

Greater Cambridge Local Plan: Housing and Employment Relationships

Greater Cambridge Shared Planning

November 2020

Prepared by

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Public

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Limitations

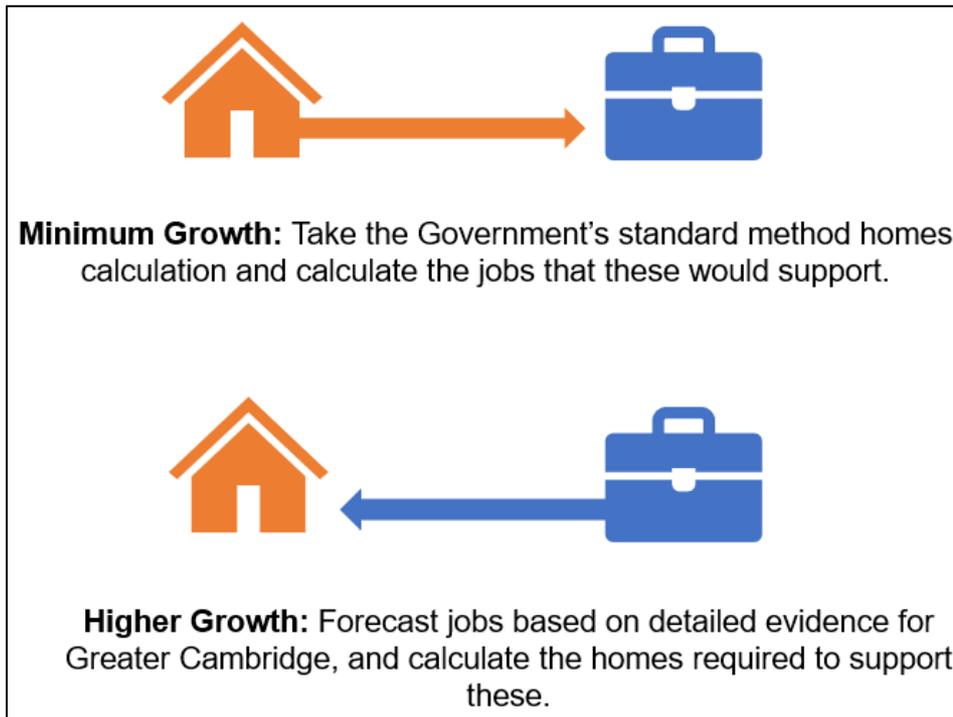
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1 EXECUTIVE SUMMARY

Introduction

- 1.1 The purpose of this report is twofold. Firstly, to understand the population growth associated with the Standard Method and number of jobs likely to be supported. The Standard Method is a formula set out in the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance (PPG) to provide a figure for the minimum number of homes a local authority is expected to plan for.
- 1.2 Secondly, in the context of the economic growth scenarios provided by the Greater Cambridge Employment Land and Economic Development Evidence Base (ELR), the report considers the expected level of housing required to support those levels of growth.
- 1.3 There are therefore three scenarios considered:
 - **Standard Method** – Housing need derived from the Standard Method, converted to population and then employment growth;
 - **Central** – Central growth employment forecast converted to population and housing; and
 - **Higher** – Higher growth employment forecast converted to population and housing.
- 1.4 The approach is designed to provide a consistent understanding of housing and jobs levels to inform the Local Plan process. The figure below summarises the approach taken which is to firstly estimate the number of jobs supported by the Standard Method; and then undertake a 'reverse' analysis where a given level of job growth is worked back to estimate the number of homes required to house the growing workforce. All analysis covers the period from 2020 to 2041.

Figure 1: **Housing and economic growth – methodology summary**



Standard Method, Housing Need and Derived Jobs Growth

- 1.5 In the first part of the report, the housing need calculated by the Government's Standard Method is used to calculate how many jobs might be supported by the population arising. For the period 2020 to 2030 the standard method shows a minimum figure for Greater Cambridge of 1,743 dwellings per annum (dpa). This is split between Cambridge at 658 dpa and South Cambridgeshire at 1,085 dpa.
- 1.6 Housing growth is translated into population growth based on assumptions including improvements to household formation rates (where there is evidence of suppression amongst the younger population) and changes to net migration to ensure all the homes are filled. In doing so the base population at 2020 and final population at 2041 are calculated. Population projections are converted into the number of jobs that could be supported using assumptions about economic activity rates and commuting dynamics in Cambridge City and South Cambridgeshire.
- 1.7 Overall, the analysis suggests that around 2,200 additional jobs could be supported across the Greater Cambridge area each year - being 1,000 in Cambridge and around 1,200 in South Cambridgeshire.

Table 1: Core Outputs, Jobs Supported from Standard Method in Greater Cambridge, 2020-41 – per annum

Area	Homes	Population	Jobs Supported
Cambridge City	658	1,401	1,000
South Cambridgeshire	1,085	2,120	1,180
Greater Cambridge	1,743	3,521	2,179

Source: GL Hearn Analysis of Demographic Projections

Economic Forecasts and Associated Housing Need

- 1.8 Having estimated the number of jobs that might be supported using the Standard Method housing need figure, the next stage of analysis is to consider how many homes might be needed to house the workforce needed to fill the number of jobs suggested by the economic forecasts (taken from the ELR). The method (as noted above) essentially works backwards when compared with the Standard Method - to firstly calculate the labour supply needed and then projecting what overall population (and age structure) might be expected and number of supporting homes – again taking account of commuting dynamics and economic activity rates.
- 1.9 The table below shows the projected housing growth that would be needed to meet each of the two jobs scenarios. Across the whole study area, the analysis suggests that 1,996 homes per annum would be required to support the Central economic scenario, and a higher figure of 2,549 for the Higher scenario. Both of these figures are above the need derived from the Standard Method which is for a minimum of 1,743 homes each year.

Table 2: Projected Housing Growth– range of job growth forecasts

Cambridge City	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	52,515	70,209	17,694	843	868
Higher	52,515	72,098	19,583	933	960
South Cambridgeshire	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	66,514	89,514	23,000	1,095	1,128
Higher	66,514	98,892	32,378	1,542	1,588
Greater Cambridge	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	119,029	159,723	40,694	1,938	1,996
Higher	119,029	170,990	51,960	2,474	2,549

Source: GL Hearn, JGC, CE

- 1.10 The above assumes the same commuting patterns reported in the Census 2011. By way of sensitivity analysis, a further model has been developed for the Central and Higher employment-led scenarios which assume there is a 1:1 relationship between additional jobs (above the 2,179 jobs supported by the (minimum) Standard Method calculations) and additional resident workforce.
- 1.11 Applying this assumption would mean that Greater Cambridge would not be drawing on any additional labour supply from outside Greater Cambridge, above that already assumed to be generated by the Standard Method.
- 1.12 Existing (2011) commuting patterns would expect Greater Cambridge to continue to be a net importer of labour. However, modelling of commuting on a 1:1 basis provides an understanding of the sub-regional housing growth impacts of the Central and Higher employment forecasts, assuming that other districts plan housing delivery on the basis of the Standard Method.
- 1.13 As well as examining the housing impact in Greater Cambridge, the scenario which draws on the Census 2011 commuting patterns (which remains the only comprehensive and robust dataset for commuting patterns available until publication of Census 2021 data) provides an understanding of the number of homes that might need to be provided in locations outside of Greater Cambridge. This will be in order to house the additional labour supply that would be expected to work in Greater Cambridge, under the Central and Higher employment forecasts.
- 1.14 The 1:1 assumption also provides an understanding of the level of housing growth under the Central and Higher employment forecasts that might need to be provided inside and outside of Greater Cambridge. However, in comparison to the 2011 patterns, the 1:1 scenario would reduce the housing growth impact on locations outside of Greater Cambridge, as this scenario would see more homes delivered in Greater Cambridge. This could help reduce longer distance commuting and associated carbon emissions.
- 1.15 Across Greater Cambridge, using the 1:1 ratio for additional jobs shows a housing growth of around 2,110 dpa for the Central economic scenario and 2,690 dpa under

the higher scenario. This compares to 1,996 and 2,549 dpa respectively in the Central and higher growth scenario (+114 and +141 dpa respectively) using the Census 2011-based modelling assumptions.

- 1.16 It is therefore estimated that up to 141 dpa would have to be provided in areas outside of Greater Cambridge to house the additional Greater Cambridge workforce if commuting remained unchanged. It is assumed that this additional demand for housing is likely to arise in those areas with the strongest commuting patterns with Greater Cambridge at present i.e. East Cambridgeshire (22%) and Huntingdonshire (19%)

Summary

- 1.17 The table below provides an overall summary of the Standard Method, Central and Higher scenarios in terms of the total housing and jobs for the period 2020 to 2041 – figures are rounded to the nearest hundred. In all cases these are based on 2011 commuting patterns.
- 1.18 This shows the Standard Method would require a minimum of 36,600 dwellings to be provided and that this would support 45,800 jobs. At the other end of the scale, the Higher economic forecast would see 78,700 additional jobs (from 2020) and would require provision of 53,500 dwellings to provide sufficient housing for the growing workforce.

