Town and Country Planning Act 1990
Section 78
Appeal by Persimmon Homes Ltd
Land to the East of Bell Lane, Kesgrave
PINS ref APP/J3530/W/16/3160194
LPA ref 15/4672/OUT

Proof of evidence of Cristina Howick
On behalf of the local planning authority

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July 2017

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APPENDICES

1 INTRODUCTION

Credentials

1.1 My name is Cristina Howick. I am a Partner of Peter Brett Associates LLP (PBA) and was previously the Joint Managing Partner of Roger Tym & Partners, which merged with PBA in 2011. My qualifications are an MA in Philosophy, Politics and Economics (PPE) from the University of Oxford and an MSc (Econ) in Urban and Regional Planning from the London School of Economics (LSE).

1.2 I am an economist by training and have been working as a planning consultant for over 20 years. I have worked extensively on housing need and housing targets, providing evidence and advice both to local planning authorities and developers / promoters. I am the main author of the technical advice note on Housing Needs and Housing Targets issued by the Planning Advisory Service (PAS), of which the second edition was published in July 2015, and the subsequent PAS note on economic development needs assessment.

1.3 In Suffolk, I directed the Ipswich and Waveney Housing Market Areas Strategic Housing Market Assessment (SHMA, Part 1) commissioned by Suffolk Coastal Council and four other local planning authorities. That study, published in May 2017, underpins the Council's view of objectively assessed housing need. My evidence is based on its findings.

1.4 I confirm that the evidence provided in this proof is true to the best of my knowledge, and the opinions expressed are my true professional opinions.

Scope of evidence

1.5 My evidence relates to the objectively assessed housing need for housing (OAN) for Suffolk Coastal District over the period 2014-36. The SHMA part 1, produced by my team, set that need at 10,111 net new homes over the period, equal to 460 dwellings per annum (dpa). I will show why that finding is valid and defend it against alternative views of the OAN, which comprise:

- 11,000 homes for the earlier period 2010-27 (647 dpa), put forward by the Council at the Core Strategy examination and supported by the Core Strategy Inspector in 2013
- A range of figures from 725 upwards put forward by the present appellant in March 2017.

1.6 My evidence below is in two chapters. Chapter 2 briefly summarises the SHMA, to show how we arrived at the OAN of the figure of 460 dpa and why it differs from the Council's previous view. Chapter 3 responds to the alternative figures put forward by the appellant in March 2017 My conclusions are summarised in Chapter 4.

2 THE SHMA

Summary

2.1 The SHMA Vol 1 provides objective assessments of housing need for the Ipswich and Waveney housing market areas, comprising the districts of Ipswich, Babergh, Mid Suffolk, Suffolk Coastal and Waveney. In line with the National Planning Practice Guidance (PPG), the assessment proceeded in three steps as set out below

i *Demographic projections*

The assessment started from the 2014-based CLG household projections CLG 2014), which are underpinned by the 2014-based sub-national population projections (SNPP 2014). These are the latest official demographic projections, both published in 2016. As their name indicates, they provide a trend-driven view of the future, showing what would happen if past demographic trends continued into the future. For Suffolk Coastal, CLG predicted a housing need of 403 dpa.

An important feature of the official projections is that their future migration (domestic and international) is rolled forward (projected) from the previous five years. In line with the PPG and recognised good practice we sensitivity-tested alternative scenarios based on a longer period of 14 years. In general we would expect projections with a longer base period to be more robust, more stable and more representative of long-term underlying trends. But for Suffolk Coastal (and its neighbours) we found that the 14-year-based projection was too high, because it rolled forward a period of exceptionally high in-migration from Eastern and Central Europe, resulting from the enlargement of the EU in 2008. Therefore we retained the five-year base period as the 'demographic starting point' for the assessment.

However we did adjust the official projections for another factor, Unattributable Population Change (UPC). But for Suffolk Coastal this did not make a significant difference, as it reduced the demographic starting point from 403 to 400 dpa.

ii *Past provision and market signals*

In line with the PPG, housing needs assessments should consider whether housing land has been undersupplied against demand and need in the period that the demographic projections roll forward. For evidence of this, they should look at market signals such as house prices and affordability (the ratio of house prices to earnings).

If the evidence suggests that there has been undersupply in the past, then the demographic projections will carry forward that undersupply, and they should be adjusted upwards.

