address postcode mapped to a location significantly beyond the Cheshire East boundary; therefore, the correct postcode was obtained using Google searches and this was matched to the ONSPD to obtain an amended easting and northing.

- in one further case, the property in question had no postcode in its plot address but was one of a number on the same relatively small site (16 properties), and so the postcode recorded for other plots on the same site was used to match to the ONSPD.

- in 73 cases, there was enough information in the housing database's plot address to find the location's postcode using Google searches and match this to the ONSPD.

- in six cases, the plot address contained a postcode or provided enough details to find a postcode for the location via Google searches, but the resulting postcode was not one listed in the ONSPD. In these cases, the site easting and northing were taken as the property's easting and northing.

- in the remaining 117 cases, there was too little information (if any) in the plot address to undertake Google searches that were likely to identify the property's postcode. In these cases, the site easting and northing were again taken as the property's easting and northing.

Hence for 19,956 (91.7%) of the completed properties, the eastings and northings were based on the property's postcode and for the rest the site's easting and northing were used.

Losses were mapped according to the relevant development site easting and northing given in the housing database.

For each of the 1,011 sites in the forecasting model for which future housing completions were forecast, checks were made to identify which ones cut across polling district boundaries and to assess how (if at all) the properties due to be built on these sites would be split between multiple polling districts. These checks were made by overlaying the site and polling district boundaries in the Council's QGIS mapping software and, where necessary:

- referring to Ordnance Survey data showing current progress with the sites' development

- referring to relevant planning application documents for the site (for example, proposed site layouts showing where and how houses would be distributed across the site).

The checks established that:

- most of these sites (941) lie entirely within a single polling district.

- for most (49) of the 72 that were split between two or more polling districts, it was clear (or at least highly likely) that all the housing on the completed site would fall within a single polling district, even though the site's total land area was split. For example, there were cases where a site spanned two polling districts, but where one of these polling districts contained land that would clearly (according to OS data or planning application documents) be used only for roads or landscaping, or which was clearly too small in size to accommodate even a small dwelling.

- in the case of the remaining 23 sites (2.3% of all the sites), it was likely (or even certain) that housing would be split between two or more polling districts. In each of these cases, the electoral forecasting approach was to divide the total expected number of houses between different polling districts, to reflect each polling district's expected share of the site's total number of houses. This division took account of planning application documents (where these revealed useful information on the proposed distribution of homes across the sites) and any Ordnance Survey data on the distribution of any homes already completed at the time the checks were done (March-April 2023). Nearly all (20) of the 23 sites in this category had their housing divided between only two polling districts, but it was considered necessary to split two sites between three polling districts and to split one site between four polling districts.

- of the latter group of 23 sites, none involved any development of specialist housing for older people, nor any HMOs.

The checks also revealed four cases where a site's easting and northing mapped to point that was located outside (though in most cases close to) the polling district that contained most (or all) of its housing; in such cases, the easting and northing were further amended, so they mapped to a point in the polling district where most (or all) of the housing was going to be.

This division of sites' housing, to reflect splits between polling districts, dovetails with the approach taken by CW&C for the forecasting undertaken for its 2017-18 electoral review. It is also an improvement on the approach taken for the Cheshire East CGR, for which (because of greater time constraints and resource pressures on the forecasting work and other CGR analytical work) sites were generally assigned to the single polling district containing their easting and northing.[25]

[25] Some work was undertaken during the CGR to estimate the division of new homes between polling districts or other small electoral geographies, but this was focused on areas where parish boundary

The data cleansing and mapping work set out above was undertaken during March-April 2023.

The housing data file recording actual 2022/23 completions (as received in July) did not include site eastings and northings. However, of the 270 sites where gross completions or losses (or both) occurred in 2022/23, 240 were among those listed in the housing database forecasts and so eastings and northings for these sites were already available within the electorate forecasting model.

For the other 30 sites, additional mapping work was necessary: firstly, to identify an easting and northing, and secondly to check whether their housing was split between multiple polling districts. For these 30 sites, eastings and northings were taken from the SHLAA where available; where the SHLAA did not record coordinates for the site, an easting and northing were taken from a point within the site boundary. However, whilst one site boundary appeared to extend into a small area of land (too small to accommodate a property) in a neighbouring authority, none of the 30 spanned multiple Cheshire East polling districts.

Adjustment of the original housing forecast figures to reflect actual 2022/23 completions

The most recent (2021/22) HMU (published in February 2023) has a base date of 31 March 2022 for its forecasts of future housing development. The next HMU, which will have a base date of 31 March 2023, is not due to be finalised and published until 2024, which will be too late to inform the electorate forecasts for this Review. However, the extracted housing database figures for 2022/23 completions provide valuable updated evidence on the likely levels, volumes, and locations of housing development, and this evidence can be used to produce adjusted housing forecasts for input into the electoral forecasting model.

Therefore the approach taken for the electoral forecasting work has been to use data on actual housing completions to estimate changes in the housing stock from 2010 up to 31 March 2023, and to use adjusted housing forecasts (2021/22 HMU forecasts adjusted to reflect the actual 2022/23 completions evidence) to estimate changes in the housing stock from 1 April 2023 up to the end of the electorate forecasting period (31 December 2029).

Table 2 below sets out the approach taken in adjusting the HMU forecast figures to reflect and ensure consistency with actual 2022/23 completions figures. The examples given in the final column relate to the actual numbers of past and expected future completions for actual sites recorded in the model, rather than being made-up hypothetical cases.

Whilst the assumptions for scenarios 1 to 4 in Table 2 are helpfully informed by evidence on the actual level of site activity in 2022/23, there is more uncertainty in making a judgement about the status of those sites (scenarios 5 and 6) where some

changes were proposed and was done to inform the CGR Draft and Final Recommendations, rather than being a wholesale exercise that was carried out at an earlier stage, as part of the CGR electoral forecasting work.

completions were originally forecast in 2022/23 but none occurred. The simple assumption applied to the scenario 6 cases, that development has just been set back one year, is one that errs on the optimistic side. In practice, development on some of those sites may end up being delayed for a few years or may not even happen at all. However, there were 145 sites that came under scenario 6 and it was not considered feasible to undertake a reassessment of so many sites' prospects within the timetable set out for this Review's electorate forecasts. Such detailed information will be available only when research and consultation work is undertaken to inform the next HMU. Given the small scale of the development originally forecast for 2022/23 on the scenario 6 sites (nine or fewer completions), revised assumptions about the timing of this development are likely, in any case, to have very limited impact on the resulting electoral forecasts.

The scenario 5 cases, however, warrant a different approach. The assumptions made about larger sites can have a material effect on the electoral forecasts. Furthermore, there were only five sites for which 10 or more net completions were forecast for 2022/23 but for which none occurred. Therefore, as Table 2 indicates, housing monitoring officers were approached (in late July 2023) for an updated view on progress and likely timescales for completing these sites and the electoral forecasting model's assumptions were adjusted to reflect this updated information.[26] In four of these five cases, development was underway (and in some instances completed) by that point in the 2023/24.

Besides reviewing the scenario 5 cases, housing monitoring officers were also consulted on the whole approach set out in Table 2 and given examples (including names and reference numbers) of sites that fell under scenarios 1 to 4 and 6. They endorsed the general approach, but also provided updated information on development progress with the specific sites presented as examples; this updated evidence has also been used to adjust the model's assumptions.

The feedback from housing monitoring officers identified two specific sites where completions were originally forecast for 2022/23, but for which signs of actual or imminent progress were still obviously lacking. The electorate forecasting approach therefore assumes, conservatively, that development on these two sites, if it occurs at all, will be after 2029.

[26] None of these five sites was unusually large in scale: the biggest was a development of specialist housing for older people involving 72 net completions (all originally forecast to be built in 2022/23, but now expected to be completed in 2023/24); two others each involved around 50 net completions over the site lifespan; the others involved 15 or fewer properties.