Table 3: Forecast jobs and estimated housing growth for different scenarios – Greater Cambridge (2020-41) – 2011 commuting patterns

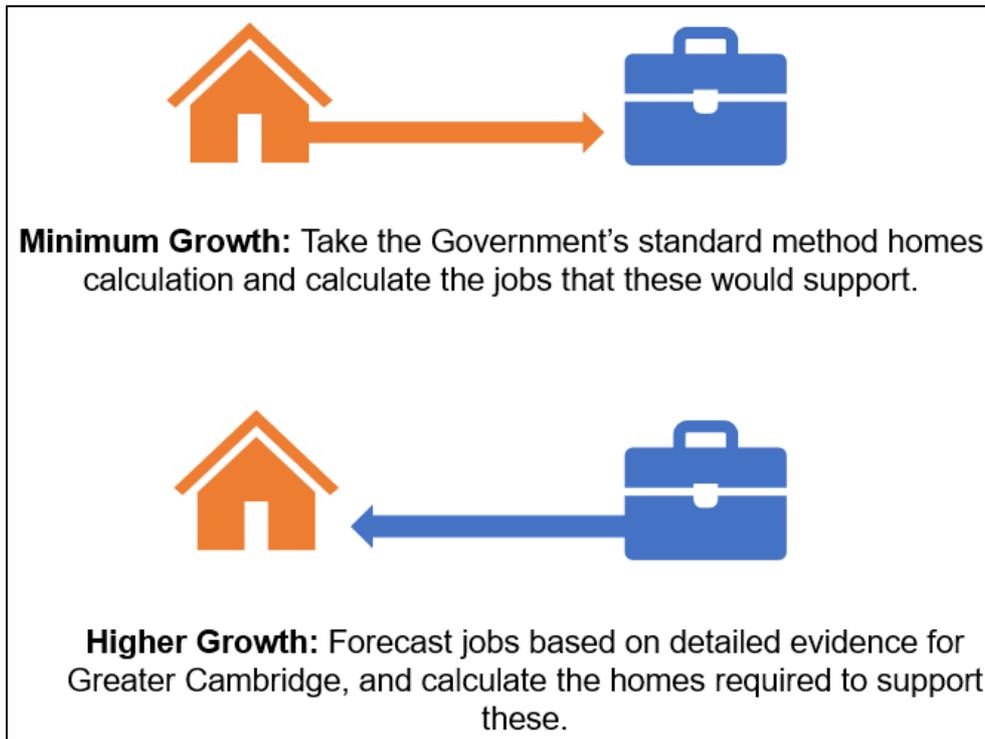
Scenario	Employment (jobs)	Housing (dwellings)
Standard Method	45,800	36,600
Central	58,400	41,900
Higher	78,700	53,500

Source: GL Hearn, JGC, CE

2 INTRODUCTION

- 2.1 The purpose of this report is twofold. Firstly, to understand the population growth associated with the Standard Method and number of jobs likely to be supported. The Standard Method is a formula set out in the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance (PPG) to provide a figure for the minimum number of homes a local authority is expected to plan for.
- 2.2 Secondly, in the context of the economic growth scenarios provided by the Greater Cambridge Employment Land and Economic Development Evidence Base (ELR), the report considers the expected level of housing required to support those levels of growth.
- 2.3 There are therefore three scenarios considered:
- **Standard Method** – Housing need derived from the Standard Method, converted to population and then employment growth;
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- 2.4 The analysis is designed to provide a consistent understanding of housing and jobs levels to inform the Local Plan process. The figure below summarises the approach taken which is to firstly estimate the number of jobs supported by the Standard Method and then undertake a ‘reverse’ analysis where a given level of job growth is worked back to estimate the number of homes required to house the growing workforce. All analysis covers the period from 2020 to 2041.

Figure 2: **Housing and economic growth – methodology summary**



- 2.5 In terms of the NPPF and PPG the following summarises the relevant advice and the factors that could indicate that a housing number in excess of the standard method could be considered:
- 2.6 **Standard Method** – ‘To determine the minimum number of homes needed, strategic policies should be informed by a local housing need assessment, conducted using the standard method in national planning guidance’ (NPPF, paragraph 60).
- 2.7 The PPG (Housing and economic needs assessment section) sets out a three step standard method for assessing housing need using household projection for the next 10 years (step 1), adjusts this based on local affordability (step 2) but caps the need to ensure deliverability (step 3).
- 2.8 **Higher Growth (economy)** – ‘Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth’ (NPPF, paragraph 80).
- 2.9 **Planning Practice Guidance** – ‘The standard method for assessing local housing need provides a minimum starting point in determining the number of homes needed

in an area. It does not attempt to predict the impact that future government policies, changing economic circumstances or other factors might have on demographic behaviour. Therefore, there will be circumstances where it is appropriate to consider whether actual housing need is higher than the standard method indicates. Circumstances where this may be appropriate include, but are not limited to situations where increases in housing need are likely to exceed past trends because of:

- growth strategies for the area that are likely to be deliverable, for example where funding is in place to promote and facilitate additional growth (e.g. Housing Deals);
- Strategic infrastructure improvements that are likely to drive an increase in the homes needed locally (PPG, paragraph 2a-010).

2.10 It is therefore clear in both the NPPF and PPG that the Standard Method is a minimum starting point and that economic growth can be considered as a potential consideration for providing more homes.

2.11 Finally, it is worth noting that paragraph 15 of the PPG (Ref: 2a-015) notes that:

“Where a strategic policy-making authority can show that an alternative approach identifies a need higher than using the standard method, and that it adequately reflects current and future demographic trends and market signals, the approach can be considered sound as it will have exceeded the minimum starting point.”

3 STANDARD METHOD HOUSING NEED AND DERIVED JOBS GROWTH

Introduction

3.1 This section identifies the Standard Method housing need figure – set out by government as the minimum number of homes needed in the area – and the jobs growth that would be supported by this figure for the plan period 2020-41. As set out in the introduction, the reason for identifying the number of jobs that the minimum housing need would support is to inform the Councils’ consideration of whether there may be circumstances indicating that a higher level of jobs and homes provision would be appropriate (as per the PPG)¹. The section includes the following:

- Identifying the standard method homes
- Developing a population projection based on the standard method, including considering the population starting point and the population increase
- Translating the population to jobs

Standard Method Housing Need

3.2 The first step for moving from housing to jobs is to identify the Standard Method housing need. The methodology used in this report responds to the NPPF (2019) which sets out the Government’s objective to significantly boost housing supply, and the current PPG. Chapter 5 of the NPPF (2019) relates to delivering a sufficient supply of homes, with Paragraph 60 setting out that “*to determine the minimum number of homes needed, strategic policies should be informed by a local housing need assessment, conducted using the standard method*”. This is the purpose of this element of the Study.

3.3 Paragraph 61 of the NPPF (2019) writes that “within this context, the size, type and tenure of housing needed for different groups in the community should be assessed”. It adds that specific groups include but are not limited to “those who require affordable housing, families with children, older people, students, people with disabilities, service families, travellers, people who rent their homes and people wishing to commission or build their own homes”. GL Hearn have undertaken this task in a separate study, using a methodology consistent with the approach for overall housing need set out below. To be clear, this study addresses the overall

¹ <https://www.gov.uk/guidance/housing-and-economic-development-needs-assessments>

quantum of homes with the separate study breaking this down into the various specific groups within the population.

3.4 The Planning Practice Guidance on *Housing & economic needs assessments* requires that housing need be assessed using the government's Standard Methodology. The Standard Methodology seeks to simplify the approach to housing need and has three components:

- Starting Point or Baseline;
- Affordability/Market Signals Adjustment; and
- Cap to ensure deliverability.

3.5 The starting point or demographic baseline continues to be the government's national 2014-based household projections as stated in the PPG², at the time of writing.

3.6 The baseline household growth is then modified to account for affordability. Specifically, Step 2 uses a formula which draws on the local median price of homes relative to median workplace earnings. This data is published annually by the DCLG with the most recent data from 2019³.

3.7 To ensure that the proposed level of housing is as deliverable as possible, the standard method includes a cap at 40% above the housing target in adopted local plans where these plans are less than 5 years old. Where local plans are older than five years then the Local Housing Need (LHN) is capped 40% above the higher of either the baseline growth from official projections or the annual housing requirement figure currently set out in their local plan.

3.8 Our approach below sets out the standard method for Greater Cambridge using the three-step approach as set out in the PPG.

Step 1 – Setting the baseline

3.9 Step 1 sets the baseline using national household growth projections (2014-based household projections). The PPG advises that “the projected average annual

² Housing and economic needs assessment Paragraph: 004 Reference ID: 2a-004-20190220, Step 1, available at: <https://www.gov.uk/guidance/housing-and-economic-development-needs-assessments> (Revision date: 20 February 2019)

³ Available at:

<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/datasets/ratioofhousepricetoworkplacebasedearningslowerquartileandmedian> (Released 19 March 2020)

household growth over 10 years (this should be 10 consecutive years, with the current year being the first year)” should be used.

- 3.10 Household projections (2014-based) are presented in the table below. The calculations have been made separately for Cambridge and South Cambridgeshire and are then combined to show the Greater Cambridge change. These show a total household growth of 12,220 over the next ten years which is annualised to 1,222 – of which 797 per annum is in South Cambridgeshire and 425 in Cambridge.

Table 4: LHN Step 1 - Household Change, 2020-30

Local Authority	Households 2020	Households 2030	Average Annual Change (Step 1)
Cambridge	51,530	55,783	425
South Cambridgeshire	67,872	75,839	797
Greater Cambridge	119,402	131,622	1,222

Source: ONS, 2014-based household projections

Step 2 – An adjustment to take account of affordability

- 3.11 Step 2 then adjusts the average annual projected household growth figure (as calculated in Step 1) based on the relative affordability of housing within each area. This draws on the most recent median workplace-based affordability ratios, namely the 2019 affordability ratios.
- 3.12 For every percentage point the median workplace based affordability ratio is above 4, the household projections are increased by 0.25%. Four is seen by the PPG as a reasonable multiple based on standard mortgage lending practices. The formula included in the PPG for how the adjustment is calculated is as below:

$$Adjustment\ factor = \left(\frac{Local\ affordability\ ratio - 4}{4} \right) \times 0.25$$

- 3.13 The table below presents the affordability ratio and the adjustment factor for both local planning authorities together with the resultant uncapped need. The affordability ratio is 12.76 in Cambridge and 9.78 in South Cambridgeshire. This results in an increase of 55% and 36% respectively.

Table 5: LHN Step 2 – Affordability Adjustment Factor

Local Authority	Average Annual Change (Step 1)	Affordability Ratio 2019	Adjustment Factor	LHN Uncapped (Step 2)
Cambridge	425	12.76	155%	658
South Cambridgeshire	797	9.78	136%	1,085
Greater Cambridge	1,222			1,743

Source: ONS, MHCLG

- 3.14 The affordability adjustment increases the need by 521 additional dwellings per annum to arrive at an uncapped need of 1,743 dpa. The largest need is in South Cambridgeshire (1,085 dpa) with the remainder in the City (658 dpa).

Step 3 – Capping the level of any increase

- 3.15 The third step of the standard method is to cap the level of increase to help ensure that the minimum local housing need figure is as deliverable as possible. The cap comes in the form of a 40% cap. However, what figure the cap is placed on depends on the age of the Local Plan and the housing target within it.

- Where the Local Plan is adopted within the last 5 years (at the point of making the calculation), the local housing needs figure is capped at 40% above the existing housing target.
- Where the Local Plan was adopted more than 5 years ago (or is non-existent) then the cap is placed at 40% above the higher of either the existing housing target or the household forecasts set out in step 1.

- 3.16 Cambridge and South Cambridgeshire Local Plans 2018 have been adopted within the last 5 years. The cap is therefore calculated as 40% above the housing targets in those plans. In both cases, the outcome of Step 2 is lower than the capped figure (local plan target plus 40%). Therefore, regardless of the date of adoption of the local plan, the capping in this case does not impact the level of housing need in Cambridge or South Cambridgeshire.

- 3.17 The table below summarises the age of the current Local Plan across both authorities as well as their housing targets, and the figures involved in considering a cap.

Table 6: LHN Step 3

Local Authority	Average Annual HH Change (Step 1)	Un-capped LHN (Step 2)	Current Local Plan Adoption Date	Local Plan Housing Target	Capped Figure (Local Plan Housing Target +40%)	LHN (Step 3)
Cambridge	425	658	18/10/2018 (<5 Years)	700	980	658
South Cambridgeshire	797	1,085	27/09/2018 (<5 Years)	975	1,365	1,085
Greater Cambridge	1,222	1,743		1,675	2,345	1,743

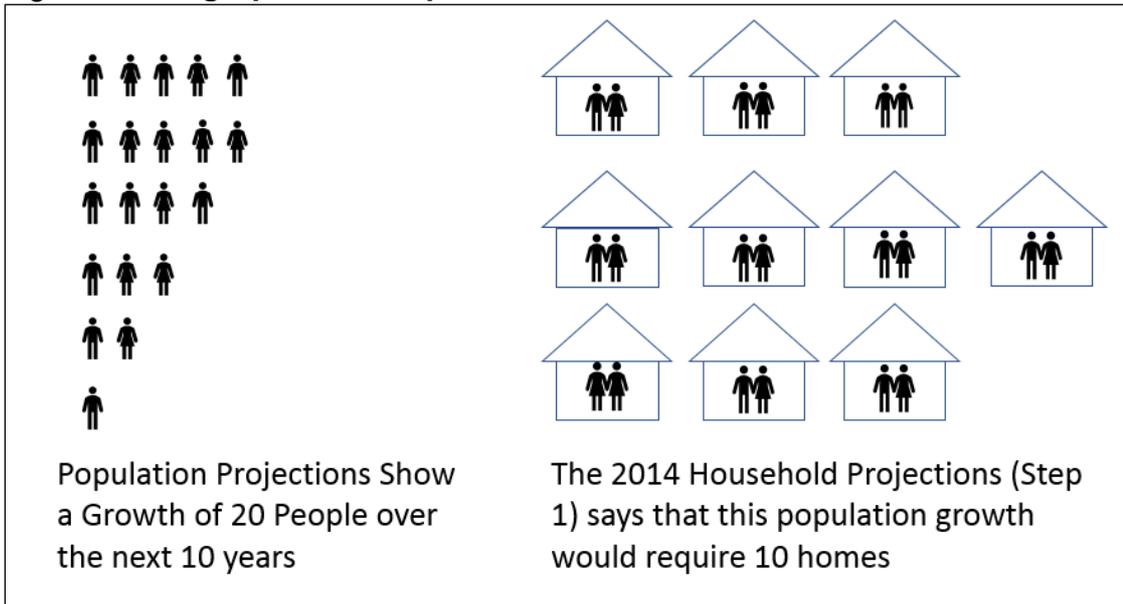
Source: GL Hearn Analysis

- 3.18 **The minimum figure for Greater Cambridge under the standard method is therefore 1,743 dpa.** As per Step 2, the largest housing need is in South Cambridgeshire (1,085 dpa) and the remainder in Cambridge (658 dpa).
- 3.19 Although not interrogated in detail within this report it should be noted that there are concerns with some recent data from the Office for National Statistics (ONS) regarding mid-year population estimates (MYE – discussed below) and the impact this has on projections – this is particularly the case in Cambridge.
- 3.20 However, it should be remembered that the basic data for establishing household growth uses an old (2014-based) set of projections; these older projections are likely to be more robust than more recent data (2016- and 2018-based figures) as they rely on longer term trends which are less prone to fluctuations.
- 3.21 This conclusion is also reached as the main problem with the ONS MYE data for Cambridge can in part be linked to ONS changing its methodology looking at migration – these revisions seem to have a particular impact on areas with high student populations and were brought in for data from 2016 onwards. As a result, the 2014-based projections are less affected by the potential issues with recent MYE data releases.

Developing a Baseline and Population Projection linked to the Standard Method

- 3.22 As set out above, the Standard Method would lead to a housing need of 1,743 dwellings per annum based on a household growth of 1,222 per annum. This equates to an increase of 521 dwellings above the official projections. To understand the jobs that could be supported by this it is first necessary to translate this level of dwelling growth into a population projection.
- 3.23 In creating this population projection, it is necessary to extend the period examined from the ten-year period assessed in Step 1 (2020-30) up to 2041 to allow for the full Local Plan period. As set out in the PPG (2a-012) the standard method figure can be applied to the whole Plan period.
- 3.24 The PPG also states that the standard method takes account of historic backlog before the date the Standard Method was calculated – in this case 2020. Essentially, the PPG considers that the affordability uplift will deal with any issues of past under-delivery of housing. PPG (2a-011) states that *'The affordability adjustment is applied to take account of past under-delivery. The standard method identifies the minimum uplift that will be required and therefore it is not a requirement to specifically address under delivery separately'*.
- 3.25 The start point of the population projections also needs to align with the current year (also the start date of the Greater Cambridge Plan). For this, we have assumed a modelled level of population and household growth from published data sources based on completions – in other words, for years (2019-20) where no population estimates have been published the modelling considers what level of population growth might have been supported by the number of additional homes provided (population data, as discussed below, is currently published up to mid-2019).
- 3.26 The 2014-based household projections are used as the starting point (Step 1) of the standard method and these are based on the 2014-based subnational population projections (SNPP) (see Figure below).

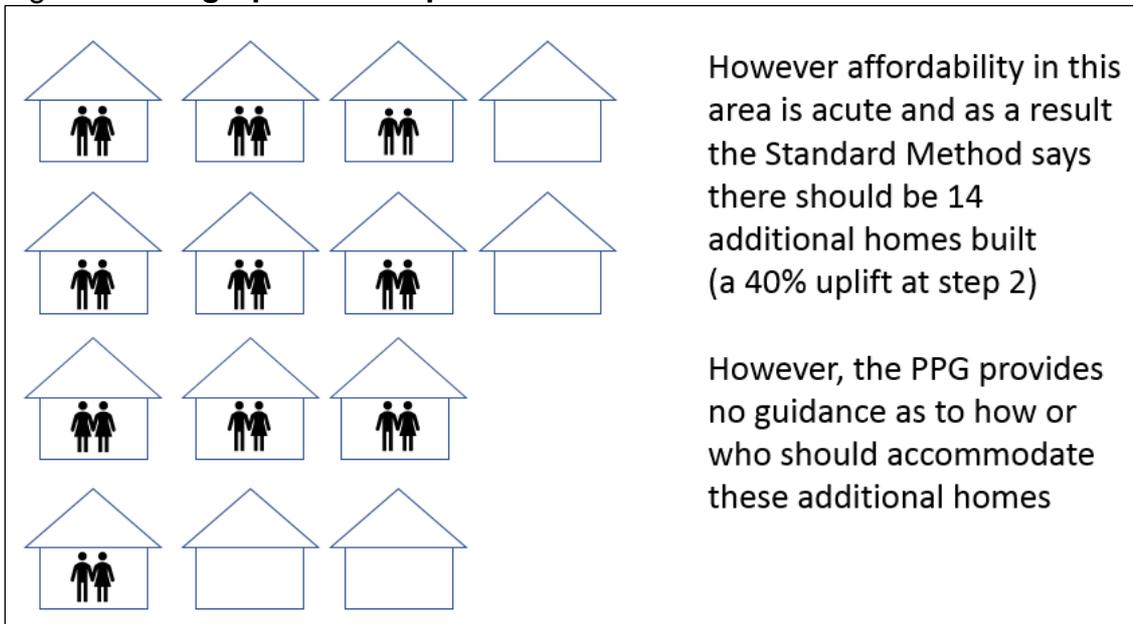
Figure 3: Infographic on Step 1 of the Standard Method



Source: GL Hearn

- 3.27 As set out earlier Step 2 results in a significant increase in housing need above the household projections. However, the PPG does not provide any indication of how and by whom these additional 521 homes are to be occupied.