Table 2: Approach taken to adjusting original housing forecast figures to reflect actual 2022/23 housing completions

Scenario No.	Scenario description	Adjustment (if any) made to the original (housing database) forecast numbers	Example
1	Development in 2022/23 has progressed at the 'speed' expected, with actual net completions in that year equalling what was forecast.	No adjustment needed.	Original housing forecast was one net completion every year from 2022/23 to 2026/27 inclusive, and there was actually one net completion achieved in 2022/23. In this case, the electorate forecasting model records the 2022/23 actual figure and assumes one net completion a year from 2023/24 to 2026/27 inclusive.
2	Development in 2022/23 has progressed faster than expected, with more actual net completions than were forecast and the whole site was complete as of 31/3/23.[27]	The model assumes the site has been fully built out as of end of 2022/23 year.	Original housing forecast was zero net completions in 2022/23 and four in 2023/24, but the four net completions were actually achieved in 2022/23. In this case, the model records the 2022/23 actual figure and assumes zero net completions for 2023/24 and beyond.
3	Development in 2022/23 has progressed faster than expected, with more actual net completions than were forecast, but the site is not yet complete.	The model revises downwards the originally forecasted number of completions in later years, to exactly offset the gap between the 2022/23 actual figure and the 2022/23 forecast.	Original housing forecast was 30 net completions in 2022/23, 30 in 2023/24 and 21 in 2024/25, but there were actually 48 net completions in 2022/23, 18 more than expected. In this case, the model records the 2022/23 actual figure and assumes 30 net completions in 2023/24 and the remaining three units in 2024/25.
4	Development in 2022/23 has progressed more slowly than expected, with fewer actual net completions than were forecast.	The model revises upwards the originally forecasted number of completions in later years, to exactly offset the gap between the 2022/23 actual figure and the 2022/23 forecast.	Original housing forecast was 39 net completions a year from 2022/23 to 2027/28 inclusive and two net completions in 2028/29, but there were only 27 actual net completions in 2022/23, 12 less than expected. In this case, the model records the 2022/23 actual figure and assumes 39 net completions a year from 2023/24 to 2027/28 inclusive and 14 net completions (12 more than originally forecast) in 2028/29.

[27] The sites within this category included one for which actual net completions in 2022/23 (10) exceeded the total volume of development (seven net completions) that the original housing forecasts predicted over the site's lifespan.

Scenario No.	Scenario description	Adjustment (if any) made to the original (housing database) forecast numbers	Example
5	Site on which a significant volume of development (10 or more net completions) expected in 2022/23, but none actually occurred.	Adjustment made to take account of up-to-date view from Strategic Planning Team housing monitoring officers[28] on recent and expected future progress with the site in question.	Original housing forecast was a total of 50 net completions over the site's lifespan, with 19 of these to be in 2022/23, a further 19 in 2023/24 and the remaining 12 in 2024/25, but the actual outturn for 2022/23 was zero. When asked for an update on the site's current status, housing monitoring officers confirmed construction was by then (as of late July 2023) underway. The officers' updated expectations (which the electorate forecasting model has adopted) were that 25 completions would be achieved by the end of 2023/24, 19 in 2024/25 and the remaining six in 2025/26.
6	Site on which a small amount of development (nine or fewer net completions) expected in 2022/23, but none actually occurred.	The model assumes the development timetable has been set back a year: that is, the original net completions forecast for 2022/23 will now be achieved in 2023/24, the original numbers forecast for 2023/24 will be achieved in 2024/25 and so on.	Original housing forecast was two net completions in 2022/23, two in 2023/24 and two in 2024/25. In this case, the model records the 2022/23 actual figure of zero net completions and assumes two net completions in 2023/24, two in 2024/25 and two in 2025/26.

As it happens, inputting the actual 2022/23 completions figures into the electorate forecasting model and adjusting the housing forecasts accordingly (as set out in Table 2) has relatively little impact on the overall electorate forecast figures for 2029. As noted earlier, the adopted forecasting approach results in a forecast of 337,300 electors by December 2029 (an increase of 22,700, or 7.2%, on the July 2023 Electoral Register figure of 314,700). An alternative variant of the model was tested, under which the 2022/23 actual completions figures are excluded, and the original (HMU) housing forecast figures consequently left unchanged, but this results in an electorate forecast for December 2029 that is only marginally (around 50 electors) lower, but still in the 337,250 to 337,350 range. This provides reassurance that the adopted forecasting approach is robust and that the inclusion or exclusion of the actual 2022/23 completions evidence does not materially affect the 2029 electorate forecast figures.

[28] The housing monitoring officers provided this input in late July 2023, so their responses reflect the information available at that time. However, with further information becoming available in the next few months, expectations about these sites may change and so the housing forecasts reported for these sites in the next (2022/23) HMU may, of course, differ from those that the electorate forecasting model assumes.

Treatment of windfall sites

The electorate forecasting work excluded the forecasts for future housing development on windfall sites (sites that unexpectedly come forward for development during a plan period). This approach is consistent with the LGBCE's guidance, which advises that windfall sites should be excluded from electorate forecasts, given that their locations cannot be predicted and therefore windfall numbers cannot be converted into numbers of additional electors in each current or potential future ward.[29]

Distinguishing between different types of older people's specialist housing (individual properties and communal establishment bedrooms)

Where a site involved a development of older people's specialist housing that had already been completed by the end of March 2023 and this was recorded as the construction of a single property, the plot address was reviewed, along with (if deemed necessary) relevant planning application documents and the evidence available from other online searches for that address. The purpose of this exercise was to assess whether the property involved a single unit of accommodation for (typically) one person, or a larger building containing bedrooms for many (unrelated) residents. For example, properties with plot addresses containing "Apartment 1" or "Flat 1" could reasonably be assumed to be accommodation for a single person, but names such as "Priesty Fields Care Home" and "Kendal House" indicated accommodation for many residents; even addresses with a specific house number could potentially involve a large property with many bedrooms.

As a result of these checks, four properties were identified where it could be determined that the completed property provided accommodation for many residents. In these four cases, planning application evidence showed the number of bedrooms to be provided for residents (10 in one case, 14 in another, 60 in another and 80 in the final case, or 164 in total). For the purposes of the electorate forecasting work, each of the bedrooms in these four properties was counted as a single unit of accommodation and hence as a single housing completion. The result of this stage of the work (treating the four properties as 164 completions, rather than four completions) was to revise upwards the number of completions (up to the end of March 2023) by 160.

Treatment of properties in use class C3b

One of the sites completed in 2022/23 involved the development of a property classed as C3b. This development was classed as an HMO for the purposes of the electorate forecasts: that is, the forecasting model assumes the property will contain 3 electors. This is because C3b properties cover up to six people living together as a single household and receiving care (for example, supported housing schemes such as those for people with learning disabilities or mental health problems), so the likely number of electors is similar to that for HMOs, allowing for the number of occupants being less than six and for people receiving care perhaps being less likely to be on the Register than other groups of the population.[30]

[29] Paragraph 51 of the LGBCE's 'Electoral Forecasting: User Guidance'.
[30] This is taken from the Planning Portal definition for C3b dwellings: https://www.planningportal.co.uk/permission/common-projects/change-of-use/use-classes

Conversion of housing monitoring reporting years (April to March) to calendar years and other time periods

Whereas the extracted housing database forecasts are for years running from 1 April to 31 March, the Electoral Register data being used relates to December of each year (or as close to December as possible[31]), Given this, and the LGBCE's guidance on the end date for the forecasts, the aim of the Council's electorate forecasting work has therefore been to produce estimates of the electorate in each future December, up until December 2029. An added complication is that the most recent Electoral Register data fed into the model is for 1 July 2023, meaning that this is the base date used for the electorate forecasts. Hence, for its calculations, the model must separate housing completions for July 2023 onwards from those for the pre-July 2023 period.

Consequently:

- the housing completions and forecast numbers have been converted into calendar years

- in addition, the housing completions and forecast numbers for the 2023 calendar year have been separated into three periods: January to March 2023 (for which actual housing completions are available), April to June 2023 (for which only housing forecasts are available) and July to December 2023 (which again are housing forecasts, not actual completions).

For these conversions, it has been assumed that, for each reporting year (April to March), 25% of completions occur during 1 April to 30 June, 50% occur during 1 July to 31 December and the remaining 25% of completions occur during 1 January to 31 March.

A similar issue affects the data on actual losses, which for years prior to 2022/23 was broken down by reporting year but did not include the month that the loss occurred. However, of the 857 sites where losses occurred between 1 April 2010 and 31 March 2022, only 84 involved the loss of more than one property and only 34 of those 84 involved the loss of more than two properties. Therefore, for most sites with losses up to 31 March 2022, it is not even feasible to divide the losses between calendar years. Consequently, for the pre-April 2022 losses data, the figures for each reporting year (April to March) have been taken as a proxy for the calendar year they mainly overlap with: for example, the 2010/11 losses have been used as an estimate for 2010 calendar year losses, 2011/12 losses used to estimate 2011 calendar year losses and so on.

In terms of the electorate forecasting results, this approach impacts most on the treatment of the 2021/22 losses.[32]

[31] See Table 1 above for more details on the dates of the Electoral Register data used for the forecasts.