Figure 4: Infographic on Step 2 of the Standard Method



Source: GL Hearn (N.B. the 40% uplift is an example. In this case for Cambridge the uplift is 55% and in South Cambridgeshire 36%)

3.28 How these additional homes are occupied is crucial for assessing population growth. Paragraph 6 of the PPG indicates how the MHCLG think these homes should be occupied (assuming they are to be occupied):

“An affordability adjustment is applied as household growth on its own is insufficient as an indicator of future housing need because:

- household formation is constrained to the supply of available properties – new households cannot form if there is nowhere for them to live; and*
- people may want to live in an area in which they do not reside currently, for example, to be near to work, but be unable to find appropriate accommodation that they can afford.*

The affordability adjustment is applied in order to ensure that the standard method for assessing local housing need responds to price signals and is consistent with the policy objective of significantly boosting the supply of homes. The specific adjustment in this guidance is set at a level to ensure that minimum annual housing need starts to address the affordability of homes.”

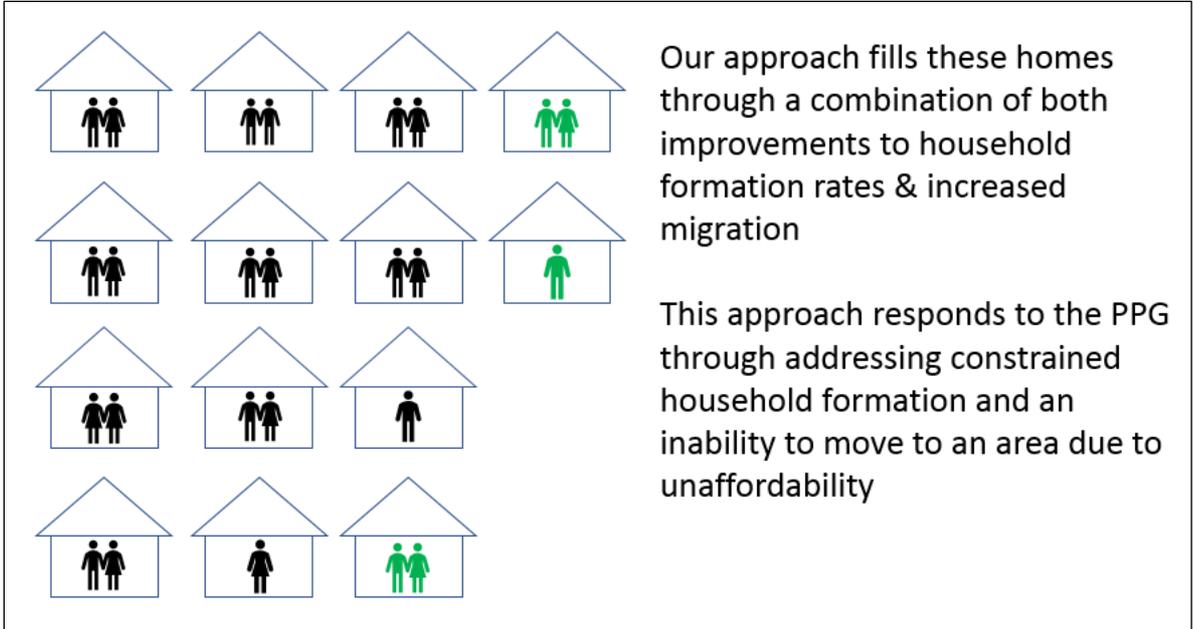
3.29 In essence, Step 2 is a response to worsening affordability which has reduced household formation rates (HFR) and reduced migration. However, the PPG does not guide as to the balance of these adjustments to the factors identified.

3.30 If it is assumed that the adjustment fills these homes with just the indigenous population, who previously were unable to form new households, this would result in unprecedented levels of household formation. This would result in greatly reduced household sizes i.e. very many single person households. However, there is no indication that households would split this far.

3.31 If it is assumed that all the homes are to be filled just with increased migration this would not allow for improvements to local household formation rates (HFR). There is also an issue in that by drawing a population from another area this would result in a decreased need in the area they have moved from. However, the standard method does not reflect this logic and that potential issue remains unresolved.

- 3.32 As set out in the figure below our approach is to make reasonable adjustments (improvements) to household formation rates with the remainder occupied by further in-migration.
- 3.33 The adjustments to HFRs essentially recognises and responds to the suppression of household formation for younger people (aged up to 44). Specifically, the fact that this group have not formed at the same sort of rate as has been observed historically and therefore an increased rate of formation would help to deal with this suppression (i.e. providing more homes to allow households in this age group to access their own independent accommodation).
- 3.34 For this approach to HFR, a scenario has been derived which is mid-way between those HFR in the 2014-based projections and the HFR in the pre-recession 2008-based projections. This approach is normally called ‘part-return-to-trend’ and has been widely used (and accepted by planning inspectors) in assessments of this nature in the past. Additionally, the ‘part-return-to-trend’ approach was supported by the Local Plans Expert Group (LPEG)⁴.

Figure 5: Infographic on Proposed Approach to Population Outputs



Source: GL Hearn

- 3.35 Once HFR have been adjusted, the model increases the population growth to fill the remaining dwellings. This is achieved through increases to in-migration and

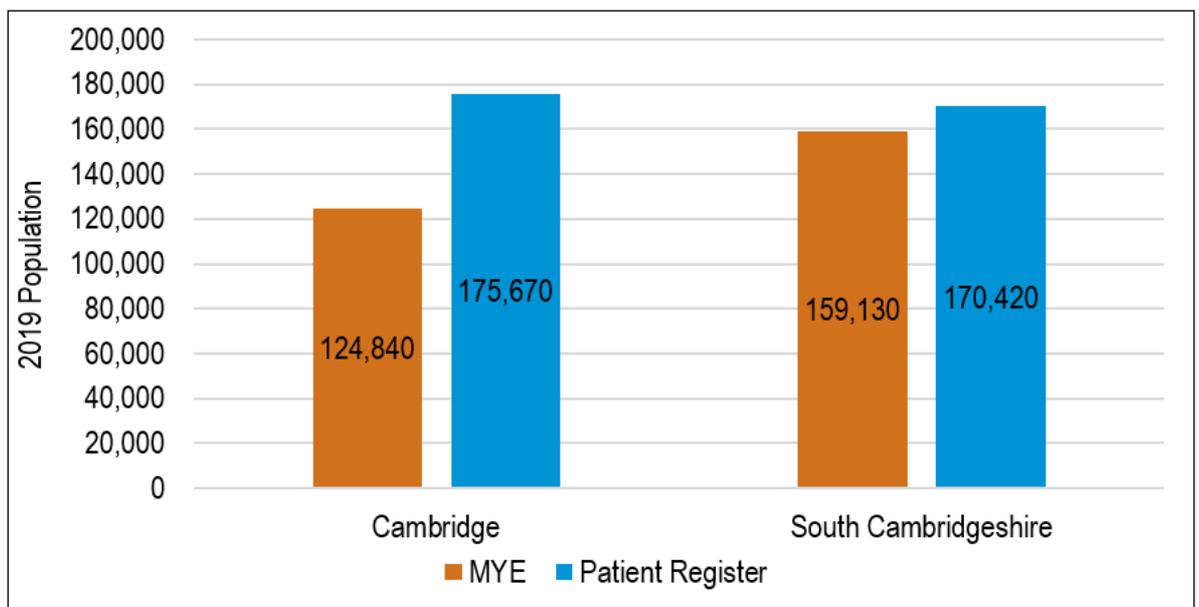
⁴ <https://www.gov.uk/government/publications/local-plans-expert-group-report-to-the-secretary-of-state>

reductions to out migration. This adjustment is in response to the possibility that some households who would like to live in Greater Cambridge cannot afford to do so. From this population growth we can also create an age profile to 2041 from which a range of further analysis can be undertaken.

Population Starting Point

- 3.36 Beyond understanding the population change 2020-41, there is a more immediate issue, that being the latest available published population estimate (2019) and the need to use this as a base. This is because there are concerns with ONS' 2019 mid-year population estimates for Cambridge, potentially as a result of student-related issues (see paragraph 3.21).
- 3.37 To examine this, we have firstly reviewed the difference between the Mid-Year Population Estimates (MYE) by ONS and the NHS Patient Register. As presented in the graph below in Cambridge the Patient Register at 2019 is 41% higher than the MYE, this is a difference of 51,000 people. For South Cambridgeshire, the difference in estimates is around 7% (11,000 people), and whilst arguably a notable finding, this sort of difference is fairly normal when studying these datasets across the region and nationally. For Cambridge, the differences are however substantial.

Figure 6: **Population Change Comparison, Mid-Year Estimates & Patient Register (2019)**



Source: ONS

- 3.38 To examine which of these is the most accurate we have gone back to the 2011 Census which is likely to provide a more accurate assessment of population than either the MYE or the Patient Register. We have also examined the change from 2011-2019 between the two sources. In the City for the 2011-19 period, there was a difference of 28% (the Patient Register suggesting that population had grown by 30% compared with a 2% growth suggested by the MYE). The equivalent difference between ONS and Patient Register data for England is 3% and for the East of England 4%, see table below.
- 3.39 The margin of error is likely to be lower at larger geographic areas, as there are proportionally fewer inter-regional and international moves. In both the regional (62%) and national (64%) case, the growth in the MYE 2011-19 is around two-thirds of that of the Patient Register.
- 3.40 Notwithstanding the different starting points, the analysis shows a very moderate MYE change between 2011-19, in Cambridge (+2,100) compared to the Patient Register (+40,800). This raises concerns about data accuracy in one or both of these sources.

Table 7: Comparing ONS mid-year population estimates with the Patient Register Change

	2011	2019	Change	% change
MYE - Cambridge	122,720	124,840	2,120	1.7%
Patient Register - Cambridge	134,900	175,670	40,770	30.2%
MYE – South Cambs	149,860	159,130	9,270	6.2%
Patient Register – South Cambs	152,610	170,420	17,810	11.7%
MYE – East Region	5,862,420	6,236,090	373,670	6.4%
Patient Register -East Region	6,026,910	6,632,570	605,660	10.0%
MYE - England	53,107,200	56,286,990	3,179,790	6.0%
Patient Register - England	55,312,750	60,288,290	4,975,540	9.0%

Source: ONS

- 3.41 It would be unrealistic for the housing growth in the City to result in the population growth shown in the Patient Register. The number of net completions in the 2011-19 period (6,929 dwellings⁵) would not be expected to have supported population growth of 40,770 people as this would have equated to over 6 persons per dwelling.

⁵ Taken from Figure 1 of Greater Cambridge Housing Trajectory and Five Year Housing Land Supply (April 2020)

Equally it would have been expected to have supported far more than just 2,000 (as in the MYE).

- 3.42 The high level of population growth in the Patient Register could in part be explained by students registering and then failing to deregister once they move out of the area after graduation. This results in an overestimation of the population in the area.
- 3.43 Overall, in the case of Cambridge, it is considered that the MYE is likely to underestimate the number of residents, with the Patient Register over-estimating. Therefore, some correction of the figures is reasonable. None of the ONS data separately shows students and so inferences can only be made by looking at the age structure.
- 3.44 By making amendments to the baseline population (and its age structure) it is expected that the number of students in the population will be realistic, as will any forward projections using a revised base position. In terms of other elements of analysis (such as communal accommodation) it is considered that projections will remain reasonable as baseline data for this comes from the 2011 Census data which has not been heavily questioned.
- 3.45 In this context, it would seem reasonable to conclude that the population is probably somewhere between the two estimates. To provide a more realistic baseline population from which to project change, we have created a model which:
- Accepts that the 2011 MYE is accurate as it is largely based on the 2011 Census data.
 - Takes an average of the MYE population growth and around two-thirds of the Patient Register growth to represent a reasonable level of population change since 2011. This proportion of Patient Register is used to reflect the difference in growth between it and ONS MYE data at the regional and national levels.
 - The initial analysis gives an estimated population in 2019. This is then rolled forward to 2020 using a combination of data about completions, projections, and past trends.
 - The analysis also takes account (in the same way) of the age structure changes.
- 3.46 The following table presents the starting point estimation. As shown the modelled estimate for Greater Cambridge is around 13,300 higher than the MYE for 2019

(4.7% higher) and is increased by around another 3,900 over the following year to get to the 2020 starting point.

Table 8: Starting Point Population

	MYE 2019	Patient Register 2019	Modelled 2019	GLH 2020
Cambridge	124,840	175,670	137,029	138,896
South Cambridgeshire	159,130	170,420	160,283	162,357
Greater Cambridge	283,970	346,090	297,312	301,253

Source: Derived from ONS data

- 3.47 The larger divergence from the MYE in Cambridge (+10%) in comparison to South Cambridgeshire (+1%) demonstrates that these issues are largely focussed in the City. Work undertaken in a wider housing needs assessment for Cambridgeshire and West Suffolk uses the same methodology.

Future Population Growth

- 3.48 To identify the jobs that would be supported by the standard method level of housing, we are required to build a bespoke population projection which is constrained to 1,743 dwellings per annum, identified in paragraph 3.19 above.
- 3.49 Although the growth is constrained to the annual housing growth of 1,743 dwellings these are assumed to be occupied by 1,692 households per annum. This is because a 3% vacancy rate is assumed in the housing stock, such an allowance is standard for this type of analysis ($1,743/1.03 = 1,692$)
- 3.50 To generate a population growth the model uses the following assumptions:
- Using the starting point population as set out in Table 8 above (and an associated age structure) (see paragraphs 3.36 to 3.47) and adjust this by:
 - Applying baseline fertility and mortality assumptions from the 2018-based SNPP as we need to include an assessment of natural change. The 2018-based SNPP have been used as they reflect ONS most recent views and data on mortality and fertility;
 - Applying adjusted migration assumptions, by reducing out-migration and increasing in- migration in equal measures, to a point where there is sufficient population for the 1,692 households once the adjusted household formation rates are applied.
 - Applying adjusted household formation rates (HFRs) using a midpoint between the 2008-based and 2014-based household projections. (see

paragraphs 3.28 to 3.35 for further information about the rationale for such adjustments)

3.51 The table below shows the resultant projected population change across the two local authorities as well as an aggregated figure for Greater Cambridge. The projected change in population is around 73,900 people; a 24.5% increase across Greater Cambridge.

Table 9: Population change 2020-2041 by each local authority

	2020	2041	Change	% change
Cambridge	138,896	168,319	29,423	21.2%
South Cambridgeshire	162,357	206,876	44,520	27.4%
Greater Cambridge	301,253	375,195	73,943	24.5%

Source: GL Hearn Modelling based on ONS data

Translating Population into Employment (jobs supported by the Standard Method)

3.52 The next stage of the assessment considers the link between housing/population growth and economic growth – considering what level of job growth the Standard Method projections might support.

3.53 To look at estimates of the job growth to be supported by the population change associated with the Standard Method homes figure, a series of stages are undertaken. These can be summarised as:

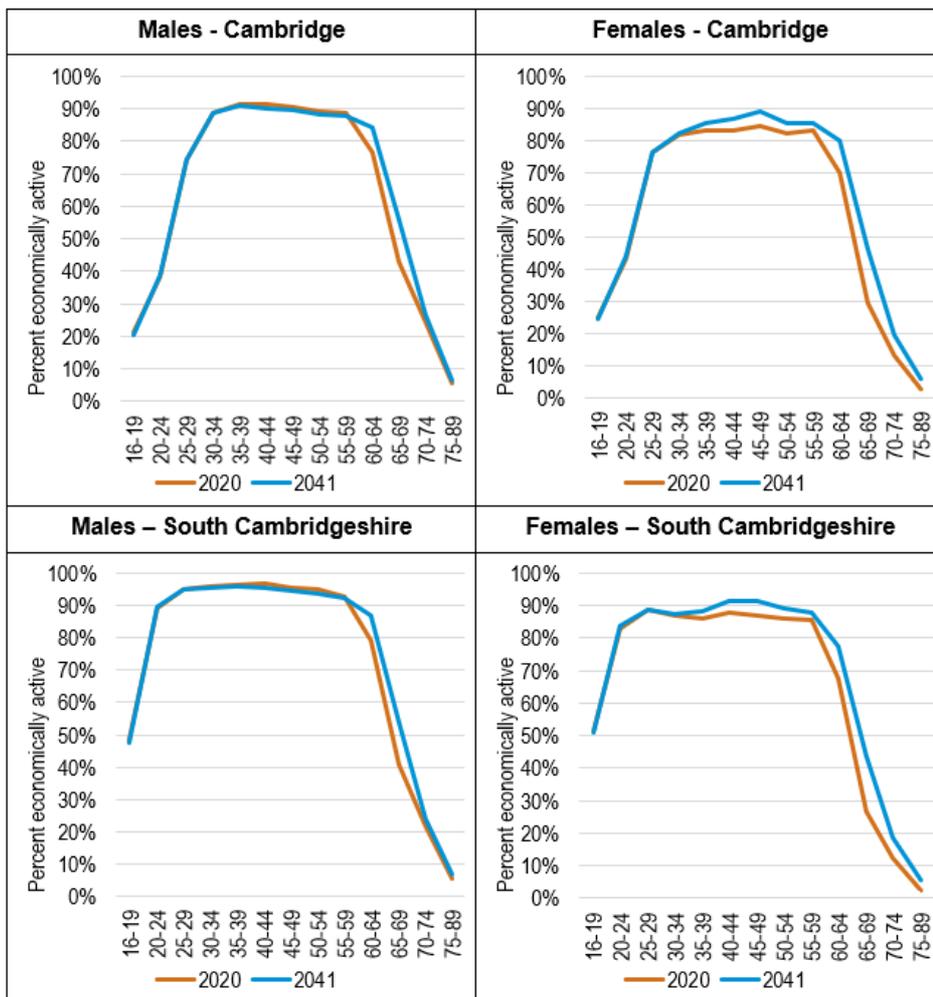
- **Growth in Resident Labour Supply** – By estimating the economically active population element of the population change;
- **Commuting Patterns** – Recognising that not all economically active residents will work in Greater Cambridge, nor will all jobs be taken up by those who live in Greater Cambridge;
- **Double Jobbing** – Recognising the fact that some people have more than one job;
- **Unemployment** – Recognising potential changes to unemployment and how this might support more jobs without impacting the population if unemployment is reduced and vice versa.