[32] There were 86 losses (spread across 74 sites) during the 2021/22 reporting year, of which only five involved the loss of more than one property (and none involved more than seven losses). Consequently, the electorate forecasting approach assigns all the 86 losses for 2021/22 to the 2021 calendar year. The effect of this is a slightly higher forecast for 2022 net completions than would

Hence housing completions for each calendar year for 2022 onwards were worked out as shown in Table 3 below. The estimated numbers of completions were rounded off to the whole number.[33]

Table 3: Conversion of housing database (April to March) forecasts into time periods that could be matched to the electoral forecast data

Period (calendar except where specified otherwise)	Calculation of housing forecast for this period
2022	January-March 2022 actual gross* completions + (2022/23 actual net completions x 75%)
January to June 2023	(2022/23 actual net completions x 25%) + (2023/24 forecast net completions x 25%)
July to December 2023	2023/24 forecast net completions x 50%
2024	(2023/24 forecast net completions x 25%) + (2024/25 forecast net completions x 75%)
2025-29	As for 2024, but rolled forward a year

*As noted earlier, the gross losses for 2021/22 were not broken down by month and so the electorate forecasting model assigns them all to the closest matching (2021) calendar year.

Overview of the completions data for 2010-29

In summary, the housing completions and forecast data that was included in the electorate forecasts therefore consisted of:

- the 21,768 gross completions (spread across 2,633[34] sites) that occurred between 1 April 2010 and 31 March 2022 and the 1,579 gross losses (spread across 857 sites) that occurred during that same 12-year period. Hence there

otherwise be the case. If, for example, 26% (22) of those 86 losses had occurred during January to March, then the "true" net completions figure for the 2022 calendar year would be 2,446, or 0.9% less than the 2,468 that the electorate forecasts indicate. However, in the context of the cumulative total of 18,046 net completions forecast between 1 January 2022 and 31 December 2029, the effect of assigning 22 January to March 2022 losses to the 2022 calendar year would be a "true" net completions figure for the 2022-29 of 18,024, or a mere 0.1% less than the electorate forecasts assume.

[33] To avoid rounded figures that summed to a different total than the unrounded figures, the estimated completions for January to March were rounded down to the nearest whole number and those for April to December were rounded up to the nearest whole number. For the same reason, the estimates for April to June 2023 were rounded down to the nearest whole number and those for July to December 2023 were calculated as the 2023/24 figure minus the (rounded down) estimates for April to June 2023 and January to March 2024.

[34] This figure consists of 2,524 sites where all construction had been completed by 31 March 2022 and 109 sites where further completions were forecast to occur from 1 April 2022 onwards.

were an estimated 20,189 net completions (the 21,768 completions minus the 1,579 losses) between 1 April 2010 and 31 March 2022.[35]

- the 2,506 gross completions (spread across 255 sites) that occurred between 1 April 2022 and 31 March 2023 and the 162 gross losses (spanning 55 sites) over that same 12-month period, giving a total of 2,344 net completions for that year. Of the 255 sites with gross completions during that year, 27 were ones where the most recent HMU had not anticipated and forecast completions from April 2022 onwards.

- 15,057 net completions (spread across 1,011 sites[36]) forecast between 1 April 2023 and 31 December 2029 (after adjusting the original housing forecasts to reflect actual 2022/23 net completions and apportioning the figures to calendar years). Of these 15,057, it is forecast that 649 would be built by the end of June 2023 and the remaining 14,408 from 1 July 2023 onwards.

Addition of 2010 housing stock data to the completions figures

To arrive at figures for total housing stock over the electorate forecasting period, it is necessary to add the figures for net completions since April 2010 to estimates of what the total stock was back in 2010. For this, Cheshire East has relied on statistics published on ONS' former Neighbourhood Statistics site, down to Output Area (OA) level, on the dwelling stock as of March 2010.[37] These figures are no longer available in the public domain, but Cheshire East obtained a copy of the data set from CW&C for use in its (Cheshire East's) 2018-23 CGR forecasting work. The ONS data set is based on the original (2001) OA boundaries (subsequently referred to in this report as "2001 OAs"), which divides Cheshire East into 1,215 OAs. ONS lookup tables can be used to match these original OA boundaries to parishes and council wards.[38]

[35] The actual figure recorded in the housing database for losses during this period was 1,580 (across 858 sites), but the record for one site, involving the loss of a single dwelling (in 2010/11) and no gross completions, did not include any information about its geographical location; the reference number for this site was not one listed in the SHLAA map layer either. As it could not be assigned to a Borough ward, this single loss has been excluded from the electorate forecasting work.

[36] This figure excludes future windfalls, as well as two sites that were identified during the process of adjusting the housing forecasts to reflect actual 2022/23 completions and where the latest evidence points to no development progress in the foreseeable future. (These exclusions are explained in more detail in earlier parts of Subsection 5.2, under the headings 'Adjustment of the original housing forecast figures to reflect actual 2022/23 completions' and 'Treatment of windfall sites'.) The figure of 1,011 consists of 902 sites where no properties had been completed by 31 March 2022, plus the 109 sites where some completions had occurred by that date.

[37] Dwelling Stock by Council Tax Band, 2010, Neighbourhood Statistics, ONS.

[38] OAs are small areas created by ONS for statistical purposes and are intended to be of similar size (in terms of population). They were originally created in 2001, but some OA boundaries have since been merged or split, firstly to reflect the subsequent demographic change demonstrated by 2011 Census evidence and then similarly in the wake of the 2021 Census results. As a guide to their size, ONS' Census geography web page (https://www.ons.gov.uk/methodology/geography/ukgeographies/censusgeography) notes that, for England and Wales OAs, "The minimum OA size was [originally] 40 resident households and 100 resident people, but the recommended size was rather larger at 125 households."

The 2001 OA boundaries do not necessarily align with (and in many cases do not even closely follow) Cheshire East Borough ward boundaries. However, as the 2010 housing stock data are available for over a thousand 2001 OAs of similar size population, they can still be aggregated in groupings that correspond reasonably well to each of the 52 Borough wards.

Whilst this 2010 ONS dwelling stock data provides reliable estimates on the stock in each Borough ward, the difficulty is in allocating the 2010 ONS dwelling stock figures to smaller electoral geographies, such as polling districts and some of the smaller parishes and parish wards. The 2001 OAs can be best-fitted to parish wards, polling districts or any other geographical areas, using their population-weighted centroids.[39] It is this approach that ONS uses to derive statistics for parishes (and some other geographical tiers) from OA level data. However, even at parish level, there are some areas that do not contain a single population-weighted OA centroid, because of their relatively small population (for example, the parishes of Coole Pilate, Egerton, and Poole[40]); this problem becomes even more acute for smaller geographical subdivisions, such as parish wards or polling districts.

Given this limitation, it is necessary to explain why use of the 2010 ONS dwelling stock data, in tandem with the housing database data, was still regarded as preferable to alternative sources of housing stock data, such as the Census, Council Tax records and the property statistics from the Council's Electoral Register.

Use of Census data on Cheshire East's dwelling stock (whether from the 2011 or the 2021 Census) would present a similar problem, as the Census' "parish" statistics are best-fitted to OA boundaries, rather than covering the exact area of parishes.[41] Furthermore, when OA boundaries are revised by ONS in the wake of new Census evidence, there is no requirement for the redrawn OA boundaries to align with those of parishes, parish councils or parish wards. Hence the 2011 Census dwelling data, being based on 2011 OA boundaries, are less well matched to small electoral geographies than the 2010 dwelling stock data were, and the 2021 Census data are even less well matched than the 2011 Census figures were.[42]

Council Tax dwellings data provide a record of the number of dwellings in all parish councils and even individual parishes (and are based on actual parish council boundaries, rather than best-fitted OAs). The Council Tax dwellings figures also (as shown later in this subsection of the report) closely match the estimates derived from ONS dwelling stock and Borough Council housing completions data.

[39] With population-weighted centroids, the central point (centroid) of the area is based on the geographical distribution of its population, rather than the geographical coverage of the area.
[40] The three examples cited here are parishes that have same boundaries now (after the implementation of the CGR recommendations in 2023) as they did when the ONS 2010 dwelling stock data were published. In other words, the limitations of best-fitting 2001 OAs to smaller electoral geographies are a longstanding issue.
[41] Under the best-fitting approach, ONS groups smaller parishes together with others until they meet its requisite population size threshold. For example, the parishes of Aston Juxta Mondrum and Poole are assigned to a single OA.
[42] In addition, with the changes to town and parish council geography that occurred in April 2023 as the CGR changes were implemented, the boundaries of OAs and small electoral areas have, if anything, diverged a little further.

However, the Council Tax figures are not broken down to parish ward or polling district level. Furthermore, the Council Tax dwellings data for small areas were available only for the year 2011 and for 2019 onwards, and do not therefore offer a long enough data series for estimating the average number of electors per property, a key element in this electoral forecasting work.

An alternative source is the property data from the Electoral Register, as the Register's figures are available at polling district level. As parish wards, parishes and Borough wards are all made up of groups of polling districts, the Electoral Register data can be easily aggregated into these larger geographical levels.

As with the Council Tax property data, the Electoral Register property estimates can be, and were, checked against the figures available from other sources, including the ONS and housing completions evidence on the size of the Borough's dwelling stock. However, these comparisons suggest that Electoral Register property counts err on the high side at Borough level.

For example, the 2011 Census (undertaken on 27 March 2011) put the Borough's total stock of residential properties at 166,236.[43] Cheshire East's latest HMU publication shows a total of 17,400 net completions between the start of 2011/12 and the end of 2020/21[44], suggesting (when added to the Census figure) a stock of 183,636 properties by the end of March 2021. This is only 0.1% less than the figure of 183,766 recorded by the 2021 Census[45] (undertaken on 21 March 2021) and the dwellings estimate (identical to the Census figure) recorded by the Department for Levelling Up, Housing and Communities (DLUHC) for 31 March 2021[46] and is relatively close to (1.2% above) the Council Tax figure for February 2021 (181,515). Even when the HMU's 2021/22 net completions figure (2,779) and the 2022/23 net completions figure (2,344[47]) are added on, this implies a stock of 188,759 by the end of March 2023 (1.1% above the February 2023 Council Tax figure of 186,747). However, the Electoral Register for the preceding December (December 2022) puts the stock 2.8% higher than the (March 2023) ONS-/HMU-based figure, at 194,059, and is 3.9% above the February 2023 Council Tax figure. The Electoral Register as of 1 July 2023 gives a slightly higher still total for number of properties (194,244).

The Electoral Register property figures therefore appear relatively high compared to the alternative sources and for this reason they were considered less suitable than

[43] Table QS418EW (Dwellings), 2011 Census, ONS, NOMIS. ONS Crown Copyright.
[44] Table 3.1, 'Housing Monitoring Update - Base date: 31 March 2022', Cheshire East Borough Council, February 2023.
[45] Table RM204 (Dwellings), 2021 Census, ONS, NOMIS. ONS Crown Copyright.
[46] Table 100 (Dwelling stock: Number of Dwellings by Tenure and district: England; 2021), Live tables on dwelling stock, DLUHC, May 2023: https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants
[47] This figure is based on the 2022/23 completions data provided for this electorate forecasting work. However, as the 2022/23 completions figures may go undergo further revisions as part of the process of preparing the 2022/23 HMU publication, the final completions figure reported in the published HMU may of course be different to this.

the estimates derived from ONS dwelling stock and Borough Council housing completions data.[48]

5.3 Estimating the number of electors per property

Estimating the current number of electors per property

In converting future (2023-29) net property change into electorate change, communal and multi-household accommodation was treated separately from single-household dwellings. This is because residents of communal establishments and other multi-household properties are likely to be very different from the occupants of single-household properties in terms of their age and status: hence their propensity to be on the Electoral Register may be very different too.

In the case of specialist housing for older people, the forecasting approach assumes a ratio of one elector per property (in cases where the properties are intended to house a single resident) or else one elector per bedroom. This is the same as the ratio used by CW&C for older people's specialist housing in its 2017-18 Electoral Review forecasting work. This assumption is also the one recommended by the LGBCE in its guidance; as the LGBCE notes, a ratio of one elector per home reflects the fact that some such homes will have more than one elector, but others will be vacant.[49]

For students living in specialist housing (for example, student halls), the ratio of electors to bed spaces is likely to be much lower. This is because responsibility for electoral registration lies with individual students (so not all will register) and some will be registered at their holiday-time address, rather than their term-time one. For the Borough ward electorate forecasts produced for its 2017-18 Electoral Review, CW&C used a specific, evidence-based ratio (0.27) for electors per student bedroom. However, the Cheshire East housing database shows no actual or expected completions of student halls or other specialist student housing between 1 April 2010 and the end of the Plan period (2030). Therefore, the forecasting for the Borough's Electoral Review did not need to factor in separate assumptions for specialist student accommodation.

For HMOs, a ratio of three electors per property was assumed.[50] This ratio was based on the fact that:

[48] It could be that the Electoral Register property numbers are so high because they include many new-build properties before these are occupied. However, confirmation of that possible explanation is beyond the scope of this electorate forecasting work.
[49] Paragraph 53 of the LGBCE's 'Electoral Forecasting: User Guidance'.
[50] An alternative assumption of 4.5 electors per HMO was tested. (This, in effect, equates to a more optimistic assumption about the electoral registration rate for HMO residents.) However, this had a negligible impact on the electorate forecasts for 2029: it increased the Borough-wide number of electors by only 11 (0.003%) and changed each of the Borough ward forecasts by 0.14% or less.

- HMOs are small, shared houses occupied by between three and six unrelated individuals, as their only or main residence.[51] Hence an average of three to six occupants per HMO could be considered a reasonable assumption.

- any living arrangement involving three or more people who are unrelated to each other is unlikely to be a long-term one in which the residents continue to live in the property for many years. As HMO occupants are likely to be a relatively transient population who may move to another property within a short time, they are also perhaps less likely to be on the Electoral Register than would be the case for adults living in a single-household dwelling. Therefore, the number of electors per HMO is more likely to be towards the lower end of the range.

For all other (that is, non-communal) residential properties, the base date (1 July 2023) average number of electors per property for each Borough ward was based on electorate data from the Electoral Register and the property estimates derived from the ONS 2010 dwelling stock data and the Council's housing database figures for 2010-23. (The estimated increase in housing stock during 2010-23 was calculated using actual completions figures up to March 2023 and housing forecast data, adjusted to reflect actual 2022/23 completions, for April to June 2023.)[52] More specifically, the approach, taken for each Borough ward in turn, was to take a simple (unweighted) average of the number of electors per residential property ratios over a three-year period and use this as the ratio for the forecast base date.[53]

There is a case for including the most recent (July 2023) Electoral Register data in this "three-year" average, on the grounds that this is the latest evidence available. However, this and the two next most recently available sets of Register data (for January 2023 and December 2021) span a period of only one and a half years, two of which are only six months apart, and so they would arguably provide a less accurate and representative baseline than one spanning two years and involving equal time intervals.

It was therefore decided to base the estimate for the number of electors per property for the forecast period's base date on an average of the ratios for December 2020 (for which Register data was also available), December 2021 and January 2023. However, the resulting averages for each Borough ward (and the Borough as a whole) were compared with the ratios for July 2023 and with averages for 2021-23

[51] This is taken from the Planning Portal definition of HMOs: https://www.planningportal.co.uk/permission/common-projects/change-of-use/use-classes

[52] As the underlying ONS and housing database figures used for this calculation include the existing stock of HMOs and specialist housing for older people and students (up to 2023), as well as standard (single-household) dwellings, the resulting electors per property ratios will differ from what they would be if based only on the stock of standard dwellings. However, this difference will be slight, given that specialist housing and HMOs form only a very small proportion of the total property stock. In any case, due to the available (ONS) data on 2010 housing stock not being broken down at all by property type, it was not feasible to estimate and separate out the total stock of HMOs and specialist housing when calculating these ratios.

[53] The purpose of averaging over this three-year period was to reduce the risk of feeding unrepresentative data into the forecast calculation. This is consistent with the advice given in paragraph 33 of the LGBCE's 'Electoral Forecasting: User Guidance' about not relying on a single year's data for electoral ratios; it is also consistent with the approach taken by CW&C for its 2017-18 Electoral Review.

(December 2021, January 2023, and July 2023) and for 2017-20 (August 2017, November 2018, and January 2020). The comparison with these other averages was considered an additional useful check, given that they exclude the period from spring 2020 to summer 2021 when COVID-19 restrictions were intermittently in place.[54]

For the Borough as a whole, the 2020-23 (December 2020 to January 2023) average number of electors per property was 2.4% lower than that for 2017-20 and for each ward, the 2020-23 average was between 95.0% and 100.7% of that ward's 2017-19 average. (However, in only three of the 52 wards was the 2020-23 average higher than the 2017-19 average.)

The Borough-wide 2020-23 average was, however, 0.5% higher than that for 2021-23 and for each ward, the 2020-23 average was between 98.2% and 101.7% of that ward's 2021-23 average.

It is also notable that, looking at the last four winter dates for which Register data were available, the ratio for the Borough as a whole has declined slightly, year on year: from 1.716 in January 2020 to 1.692 in December 2020, then 1.663 in December 2021 and 1.655 in January 2023. (The July 2023 ratio was higher than the January 2023 figure, at 1.667, but this could in part be the result of seasonal differences.)