Growth in Resident Labour-Supply

3.54 The approach taken in this report applies a series of age and sex specific economic activity rates to the overall population growth identified above and use these to estimate how many people in the population will be economically active as projections develop (over the 2020-41 period). This is a fairly common approach for such calculations with data being drawn in this instance from the Office for Budget Responsibility (OBR) – July 2018 (Fiscal Sustainability Report).

3.55 The figure and table below show the assumptions made. The analysis shows that the main changes to economic activity rates are projected to be in the 60-69 age groups – this will to a considerable degree link to changes to pensionable age, as well as general trends in the number of older people working for longer (which in itself is linked to general reductions in pension provision).

Figure 7: Projected changes to economic activity rates (2020 and 2041)



Source: GLH / JGC - Based on OBR and Census (2011) data

3.56 Working through an analysis of age and sex specific economic activity rates it is possible to estimate the overall change in the number of economically active people in the study area – this is set out in the table below. The analysis shows that there would be a notable increase in the economically active population in both areas with a potential increase of 37,400 economically active residents (a 23% increase over 21-years).

Table 10: Estimated change to the economically active population (2020-41) – linked to Standard Method housing delivery

	Economically active (2020)	Economically active (2041)	Total change in economically active
Cambridge	72,057	84,481	12,424
South Cambridgeshire	90,122	115,119	24,997
Greater Cambridge	162,179	199,600	37,420

Source: GLH / JGC - Derived from demographic projections

3.57 To provide some context to these figures, the table below shows the overall population and population change in each area over this period (i.e. the population of all ages). For the whole study area, the population is projected to increase by 73,900 people, and therefore the increase in the number who are economically active represents 51% of all growth.

Table 11: Estimated change to the population (2020-41) – linked to Standard Method housing delivery

	Population (2020)	Population (2041)	Total change in population
Cambridge	138,896	168,319	29,423
South Cambridgeshire	162,357	206,876	44,520
Greater Cambridge	301,253	375,195	73,943

Source: GLH / JGC - Derived from demographic projections

Linking Changes to Resident Labour Supply and Job Growth

3.58 The analysis above has set out potential scenarios for the change in the number of people who are economically active associated with the standard method homes. However, the next step is to convert this information into an estimate of the number of jobs in Greater Cambridge this number of economically active residents would support. The number of jobs will differ depending on three main factors:

- Commuting patterns – where an area sees more people out-commute for work than in-commute it may result in fewer jobs being supported locally than the increase in the economically active population would suggest (and vice versa where there is net in-commuting);
- Double jobbing – some people hold down more than one job and therefore the number of jobs supported will be slightly higher than the increase in economically active population; and
- Unemployment – if unemployment were to fall then the increase in economically active population would support a greater number of jobs (and vice versa).

Commuting Patterns

- 3.59 The table below shows summary data about commuting to and from Cambridge and South Cambridgeshire from the 2011 Census. Overall, the data shows that South Cambridgeshire sees a small level of net out-commuting for work with the number of people resident in the area who are working (regardless of where they work) being about 6.3% higher than the total number who work in the area (and may or may not live in the area).
- 3.60 For Cambridge there is a significant level of net in-commuting. This can be seen from the commuting ratio in the final row of the table and is calculated as the number of people living in an area (and working) divided by the number of people working in the area (regardless of where they live).
- 3.61 For the whole of Greater Cambridge there is also a notable level of commuting between the two local authority areas (around 23,400 people commute from South Cambridgeshire to Cambridge and 8,300 commute in the opposite direction) although overall the study area still sees a notable level of net in-commuting from other locations.

Table 12: Commuting patterns in Greater Cambridge

	Cambridge	South Cambridgeshire	Greater Cambridge
Live and work in area	33,704	23,832	89,175
Home workers	6,570	10,714	17,284
No fixed workplace	3,203	5,443	8,646
In-commute	51,299	34,983	54,643
Out-commute	16,388	39,701	24,450
Total working in area	94,776	74,972	169,748
Total living in area (and working)	59,865	79,690	139,555
Commuting ratio	0.632	1.063	0.822

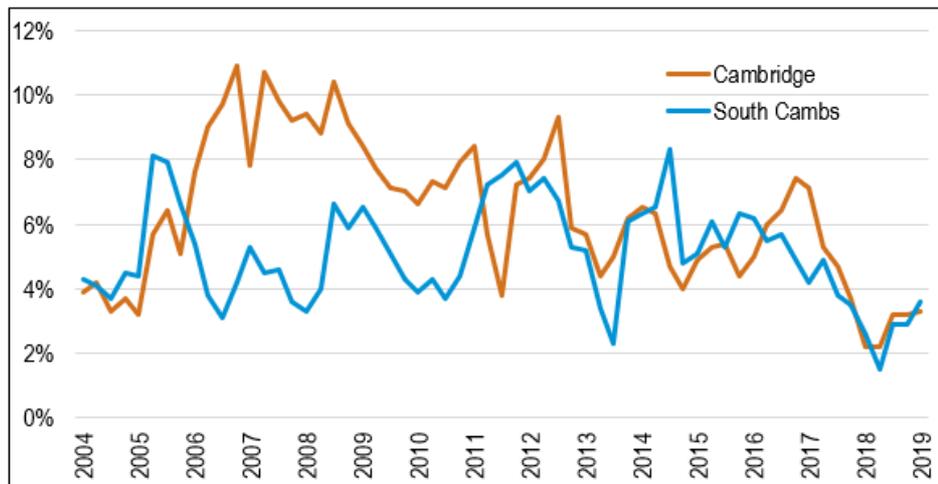
Source: 2011 Census

- 3.62 In translating the commuting pattern data into growth in the labour-force, a core assumption is that the commuting ratio remains at the same level as shown by the 2011 Census. However, later in this section a brief discussion is provided about how commuting dynamics may have changed by 2020.
- 3.63 It is arguable that some changes to the commuting ratio could be modelled, although keeping the ratio constant is considered to be a reasonably balanced approach to use, in light of there being no better data, and the need to discuss and agree any such changes with neighbouring authorities in the context of the Duty to Cooperate.

Double Jobbing

- 3.64 The analysis also considers that a number of people may have more than one job (double jobbing). Data on this topic from the Annual Population Survey (available on the NOMIS website) suggests across the study area that typically between about 6.3% (Cambridge) and 5.1% (South Cambridgeshire) of workers have a second job – levels of double jobbing have been variable over time (mainly due to the accuracy of data at a local level).

Figure 8: **Percentage of people in employment with a second job (2004-2019)**



Source: Annual Population Survey (via NOMIS)

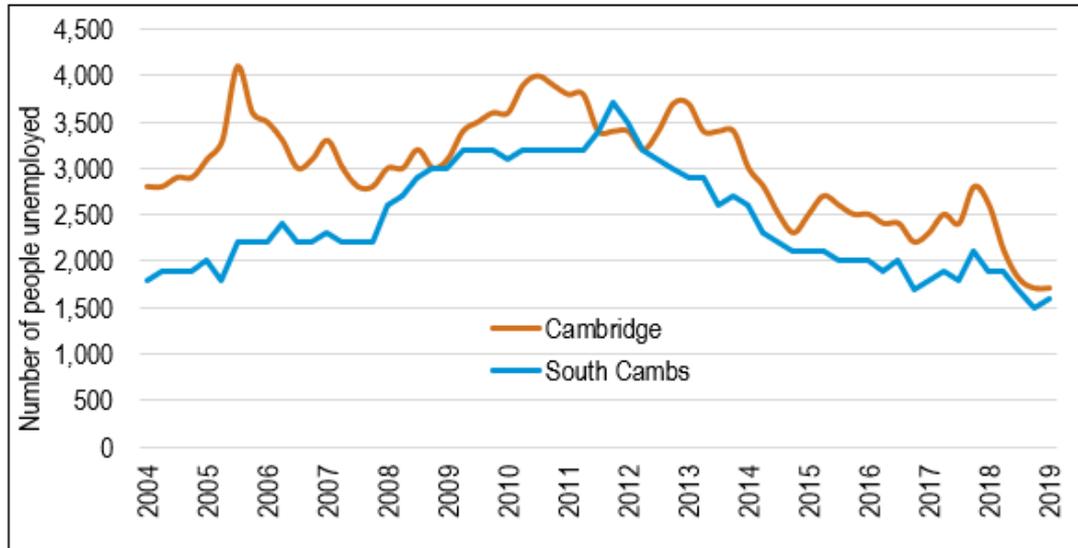
- 3.65 For the purposes of this assessment it has been assumed that 6.3% of people in Cambridge and 5.1% of people in South Cambridgeshire will have more than one job moving forward.
- 3.66 For example, in Cambridge, a double jobbing figure of 6.3% gives rise to a ratio of 0.937 (i.e. the number of jobs supported by the workforce will be around 6.3% higher than workforce growth).
- 3.67 It has been assumed in the analysis that the level of double jobbing will remain constant over time.