These findings suggested a gradual (but plausible) decrease in the number of electors per property in recent years, with the direction of this trend and the rate of decrease seemingly independent of COVID-19. Hence the three-year average for 2020-23 was considered a suitable baseline for the electorate forecasting work, rather than one skewed by COVID-19.

The resulting ratios for each ward were reviewed, to see whether they appeared implausibly low or high. These ratios for individual wards ranged from 1.281 in Crewe Central and 1.395 in Macclesfield Central (the only ratios below 1.4) to 1.871 in Wybunbury and 1.920 in Leighton (the only two ratios above 1.85). For the Borough as a whole, the 2020-23 average was 1.670 (the 2017-19 average was 1.711). Although the ratio for Crewe Central was substantially lower than anywhere else, the dwelling stock, demographics, and socioeconomic composition (and hence the average number of electors per dwelling) of wards in the centre of major urban areas is often very different to that of other areas, so the Crewe Central figure seems credible. It is also notable that the next lowest ratio was in Macclesfield Central, the centre of the Borough's other large town.

For those wards containing Further and Higher Education institutions, the ratios followed a generally slow and downward trend over time and appeared plausible. Electoral registration rates are likely to be relatively low for student halls (as the evidence collected by CW&C for its 2017-18 Electoral Review indicated) and probably also for students living in non-specialist housing, but offset against this is the often large number of students per student dwelling. Hence the average number

[54] This was done bearing in mind that the COVID-19 pandemic and associated restrictions could potentially have affected household formation and electoral registration, resulting in ratios that were unrepresentative of the longer term.

of electors per student dwelling may not necessarily be that low. It should also be stressed that many students will live in a different ward to the one in which their college or university campus is located. Even so, we might reasonably expect low ratios for wards that include Further or Higher Education campuses. The figures for such wards generally seem to bear this out: Macclesfield Central, which had the second lowest ratio (1.395), contains Macclesfield College; Crewe West (location of the Cheshire College – South and West campus) had a ratio of 1.577; for Crewe East (the site of the Apollo Buckingham Health Science Campus[55]), the ratio was 1.521. Bunbury ward, home to Reaseheath College, was marginally above the Cheshire East average, at 1.703 (notably lower than the ward's 2017-20 average of 1.787, but this change may in part reflect the construction in recent years of major housing developments in what was previously a more predominantly rural ward).

Allowing for future change in the average number of electors per property

For its 2017-18 Review, CW&C's ward level electorate forecasts factored in a future decline in average household size, which reflects an expected long-term reduction in household size at national level. This adjustment factor was calculated as the Borough-wide population aged 17+ (17 and above) per dwelling in the base year (2018), divided by the Borough's population aged 17 and above per dwelling in the final forecast year.[56] For this purpose, CW&C used forecasts from its Local Plan.

Taking the same approach (as it also did for the 2018-23 CGR forecasting work), Cheshire East used the population and dwelling forecasts which informed its own Local Plan Strategy (LPS).[57] These put the population aged 17+ at 330,896 in 2023 and the number of dwellings (excluding care homes and similar specialist housing for older people) at 187,802, giving a ratio of 1.762; for 2029, the respective figures for the population aged 17 and above and for dwellings are 346,205 and 197,431, giving a ratio of 1.754.

Hence the forecast is that, in 2029, the average number of electors per dwelling will be 1.754/1.762, or 0.995 of its 2023 level: in other words, this ratio will fall by around 0.5% over the Electoral Review forecast period.

5.4 Producing residential property forecasts for 2023-29

The change in dwelling stock between 1July 2023 and the end of 2029 was estimated using housing database forecasts of future net completions on each development site.

[55] According to its website (https://www.abhsc.co.uk/), the campus – previously occupied by Manchester Metropolitan University - was founded by Apollo Healthcare and the University of Buckingham, to provide education and development facilities for medical students.
[56] As discussed earlier, in Subsection 5.1, limited data availability and reliability mean that it is not feasible to produce robust population forecasts for small areas: hence the Local Plan forecasts (in both Cheshire authorities) being at Borough level only.
[57] Population and housing forecasts produced by Opinion Research Services (ORS) for the Cheshire East Housing Development Study 2015, ORS, June 2015.

For each Borough ward, the 2023-29 net completions of specialist housing for older people and of HMOs were calculated separately from other net completions, so that separate electors per property ratios could be applied to each of these three categories. (As noted in Subsection 5.3, the housing forecasts showed no specialist student accommodation planned for this period, so no separate calculation was required for that.)

5.5 Producing electorate forecasts

For each Borough ward, the electorate forecasts were calculated as shown in Table 4 below.

Table 4: Calculation of electorate forecasts

Component	Calculation
Properties as of March 2010	Aggregation of ONS' OA (2001 OA) property statistics for March 2010, to Borough ward level
Properties as of end of December 2020	(March) 2010 properties + (April) 2010 to December 2020 net completions (gross completions minus gross losses)
Properties as of end of December 2021	2010 properties + 2010-21 net completions
Properties as of end of December 2022	2010 properties + 2010-22 net completions
Properties as of mid-2023 (end June/start of July)	2010 properties + 2010-23 net completions* *Net completions for January to June 2023 calculated as actual net completions during January to March 2023 plus the forecast net completions for April to June 2023.
Electors as of mid-2023 (1 July)	Electoral Register data as at 1 July 2023
Baseline (1 July 2023) estimate of average number of electors per property	(December 2020 electors per property + December 2021 electors per property + January 2023* electors per property) divided by 3 *Using the January 2023 Electoral Register data as a proxy for December 2022.
2029 electorate, excluding future completions of specialist older people's housing and HMOs	(mid-2023 properties + mid-2023 to December 2029 net completions of standard dwellings*) x baseline electorate-per-property ratio (the average ratio for 2020-23) x adjustment factor (0.995) for future decline in household size** *"Standard dwellings" in this context means residential properties excluding specialist older people's housing and HMOs. **Adjustment for household size based, as noted earlier, on Borough-wide Local Plan forecasts (17+ population per dwelling in 2029 divided by 17+ population per dwelling in 2023).
2023-29 (mid-2023 to December 2029) change in electorate living in specialist older people's housing	mid-2023 to December 2029 net care home completions x electorate-per-property ratio for this type of accommodation (assumed to be 1 for the whole forecast period)

Component	Calculation
2023-29 (mid-2023 to December 2029) change in electorate living in HMOs	mid-2023 to December 2029 net HMO completions x electorate-per-property ratio for this type of accommodation (assumed to be 3 for the whole forecast period)
Total electorate as of end of 2029	(2029 electorate, excluding future completions of specialist older people's housing and HMOs) + 2023-29 (mid-2023 to December 2029) change in electorate living in specialist older people's housing + 2023-29 (mid-2023 to December 2029) change in electorate living in HMOs

A further adjustment was made following a test to see how accurately the approach in Table 4 would predict the July 2023 electorate. For this test, the total stock of housing as of mid-2023 (based on the ONS 2010 dwelling statistics and the Borough Council's housing net completions figures up to the end of June 2023) was calculated for each Borough ward and then multiplied by the baseline (2020-23) average number of electors per property for that ward, to give a modelled estimate of the number of electors for that ward. These modelled estimates were then summed. The modelled estimates for the 52 wards' elector numbers as of July 2023 came to 315,283, whereas the actual electorate at that time (based on the Register) was only 314,681 (0.2% below the modelled total). However, for individual wards, the actual number of electors varied from being up to 2.7% below the modelled estimate to being 5.1% above it.

Consequently, the electorate forecasts for each ward for 2023 to 2029 were adjusted to factor in the actual July 2023 electorate figures for that ward. This was achieved by multiplying the forecasts by a factor of:

X/Y

where X is the actual July 2023 electorate and Y is the modelled figure.

To take a worked example, for Macclesfield Central Borough ward:[58]

- the stock of properties was estimated at 4,750 as at March 2010
- net completions were +337 for the period from April 2010 to December 2020, +54 for January to December 2021, +50 for January to December 2022, and +27 for January to June 2023[59]
- the number of electors (as of December of each year, or the closest available proxy date) is given in the Electoral Register as 7,264 in 2020 (December 2020 figure), 7,076 in 2021 (December 2021 figure) and 7,171 in 2022 (using January 2023 as a proxy)

[58] Unless stated otherwise, the numbers cited in this example for a specific year relate to the end of that year (December).
[59] In keeping with the approach taken (using actual completions figures for January to March 2023 and housing database forecast numbers for April 2023 onwards), the figure of 27 consists of 11 actual completions during January to March 2023 and 16 forecast for the April to June 2023 period.