Unemployment

- 3.68 The last analysis when looking at the link between jobs and resident labour supply is a consideration of unemployment. Essentially, this is considering if there is any latent labour force that could move back into employment to take up new jobs. The figure below shows the number of people who are unemployed and how this has changed back to 2004. The analysis shows a clear increase in unemployment until about 2010/11 and that since then, the number of people unemployed has dropped notably – by 2019 the number of unemployed people was back close to (or below) the level observed in 2004. This would indicate that there may be limited scope for further improvements and for the purposes of analysis in this report it has been

assumed that there are no changes to the number of people who are unemployed moving forward from 2020 to 2041– although it should be recognised that there is likely to be a short-term impact due to COVID-19 and that the data below pre-dates this.

Figure 9: **Number of people unemployed (2004-2019)**



Source: Annual Population Survey (modelled unemployment data)

- 3.69 As per the ELR this information will be kept under review during the plan making process and any material changes, such as large increases in unemployment, should be factored into the calculations.

Jobs Supported by Growth in the Resident Labour Force

- 3.70 The table below shows how many additional jobs might be supported by population growth under the Standard Method demographic scenario. This suggests that 45,800 jobs could be supported in Greater Cambridge on the basis of the assumptions set out above.

Table 13: Jobs supported by demographic projections (2020-41)

	Total change in economically active	Allowance for net out-commuting	Allowance for double jobbing (= jobs supported)
Cambridge	12,424	19,669	20,994
South Cambridgeshire	24,997	23,517	24,771
Greater Cambridge	37,420	43,185	45,765

Source: GL Hearn Analysis of Demographic Projections

3.71 The table below summarises the position with regard to the number of homes derived from the Standard Method, the population growth this would be expected to lead to and then the number of jobs (employment) that could be supported. All the figures are on a per annum basis.

Table 14: Core Outputs, Jobs Supported from Standard Method in Greater Cambridge, 2020-41 – per annum

	Homes	Population	Jobs Supported
Cambridge City	658	1,401	1,000
South Cambridgeshire	1,085	2,120	1,180
Greater Cambridge	1,743	3,521	2,179

Source: GL Hearn Analysis of Demographic Projections

3.72 The table below shows the same information for the whole of the 2020-41 period – figures have been rounded to the nearest 100.

Table 15: Core Outputs, Jobs Supported from Standard Method in Greater Cambridge, 2020-41

	Homes	Population	Jobs Supported
Cambridge City	13,800	29,400	21,000
South Cambridgeshire	22,800	44,500	24,800
Greater Cambridge	36,600	73,900	45,800

Source: GL Hearn Analysis of Demographic Projections

Commuting Dynamics in 2020

3.73 The analysis above is based on a commuting ratio derived from the 2011 Census – this ratio has been used in the further analysis as it represents the most robust, published estimate of commuting dynamics in the study area.

3.74 However, there is merit in considering if rates are likely to have changed and the potential implication of this. The analysis below seeks to replicate the Census in estimating the number of people who work in each area and the number of residents who are in employment (regardless of where they work). The key data for this analysis is:

- Estimated jobs (taken from Central growth scenario);
- Estimates of double jobbing (which when applied to jobs gives an estimate of the number of people working in an area);

- Resident economically active population (derived from the application OBR participation rates to demographic population estimates); and
- Number of people unemployed (which when deducted from the economically active population will give the number of economically active people who are working).

3.75 The table below sets out this analysis and the resulting commuting ratio (which is also compared with that derived from the 2011 Census). This shows, on the basis of this evidence, that there may have been a small change in the commuting ratio particularly in South Cambridgeshire, with a higher level of net in commuting to the area for work.

Table 16: Estimated commuting patterns in Greater Cambridge in 2020

	Cambridge	South Cambridgeshire	Greater Cambridge
Number of jobs	119,304	99,238	-
Double jobbing	6.30%	5.10%	-
Total working in area	111,788	94,177	205,965
Economically active residents	72,057	90,122	-
Unemployment	1,700	1,600	-
Total living in area (and working)	70,357	88,522	158,879
Commuting ratio	0.629	0.940	0.771
Commuting ratio (Census)	0.632	1.063	0.822

Source: Derived from a range of sources

- 3.76 There are a number of implications for this analysis particularly with regards to South Cambridgeshire. Firstly, if the lower estimated ratio were used in the analysis then any projection would show a lower future resident labour supply growth requirement when set against economic forecasts and therefore a lower housing need. Consequently, maintaining the 2011 Census figures in the analysis will not suppress the housing growth estimates.
- 3.77 Alternatively, it could be argued that the change in the ratio points to fewer homes having been provided in the 2011-20 period than may have been required to meet the jobs growth observed. However, the extent to which there has been under-delivery will be dealt with by the Standard Method (which as paragraph 2 of the PPG sets out deals with any backlog).

3.78 To conclude, whilst the analysis points to a potential change in the commuting ratio in South Cambridgeshire, it is the case that by modelling future housing growth on the basis of the 2011 Census ratios the Council will not underestimate any analysis of housing growth.

4 ECONOMIC FORECASTS AND HOUSING GROWTH

- 4.1 Having estimated the number of jobs that might be supported using the Standard Method housing need figure, the next part of the report considers how many homes might be required to house the workforce that would fill the number of jobs suggested by economic forecasts (taken from the ELR).
- 4.2 The methodology for converting jobs change to housing is identical to that set out in the previous chapter but completed in reverse to get to a population growth. As per the previous chapter it examines the number of jobs created but in translating this into a labour supply and population growth takes into account:
- Unemployment;
 - Double Jobbing;
 - Commuting Patterns; and
 - Economic Activity
- 4.3 The population growth then leads to an estimate of household growth using household formation rates and subsequently housing growth by applying a vacancy rate.
- 4.4 The assumptions around vacancy rates, unemployment, double-jobbing and economic activity rates have not changed from the initial analysis, as set out in the previous section.

Commuting Assumptions

- 4.5 The initial assumption is that commuting patterns remain as they were in the 2011 Census (which as explained above remains the most robust dataset available until publication of Census 2021 data) i.e. new jobs will see some degree of continued net in-commuting to the study area.
- 4.6 By way of sensitivity analysis, a further model has been developed to assume there is a 1:1 relationship between jobs growth and the increase in economically active residents. This assumption is only applied to the additional jobs in excess of the 45,800 jobs that could be supported by the (minimum) Standard Method calculations.

This is essentially to make the assumption that there will be a balance between the number of additional homes and a changing number of jobs.

- 4.7 Applying this assumption would mean that Greater Cambridge would not be drawing on any additional labour supply from outside Greater Cambridge, above that already assumed to be generated by the Standard Method and existing patterns, as this scenario would see more homes delivered within Greater Cambridge. This could help reduce longer distance commuting and associated carbon emissions.
- 4.8 Together, these scenarios provide an understanding of the scale of housing growth under the Central and Higher employment forecasts that might need to be provided outside of Greater Cambridge if commuting patterns remain unchanged, or within Greater Cambridge if commuting patterns were to change.

Economic Forecasts

- 4.9 The starting point for this strand is the economic forecasts developed in the ELR. That work identifies two plausible forecasts for jobs growth in Greater Cambridge – the Central and Higher scenarios – these are the forecasts for which housing implications are assessed here. The two forecasts entail the following broad principles:
- The ‘higher’ growth scenario assumes the baseline forecast for most sectors but identifies higher growth sectors particular to Greater Cambridge, being Research & Development (R&D), Professional services, and Health & care (related to R&D). For these sectors, the forecast is increased to halfway between the baseline and the historic growth rate from 2001-17 to reflect their higher potential. It also considers multiplier effects of growth. Overall, this is a plausible but more aspirational growth outcome.
 - The ‘central’ scenario follows a similar pattern to the higher growth scenario but uses the lower quartile rather than mid-point between historic growth and future baseline rates. This provides alignment with past absolute annual growth rates and as a result reflects a ‘business as usual’ growth scenario.

- 4.10 As set out in the table below, both the economic forecasts (58,441 jobs or 78,742 jobs for 2020-41) result in significantly higher growth in employment than the Standard Method would support (45,765 jobs).

Table 17: Forecasts Total Employment (jobs) Growth by Scenario

	2020	2041	2020-2041
Cambridge City – Central	119,304	151,536	32,232
Cambridge City – Higher	119,776	156,968	37,192
South Cambridgeshire – Central	99,238	125,447	26,209
South Cambridgeshire – Higher	100,186	141,736	41,550
Greater Cambridge – Central	218,542	276,983	58,441
Greater Cambridge – Higher	219,962	298,704	78,742

Source: GLH, CE, SQW (N.B. 2020 start points differ per scenario as base date originated in 2017 and the modelling assumptions have different implications by 2020).

Economically Active Population, Commuting and Double Jobbing

- 4.11 To calculate the change in economically active residents we need to apply commuting and double jobbing assumptions to the forecast change in jobs. As set out previously we have maintained the same assumptions on double jobbing (6.3% in Cambridge and 5.1% in South Cambridgeshire) and have run two scenarios on commuting.
- 4.12 For commuting, the first scenario continues the assumption that additional jobs would result in population aligned with the Census 2011 commuting ratio. The second scenario applies a sensitivity test in which there is a 1:1 relationship between jobs growth (above that supported by the Standard Method) and the increase in economically active residents (as discussed above).