- the number of electors as of the forecast period base date (1 July 2023) was 7,380

- a net increase of 188 dwellings (excluding HMOs and specialist housing for older people) is expected between July 2023 and December 2029

- a net increase of 9 specialist homes for older people is expected between July 2023 and December 2029

- a net increase of 7 HMOs is expected between July 2023 and December 2029.

Hence the stock of properties is estimated at:

- 5,087 (4,750 + 337) for the end of 2020 (December 2020)
- 5,141 (5,087 + 54) for the end of 2021
- 5,191 (5,141 + 50) for the end of 2022
- 5,218 (5,191 + 27) as of mid-2023 (end of June/start of July).

Therefore the average number of electors per property is estimated at:

- 1.428 (7,264/5,087) for the end of 2020
- 1.376 (7,076/5,141) for the end of 2021
- 1.381 (7,171/5,191) for the end of 2022.

Therefore, the average number of electors per property for the baseline (July 2023) period is estimated as (1.428 + 1.376 + 1.381)/3 = 1.395.

If the number of properties in mid-2023 (5,218) is multiplied by the average number of electors per property for that baseline period (1.395), that gives a modelled estimate of 7,280 electors (5,218 x 1.395) as of mid-2023. However, as seen from the actual electorate numbers cited earlier in this worked example, the actual electorate as of 1 July 2023 was 7,380, or 1.4% above (1.014 times) the modelled estimate.

Hence the forecast number of electors in 2029 is:

{[(mid-2023 properties + mid-2023 to end 2029 net completions of standard dwellings[60])

x baseline (mid-2023) electors-per-property ratio

x adjustment factor (0.995) for future decline in household size]

+ (mid-2023 to end 2029 net completions of specialist older people's housing x electors-per-property ratio for that type of housing)

+ (mid-2023 to end 2029 net completions of HMOs x electors-per-property ratio for that type of housing)}

[60] "Standard dwellings" in this context meaning residential properties other than HMOs and specialist older people's housing.

x ward-specific adjustment factor (1.014) to offset model tendency to over-predict the electorate at the start of the forecast period

= {[(5,218 + 188) x 1.395 x 0.995] + (9 x 1) + (7 x 3)} x 1.014

= {[5,406 x 1.389] + 9 + 21} x 1.014

= {7,507 + 30} x 1.014

= 7,537 x 1.014

= 7,640 electors

For each council ward, the figures were then rounded off to the nearest whole number.

Hence the forecast is for Macclesfield Central Borough ward's electorate to increase from 7,380 in July 2023 to 7,640 by December 2029: an increase of 260, or 3.5%. This largely reflects the expected increase in its number of residential properties during that time (a net increase of 204 including its HMOs and specialist housing for older people, which equates to a rise of 3.9% over the mid-2023 to end 2029 period), but also the expected slight decline in average household size and the average number of electors per property across the whole Borough.

In terms of percentage changes, the Borough ward forecasts for the mid-2023 to end 2029 period range from increases of 49.3% in the electorate in Brereton Rural, 47.3% in Leighton, 36.1% in Haslington and 28.8% in Sutton to increases of 21% at most elsewhere, with slight falls (of up to 0.4%) predicted in four wards (Crewe North, Macclesfield Hurdsfield, Sandbach Ettiley Heath & Wheelock and Willaston & Rope). Again, this largely reflects the expected numbers of net housing completions over this period. The number of properties is forecast to rise by 50.0% (1,802) in Brereton Rural, by 48.0% (1,179) in Leighton, by 36.7% (1,547) in Haslington and by 29.4% (595) in Sutton (for all other wards, the forecast increase in the number of properties is less than 22%). In contrast, the number of net completions forecast for Crewe North between mid-2023 and the end of 2029 is a mere one, and likewise for Macclesfield Hurdsfield. As might be expected, the only four wards with predicted declines in elector numbers between mid-2023 and the end of 2029 are the four where the expected number of net completions is lowest (less than 10 in each case).

The resulting (rounded) forecasts for all council wards were summed, to give a Borough-wide total.[61] For Cheshire East as a whole, the resulting electorate forecast for the end of 2029 is 337,339, or 337,300 to the nearest 100. This equates to an increase of 22,700 on the July 2023 Register total (314,681, or 314,700 to the nearest 100).[62] This increase corresponds to 7.2% growth over the whole forecast

[61] It is appreciated that summing rounded-off estimates can affect the overall total, particularly so when the figures for large number of sub-categories (52 council wards) are involved. In this case, the effect of summing rounded (rather than unrounded) estimates happens to have only a very marginal effect (the sum of the unrounded figures is two electors less, at 337,337), and even a different methodology or different input data would alter the total by 26 (0.5 x 52) at most.

[62] A variant approach was tested, under which the forecasts were produced firstly at Borough level but using the same data and formulae. This generated a very similar figure for the 2029 electorate of 336,840: this is only 0.1% less than the 337,339 figure obtained from the "wards first" approach and

period, or average growth of 1.1% per annum.[63] The 2029 forecast also represents an increase of around 29,500 (9.6%) from the December 2021 Register figure of 307,800 (the December 2021 Register figures being those which prompted the LGBCE to begin this Review).

Forecasts were then produced for each polling district, using each individual polling district's mid-2023 electorate and its mid-2023 to end 2029 completions figures, but applying the Borough ward-level electors-to-properties ratios to work out the number of additional electors that the new properties were likely to host. The resulting polling district forecasts were then constrained (adjusted) so that they summed to the total electorate forecasts for their respective Borough wards.

Taking a worked example, for polling district 4CD1 (part of Macclesfield Central Borough ward):

- this polling district had 1,416 electors as of July 2023
- 13 net completions are forecast between mid-2023 and the end of 2029, of which 4 are dwellings, 9 are specialist housing for older people and none are HMOs
- the electorate to properties ratio for this polling district's ward, Macclesfield Central, was estimated at 1.395 for 2022 and 1.389 for 2029, as set out in the previous (Macclesfield Central Borough ward) worked example.

Hence the (unconstrained) forecast number of electors in this polling district in 2029 is:

(mid-2023 electors x adjustment factor (0.995) for future decline in household size)

+ (mid-2023 to end 2029 net dwelling completions x 2029 electors-per-property ratio for dwellings)

+ (mid-2023 to end 2029 older people's specialist housing net completions x electors-per-property ratio for that type of housing)

+ (mid-2023 to end 2029 HMO net completions x electors-per-property ratio for that type of housing)

= (1,416 x 0.995) + (4 x 1.389) + (9 x 1) + (0 x 3)

= 1,409 + 6 + 9 + 0

= 1,424

implying a very similar amount of growth (22,200, or 7.0%). This provides some reassurance that the chosen approach of producing the council ward forecasts first has not skewed the results.

[63] This annual growth rate treats the forecast period as six and a half years, not seven.

Following this same approach, the unconstrained forecasts for the 2029 electorate for each of the seven polling districts in Macclesfield Central were as shown in Table 5a below.

Table 5a: Unconstrained forecasts for Macclesfield Central polling districts

Polling district code	Unconstrained electorate forecast for 2029
4BA1	641
4BA2	719
4BB1	963
4BB2	1,964
4BBR	1,198
4CD1	1,424
4CE1	727
Total	7,636

Hence the unconstrained forecasts for the Macclesfield Central Borough ward's polling districts sum to 7,636. However, as noted in the earlier worked example (for the Macclesfield Central Borough ward), the initial, Borough ward-level forecasts put Macclesfield Central at 7,640. Hence the polling district forecast of 1,424 for 4CD1 was multiplied by a factor of 7,640/7,636 (increasing it to 1,425) – and the figures for the other six Macclesfield Central polling districts were similarly adjusted, with the numbers for 4BB1, 4BB2 and 4BBR also being increased by one elector as a result.

Following this initial iteration of adjustments, the (adjusted) figures for individual polling districts were rounded off to the nearest whole number. However, this rounding off meant that they still did not necessarily sum to the "target" total from the Borough ward-level forecast. For some wards, including Macclesfield Central, the adjusted figures did sum to the "target" total. However, for others, they did not; Macclesfield South is shown in Table 5b as an example of this.