Table 18: Change in economically active residents needed to meet job forecasts (2020-41) – 2011 commuting

	Forecast job change in Greater Cambridge	Allowance for net commuting (2011 patterns)	Allowance for double jobbing (=change in economically active)
Cambridge City – Central	32,232	20,359	19,073
Cambridge City – Higher	37,192	23,492	22,009
South Cambridgeshire – Central	26,209	27,859	26,448
South Cambridgeshire – Higher	41,550	44,165	41,929
Greater Cambridge – Central	58,441	48,218	45,522
Greater Cambridge – Higher	78,742	67,657	63,938

Source: GL Hearn Analysis of a range of sources

Table 19: Change in economically active residents needed to meet job forecasts (2020-41) – 1:1 commuting on additional jobs (over and above the Standard Method) – sensitivity analysis

	Forecast job change in Greater Cambridge	Allowance for net commuting (1:1 basis)	Allowance for double jobbing (=change in economically active)
Cambridge City – Central	32,232	24,498	22,951
Cambridge City – Higher	37,192	29,459	27,598
South Cambridgeshire – Central	26,209	27,768	26,362
South Cambridgeshire – Higher	41,550	43,109	40,927
Greater Cambridge – Central	58,441	52,267	49,314
Greater Cambridge – Higher	78,742	72,568	68,525

Source: GL Hearn Analysis of a range of sources

Population Assumptions

- 4.13 Applying the same Economic Activity Rates as set out in the previous chapter to the increase in economically active population (from tables 17 and 18) allows us to calculate the total population growth.
- 4.14 As shown in the table below, for the period 2020-2041 the resident population increases by 118,488 in Greater Cambridge for the Higher scenario (39.3%) and 87,982 for the Central scenario (29.2%) under the 2011 commuting assumptions.

This scenario assumes a greater reliance on surrounding local authorities for population than the 1:1 scenario.

Table 20: Population Outputs by Scenario and Location – 2011 Commuting

Cambridge	2020	2041	2020-2041	% Change
Central	138,896	179,981	41,085	29.6%
Higher	138,896	185,131	46,235	33.3%
South Cambridgeshire	2020	2041	2020-2041	% Change
Central	162,357	209,253	46,896	28.9%
Higher	162,357	234,609	72,252	44.5%
Greater Cambridge	2020	2041	2020-2041	% Change
Central	301,253	389,234	87,982	29.2%
Higher	301,253	419,740	118,488	39.3%

Source: Modelled Outputs

- 4.15 Greater Cambridge would take more of the associated housing growth for the 1:1 commuting scenario, and as a result the population growth is greater than the equivalent figures using the 2011 commuting ratio. Specifically, the Higher scenario would see a population growth of 126,361 (41.9%) compared to 94,356 for the Central scenario (31.3%).

Table 21: Population Outputs by Scenario and Location – 1:1 Commuting for jobs above the Standard Method – sensitivity analysis

Cambridge	2020	2041	2020-2041	% Change
Central	138,896	186,783	47,887	34.5%
Higher	138,896	194,933	56,037	40.3%
South Cambridgeshire	2020	2041	2020-2041	% Change
Central	162,357	208,826	46,469	28.6%
Higher	162,357	232,680	70,324	43.3%
Greater Cambridge	2020	2041	2020-2041	% Change
Central	301,253	395,609	94,356	31.3%
Higher	301,253	427,613	126,361	41.9%

Source: Modelled Outputs

Housing Growth

- 4.16 The penultimate step translates the population growth into household growth using household formation rates. As per the previous chapter the rates used have been adjusted to ensure that formation in younger age groups is improved.
- 4.17 This step is in response to worsening affordability (and subsequently deteriorating formation rates) and is in line with that suggested at Paragraph 6 of the PPG which seeks such an improvement for the affordability uplift.

4.18 A final adjustment is made when translating the household growth to dwellings to ensure there is a level of vacancy with the stock. As per the previous chapter this is set at 3%.

4.19 As shown in the table below the housing growth for Greater Cambridge under 2011 commuting assumptions is 2,549 for the Higher scenario and 1,996 for the Central scenario.

**Table 22: Projected housing growth– range of job growth forecast – 2011
Commuting**

Cambridge City	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	52,515	70,209	17,694	843	868
Higher	52,515	72,098	19,583	933	960
South Cambridgeshire	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	66,514	89,514	23,000	1,095	1,128
Higher	66,514	98,892	32,378	1,542	1,588
Greater Cambridge	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	119,029	159,723	40,694	1,938	1,996
Higher	119,029	170,990	51,960	2,474	2,549

Source: Modelled Outputs

4.20 Using the 1:1 commuting assumptions increases this growth to 2,690 for the Higher economic growth scenario and 2,111 for the Central scenario. This is a difference of 141 dwellings per annum for the Higher scenario and 115 for the Central scenario.

**Table 23: Projected housing growth– range of job growth forecast – 1:1
Commuting Ratio**

Cambridge City	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	52,515	72,704	20,189	961	990
Higher	52,515	75,694	23,179	1,104	1,137
South Cambridgeshire	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	66,514	89,356	22,842	1,088	1,120
Higher	66,514	98,178	31,664	1,508	1,553
Greater Cambridge	Households 2020	Households 2041	Change in households	Per annum	Dwellings (per annum)
Central	119,029	162,060	43,031	2,049	2,111
Higher	119,029	173,872	54,843	2,612	2,690

Source: Modelled Outputs

- 4.21 In comparison to the Standard Method (1,743 dpa), the housing associated with economic growth in Greater Cambridge for the Higher scenario is around 46% higher under 2011 commuting assumptions and 54% if looking at the 1:1 commuting scenario.
- 4.22 The Central scenario is around 14% higher under 2011 commuting assumptions and 21% than if looking at the 1:1 commuting scenario.
- 4.23 Finally, it should also be noted that paragraph 11 of the PPG (Ref 2a-011) states that “Where an alternative approach to the standard method is used, past under delivery should be taken into account.”
- 4.24 It would therefore be logical to assume this only applies to situations where the alternative approach is below the standard method. Specifically, if the standard method addresses historic under-supply so too would a number greater than it.
- 4.25 In addition, the household formation rates uplift referenced at paragraph 4.17 further addresses past under-delivery when translating the Central and Higher employment forecasts to homes. The uplift approach taken is the same as that set out in chapter 3, which itself was applied to account for the affordability factor set out at Step 2 of the standard method (see paragraph 3.11).

Impact on Neighbouring Local Authorities

- 4.26 Housing provided above the Standard Method whilst maintaining a Census commuting ratio could have an impact in terms of the need for homes outside of Greater Cambridge.
- 4.27 For clarity, the Standard Method shows a need for 1,743 dwellings per annum and the Higher economic forecast shows a need for 2,549 dpa – this latter figure would increase to 2,690 if it were assumed that additional jobs (over and above those supported by the Standard Method) are filled on the basis of a 1:1 commuting dynamic.
- 4.28 Therefore, moving from the Standard Method to the housing growth associated with the Higher economic growth forecast sees an uplift of 806 dwellings per annum

(2,549-1,743) within Greater Cambridge under 2011 commuting assumptions, but sees a further 141 dwellings under a 1:1 commuting pattern.

- 4.29 As such, under the 2011 commuting assumption, there would be a further 141 dwellings per annum (2,690-2,549) which would potentially be needed in other locations (outside of Greater Cambridge) in order to house people who would commute to jobs in Greater Cambridge. The equivalent figure for the Central growth scenario would be 115 dwellings per annum.
- 4.30 In both cases this would be in addition to neighbouring authorities' provision of housing under the Standard Method, which is assumed to continue to send workers to Greater Cambridge based on 2011 commuting patterns.

Locational Impact

- 4.31 Using 2011 Census commuting data to understand where this labour-supply might come from, it is possible to estimate where these new dwellings might need to be built.
- 4.32 The percentage breakdown of additional commuters, above those assumed under the Standard Method, is presented in the table below along with the estimated household growth impact.
- 4.33 Data is provided for both the Higher scenario (i.e. the 141 dwellings per annum) and also the Central scenario (where the figure is 114 dpa). The analysis shows that the main areas affected are East Cambridgeshire (22%), Huntingdonshire (19%) and West Suffolk (15%) – other than for these local authority areas the commuting impact is relatively minor i.e. less than 10 units per annum even for the higher growth scenario.

Table 24: Estimated additional housing growth impact of Central and Higher employment forecasts on surrounding local authorities outside of Greater Cambridge, 2020-41, dpa

Region	% of Commuters from Outside Greater Cambridge	Estimated Housing Growth Impact (Central scenario)	Estimated Housing Growth impact (Higher scenario)
East Cambridgeshire	22%	25	30
Huntingdonshire	19%	22	27
Fenland	4%	4	5
West Suffolk	15%	18	22
Central Bedfordshire	3%	3	4
North Hertfordshire	6%	7	9
Uttlesford	5%	6	7
Rest of East	15%	17	21
London	3%	4	4
Rest (excluding abroad)	8%	9	11
Total	100%	114	141

Source: WU01UK - Location of usual residence and place of work by sex, Nomis, GL Hearn Analysis (N.B. numbers may not sum due to rounding)