Table 5b: Unconstrained and constrained electorate forecasts for Macclesfield South polling districts

Polling district code	Unconstrained forecast for 2029	Constrained forecast for 2029
4BF2	1,333	1,334
4BFR	462	462
4CA1	2,057	2,058
4CAR	1,360	1,361
4CB1	1,698	1,699
4CBR	613	613
Total	7,523	7,527

In Macclesfield South's case, the adjusted figures for its polling districts, after rounding off to whole numbers, summed to 7,527 (one more than the Borough ward-level forecast of 7,526). To correct for these cases, a calculation was made for each polling district of the difference between the rounded and unrounded adjusted forecast, to identify which figures were skewed the most by the rounding process; a further adjustment was then made to the more skewed figures. For Macclesfield

South, four of the six polling districts' figures were higher after being rounded off and the polling district with the largest such increase, (4BF2, where the unrounded figure was 1,333.53 and the rounded number therefore 1,334), was decreased by one, to 1,333, to achieve the Borough ward-level "target" of 7,526. The same kind of approach was followed for other wards where required.[64]

At polling district level, the greatest percentage rise[65] is 2,259.1% (an increase from 22 electors to 519) in the electorate for BRET, which is part of the Middlewich Cledford ward. However, the extremely large percentage increases for this and some other polling districts is due to them consisting largely or entirely of new properties in major housing development areas where little construction has been completed so far but much building is expected by 2029. At the other end of the spectrum, there are predicted falls of 1.4% in the polling districts of 1AC1 (part of Crewe East) and 4GM6 (the Peak Park parish meeting of Wincle). For all the other polling districts with a forecast decline in electors, the decline is 1.0% or less.

The forecasts for all polling districts were then aggregated into parish wards and parishes, to produce forecasts for these other geographical tiers.

At parish council level, the predicted change in the electorate between mid-2023 and the end of 2029 varies from an increase of 312.4% in Hulme Walfield and Somerford Booths and 110.5% in Weston and Crewe Green to a decrease of 1.4% in Wincle.

For parishes, the degree of change varies from increases of 312.4% (Hulme Walfield and Somerford Booths again) and 110.5% (Weston and Crewe Green again) to a fall of 1.4% (Wincle again).

The fact that the electorate is predicted to fall in some (albeit only a few) geographical areas requires some explanation. As noted earlier, the forecasting approach assumes that the number of electors per property will decline by around 0.5% between mid-2023 and the end of 2029. On that basis, it is reasonable to expect the electorate to decline by up to 0.5% in those areas where the anticipated 2023-29 gross completions (if any) are matched by gross losses, or where net completions are positive but too small to offset the projected fall in electors per property.

In some cases, the 2023-29 forecast decline in electors exceeds 0.5% because the area is one where a net loss of housing is expected. For polling district 1AC1, for example, where the predicted decline is 1.4%, the forecast is zero net completions of standard dwellings and specialist older people's housing and a net loss of three HMOs (which itself equates to an estimated loss of nine electors).

[64] In no cases did this adjustment result in the number of electors being changed (either up or down) by more than two.

[65] The figures quoted here exclude the five polling districts that had zero electors as of July 2023 (and for which a mid-2023 to end 2029 percentage change figure cannot therefore be calculated). The forecasts indicate that, of these five polling districts. three will still have zero electors as of 2029. The latter are among the areas where it was considered necessary to create new polling districts in the wake of the 2018-23 CGR boundary changes.

However, in some areas, the percentage decline is greater than 0.5%, despite a forecast of gross completions matching or exceeding gross losses. For example, as noted a few paragraphs earlier, in polling district 4GM6 (Wincle), zero net completions are expected between mid-2023 and the end of 2029, but the number of electors is predicted to fall by 1.4%, from 146 to 144 (the largest percentage fall for any polling district where the expected number of net completions is either zero or positive).

Such cases are a consequence of various elements of the forecasting approach:

- firstly, basing the base date (July 2023) electors-per-property ratio on the 2020-23 average, rather than averaging over a different period. Whilst taking a three-year average increases the robustness of the forecasts collectively, it may have an adverse effect on the accuracy of the results for those individual areas where perhaps the use of the latest year's ratio, or averaging over a different time period, might yield slightly more intuitive results for some individual polling districts.

- secondly, deriving estimates of the stock of properties from ONS and the Borough Council's housing database data, rather than from the Electoral Register, as different data sets have different degrees of accuracy and coverage. (This is shown, for example, by the comparison in Subsection 5.2 between the Electoral Register property statistics and property figures from other sources.)

- thirdly, the various adjustments made: to make sure the forecasts reflect the actual number of electors as of mid-2023; to constrain the forecasts for the polling districts so they sum to the Borough ward-level forecasts for the ward they are in (which in Wincle's case reduces its 2029 forecast electorate from 145 to 144); and rounding off the forecasts to the nearest whole number.

6 Constraining the forecasts to ONS population projections

As noted earlier, the Council's chosen method of forecasting the residential property stock and applying electors per property ratios is one which the LGBCE supported in CW&C.

However, the LGBCE recommends 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.'

It adds that '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.'[66]

The reference to the "ONS projections" is to the subnational population projections produced by ONS (at local authority level), usually every two to three years.

The Borough Council's chosen methodology does not constrain the electorate forecasts to ONS' latest (2018-based) subnational population projections (SNPPs), nor to any earlier ones, but such a constraint was tested and this section of the technical report highlights the effect of that constraint and explains why the SNPP-constrained electorate forecasts were not adopted as the Council's chosen forecast.

For the reasons set out in Subsection 5.1 of this report, the Council did not consider it appropriate to start by producing population forecasts and converting those into electorate forecasts. However, under the Council's chosen methodology, it is possible to generate an alternative scenario that constrains the electorate forecasts so that they are consistent with the 2018-based SNPPs.[67] This additional modelling should provide further reassurance to the LGBCE that the Council is following its guidance as closely as it reasonably can.

The 2018-based SNPPs project that Cheshire East's population will reach 390,980 by mid-2023. With the mid-2023 electorate totalling 314,681, this implies a ratio of 0.805 (314,681/390,980) electors per head of population.

According to these SNPPs, the total population of the Borough will grow to 400,914 by mid-2029 and to 402,349 by mid-2030. Taking the midpoint between these two figures (401,631) gives us a reasonable estimate of what the SNPPs would have projected for the population as of the end of 2029 (the end point of the electorate forecasting period).

[66] This advice is set out in paragraphs 26 to 29 of the LGBCE's 'Electoral Forecasting: User Guidance'.
[67] 'Subnational population projections for England: 2018-based', ONS, March 2020. Published at https://www.ons.gov.uk/releases/subnationalpopulationprojectionsforengland2018based

The SNPPs also project that the number of residents aged 17 and above will reach 316,903 by mid-2023, 328,345 by mid-2029 and 330,144 by mid-2030. Taking the midpoint between the latter two figures gives a reasonable estimate of what the SNPPs would have projected for the 17+ population as of end 2029 (329,244).

Based on the SNPP figures, therefore, the proportion of the population aged 17 and above, that is, people who are of voting age or who will reach it in the following 12 months, will increase slightly, from 81.1% (316,903/390,980) in mid-2023 to 82.0% (329,244/401,631) by the end of 2029. Hence it is reasonable to assume that the average number of electors per head of population will increase proportionally, to reach 0.814 (0.805 x 0.820/0.811) by 2029. Given that the SNPP-based estimates indicate that the Borough's population will be 401,631 by the end of 2029, that implies 326,935 electors[68] (401,631 x 0.814) by the end of the electorate forecasting period – an increase of 12,254 (3.9%) on the mid-2023 figure.

Hence the effect of constraining the electorate forecasts to the 2018-based SNPPs is to reduce the amount of growth from 22,658 (+7.2% over six and a half years, or an average of 1.1% per annum) to just 12,254 (+3.9% over that period, or an average of 0.6% per annum). This raises questions about whether the Council's chosen approach has produced forecasts that significantly overestimate future electorate growth.

However, there are various grounds for believing that the 2018-based SNPPs are likely to significantly underestimate Cheshire East's population growth and hence that electorate forecasts constrained to these SNPPs are likely to significantly underestimate the level of growth in Cheshire East's electorate.

Firstly, it is now clear, largely from the 2021 Census evidence available, that ONS had been significantly underestimating Cheshire East's population before it had the new (2021) Census figures to refer to. For example, for Cheshire East, the 2018-based SNPPs (published about 12 months before Census Day 2021) projected that the population would increase from 380,800 (2018) to 387,000 by 2021, but ONS' population estimate for mid-2021 (which was published in December 2022 and which factors in the 2021 Census evidence) puts the mid-2021 population at 400,500. The latter figure is a population level which the 2018-based SNPPs did not anticipate Cheshire East reaching until 2028-29 (the 2018-based SNPPs projected a population of around 399,300 by 2028 and, as noted a few paragraphs earlier, of around 400,900 by 2029). In other words, it appears that, even by mid-2021, the 2018-based SNPPs were under-estimating the Borough's population by around 13,500 (about 3.4%).

Secondly, the 2018-based SNPPs' projected population change between mid-2023 to the end of 2029 (from around 391,000 in mid-2023 to around 401,600 by the end 2029) equates to an annual average growth rate of 0.41%. It is reasonable to question whether the growth rate over that period would actually be that low, given:

[68] A slightly quicker calculation that yields the same result is to divide the 2023 electorate (314,681) by the number of residents aged 17 and above in 2023 (316,903, according to the 2018-based SNPPs) and multiply the resulting ratio (0.993) by the SNPP-derived projection for the number of residents aged 17 and above by the end of 2029 (329,244), giving 326,935.

(a) that population growth in Cheshire East averaged 0.78% a year between 2011 and 2021 and 0.52% a year between 2001 and 2011.[69]

(b) the high volumes of housing completions (which began in the later 2010s and will have contributed to the 2011-21 growth rate) and which have continued beyond 2021 and into 2022 and 2023, and may persist beyond that. Given the time lag between homes being completed and the new dwellings being occupied, the population growth rate is likely to remain relatively high into 2023 and perhaps beyond, particularly bearing in mind the level of additional housing that the Borough's 2010-30 LPS provides for. For example, during the 10 years from 2011/12 to 2020/21 inclusive, net completions averaged 1,740 per annum (see Table 6 below). However, in 2021/22 (a year which mostly falls after the mid-2021 date of ONS' latest mid-year population estimates) they reached 2,779. Furthermore, the housing database actual housing completions and forecasts used for the electorate forecasting work indicate around 2,300 net completions between April 2022 and March 2023 and 2,700 more forecast for the period April to December 2023. For the six-year period from January 2024 to December 2029, the housing forecasts indicate that net completions will average around 2,100 a year, with 75% of this development expected during the first four years (2024-27).[70]

(c) that the SNPP-constrained forecast, that Cheshire East's electorate will grow by 3.9% (an average of just 0.6% per annum) between mid-2023 and the end of 2029, contrasts sharply with the actual growth recorded on the Electoral Register in recent years. Between August 2016 and July 2023, the electorate increased by 8.5%, from 289,969 to 314,681: this equates to an average of 1.2% per annum.[71] Therefore the Council's chosen methodology, with its forecast that the electorate will grow by an average of 1.1% per annum between mid-2023 and the end of 2029, equates broadly to a continuation of the growth rate achieved in the last seven years, albeit with the future growth rate being slightly slower than for 2016-23.

In summary, the SNPP-constrained forecast appears very conservative when compared to the evidence on recent electorate and population growth, the latest (mid-2021) population estimates and the evidence on housing completions during the 2021/22 and 2022/23 years and likely levels of completions thereafter.

[69] Source: ONS mid-year population estimates for 1991-2021 (December 2022 release). ONS Crown Copyright.
[70] As the SNPPs are projections (that is, based on past trends and relationships), rather than forecasts (which would take account of local policies and local knowledge as well), they do not factor in the impact of expected future housing development. That is likely to explain to a large degree why they have underestimated the recent rate of population growth in the Borough.
[71] This calculation treats the period from August 2016 to July 2023 as exactly seven years.

Table 6: Net housing completions, Cheshire East, 2010/11 to 2021/22

Year	Net completions
2010/11	659
2011/12	778
2012/13	614
2013/14	713
2014/15	1,236
2015/16	1,473
2016/17	1,762
2017/18	2,321
2018/19	3,062
2019/20	3,065
2020/21	2,376
2021/22	2,779
Total	20,838

Source: Table 3.1, 'Housing Monitoring Update - Base date: 31 March 2022', Cheshire East Borough Council, February 2023.

The SNPP constraint effectively reduces the 2029 electorate forecast by 3.1% (as the 2029 Borough-wide, SNPP-constrained forecast of 326,935 is 3.1% lower than the unconstrained forecast of 337,339). When applied to individual Borough wards, this 3.1% reduction produces some rather implausible changes in the electorate over the mid-2023 to end 2029 period.

For example, Odd Rode ward had an electorate of 6,889 as of mid-2023 and 74 net new housing completions are expected in this ward between mid-2023 and the end of 2029. Even if those new homes were to have only one elector each, this extra housing would increase the ward's total electorate by around 1.1%[72], but in reality the number of electors per property is likely to be much greater.[73] The assumed reduction in the average number of electors per property (a fall of 0.5% over the forecast period, as explained in Subsection 5.3) would therefore only partly offset the positive contribution that the additional completions would make to Odd Rode's electorate growth over the 2023-29 period. However, the effect of the SNPP constraint is to reduce the ward's predicted 2029 electorate from 6,985 (an increase of 1.4% on the mid-2023 electorate) to 6,985 x 326,935/337,339, that is, to 6,770 (a decrease of 1.7% on mid-2023). Such a decrease is clearly implausible.

In fact, the impact of the SNPP constraint on 2023-29 electorate change is a predicted fall of 0.6% or more in nearly half of Cheshire East's wards (22 out of 52), even though the effect of the assumed reduction in the number of electors per property is a decrease of only 0.5% and every single ward has net new completions

[72] At any given time, some homes will be vacant (that is, they have no regular occupants). However, at the time of the 2011 Census, only 4.1% of Cheshire East's household spaces (the accommodation available for one household) had no usual residents, though this proportion ranged from 1.2% in Leighton Borough ward to 7.9% in Prestbury Borough ward. (Source: Table KS401EW, 2011 Census, ONS. ONS Crown Copyright.) (Comparable data from the 2021 Census were not available at the time of writing.)

[73] The baseline (2020-23) average number electors per property for Odd Rode was 1.758.

due during 2023-29 that will at least partially offset this. In five of these wards, the constraint produces a decrease in excess of 3.0% (with the sharpest falls being 3.5% in Crewe North and Macclesfield Hurdsfield). In contrast, under the unconstrained forecasts, a decrease is predicted in only four of the 52 council wards and none of the decreases exceed 0.4%, as Subsection 5.5 of this report has noted.

Taking all these issues and pieces of evidence together, the Council's view is that its chosen approach produces forecasts for future change in the electorate that are reasonable and that are more credible than SNPP-constrained forecasts.

It should also be noted that the SNPPs discussed above are ONS' principal projections. However, along with the 2018-based principal projections release in March 2020, ONS published variant population projections for England and its constituent regions and local authorities. These variant projections are based on different assumptions and data to the principal projections.

There are four sets of variant projections: one based on 10 years of migration data (in contrast to the principal projections, which are based on only five years); one which assumes a higher level of net international migration (i.e. a higher net inflow of migrants from abroad) than the principal projections do; one which assumes a lower level of net international migration; and one which makes alternative assumptions about internal migration. But, as with the principal projections, none of these variants take account of expected future house-building or other local policies and projects.

The LGBCE's 'Electoral Forecasting: User Guidance' refers to the SNPPs only as "projections" and does not specify whether its recommendations relate only to principal projections, or to variant projections as well. It is reasonable to assume that the LGBCE guidance relates only to principal projections, as electorate forecasts cannot be simultaneously constrained to multiple (principal and variant) sets of projections. Nevertheless, it seems prudent to assess the impact of constraining the electorate forecasts to the 2018-based variant SNPPs.

However, whilst the variant projections include breakdowns by age group, these are for five-year age bands only, so they do not include figures for the population aged 17 and above. Looking instead at their projections for the total population across all ages, over the mid-2023 to end 2029 period (and again using an average of the mid-2029 and mid-2030 as a proxy for end 2029) they differ relatively little from the principal projection: the variant projections for 2023 all fall within the range of 387,300 to 391,900 and their projections for 2029 range from 392,700 to 405,800. Only the high net international migration variant projects a figure for 2029 (405,759) that exceeds the ONS mid-year estimate for the year 2021. If, as the latter variant indicates, the Borough's population by 2029 were to be only 405,759, that would mean population growth over the 2021-29 period averaging only 0.16% a year, an improbably low rate compared to the averages seen for 2011-21 (0.78%, as cited earlier), 2001-11 (0.52%, as also cited earlier) or even 1991-2001 (0.33%) and even more improbable considering the high volume of housing completions achieved in 2021/22 and 2022/23 and expected net completions up to 2029.

Taking the principal projection figure of 0.814 electors per head of population as of end 2029 and (in the absence of variant projection data for the 17 and above age

group) assuming this ratio is the same for each of the four variants, even the high migration variant would imply only 330,295 electors (405,759 x 0.814) by 2029, which equates to the electorate growing by an average of only 0.7% a year (against the 1.2% a year growth seen during 2016-23). Using this same approach, each of the other variants would imply electorate growth of 0.4% or less a year.

In short, the Borough Council considers that the variant SNPPs (like the principal SNPPs) imply rates of population and electorate growth that are implausible, given past trends, as well as recent and expected future volumes of housebuilding. Applying them as a constraint therefore results in very improbable electorate forecasts even at Borough-wide level; at Borough ward or lower level, some of the results of applying such constraints are even more improbable.