For Suffolk Coastal, the analysis found that housing completions in recent years slowed down, possibly due to the lack of a five-year land supply, house prices were relatively high and affordability was poor. This suggested that housing land in the past had been relatively undersupplied. Based on the precedent of other

areas, the SHMA advised that this justified an uplift of 15%, bringing the OAN to 460 dpa.

iii *Labour market alignment*

The PPG, as interpreted by planning inspectors, suggests that the emerging OAN should be tested against expected labour demand – the numbers of jobs that employers will want to fill. If the projected population will not provide enough workers to meet that demand, then the housing number should be uplifted until it does provide a sufficient labour supply.

To answer this question, the SHMA considered alternative economic forecasts, from the East of England Forecasting Model (EEFM) and Experian. The two forecasts predicted very similar job growth, but disagreed about the demographic implications of that growth:

- Experian predicted that housing growth of 403 dpa, in line with the CLG 2014 projection, would support enough or more than enough workers to fill the forecast jobs.
- By contrast, EEFM predicted that to meet labour demand would require more housing growth, at 676 dpa.

Thus, the Experian forecast implied that there was no need for a 'future jobs' uplift; while EEFM suggested that there should be a substantial uplift, to 676 dpa.

The SHMA opted for Experian's view, that the officially projected population would meet labour demand and there was no need for an uplift. This was because EEFM's approach to local demography is relatively broad-brush, with no detailed modelling of the age profile of the population by local authority. We considered that this distorted results for local authority areas with untypical population profiles. Suffolk Coastal is one such authority, because its population is exceptionally old. By contrast, Experian's local forecasting includes age-specific demography based on the SNPP.

2.2 Based on the above analysis, the SHMA concluded that the OAN for Suffolk Coastal in 2014-36 was 460 dpa, or 10,111 dwellings in total.

2.3 For the avoidance of doubt, and in response to a point made by the Inspector in the recent Bredfield appeal decision[1], it may be useful to clarify that this number related to Suffolk Coastal district alone. It does not include any cross-boundary unmet need, whether from Ipswich or anywhere else. In line with the PPG, such 'imported' need does not belong in the OAN calculation. My understanding is that an adjustment to accommodate some cross-boundary unmet need arising in Ipswich may be proposed, as a matter of policy, but for the purpose of the 5YHLS calculation it has no status.

The Council's previous assessment

2.4 In annual terms, this figure is considerably below the 647 dpa (a total of 11,000 in 2010-27) supported by the Core Strategy Inspector in 2013. That figure was taken

[1] Para. 10 CD11.3

from the 2010 release of EEFM, which was the latest available at the time of the Core Strategy examination. The Council at that time considered that the figure 'remained about right', but undertook to reconsider it as part of a new SHMA, to be commissioned jointly with neighbouring authorities. This figure does not provide a valid up-to-date measure of housing need, for two main reasons:

- The figure is very much out of date. It relates to a period of which almost half is now in the past, the EEFM forecast on which it is based is now seven years old, and the demographic data and projections that underpinned that forecast are even older. Since 2010 there have been two new rounds of official demographic projections, both informed by the results of the Census – which were not available in 2010 and radically changed our understanding of demographic trends.
- Regardless of this, the EEFM's demographic predictions for Suffolk Coastal are flawed, because they do not take account of the district's unusual population profile. I demonstrate this in Chapter 3 below, in relation to EEFM 2016. I believe that the same applied to EEFM 2010, because the structure of the model did not change between 2010 and 2016.

2.5 In my opinion, if the adopted target of 7,900 is not used on the basis it is deemed out of date, the most up-to-date assessment of housing need should be used. This aligns with the PPG's advice. In this case, this is SHMA's 10,111 dwellings over the period 2014-36.

3 ALTERNATIVE VIEWS OF HOUSING NEED

Overview

3.1 As mentioned in the Introduction above, the appellant in this case has already put forward his own view of objectively assessed housing need. This was provided in Mark Hewett's proof of evidence, dated March 2017. This evidence pre-dated the SHMA and it may no longer represent the appellant's latest view. Nevertheless, in this section I respond briefly to it.

3.2 Mr Hewett's discussion of the OAN is at paragraphs 4.20 onwards of his proof of evidence. It considers four alternative figures:

i The 11,000 net new homes for the plan period 2010-27 equal to **647 dwellings per annum**, supported by the Core Strategy Inspector in 2013;

ii **759 dpa** for the slightly different period 2011-31, based on the needs assessment method proposed by the Local Plan Experts Group (LPEG);

iii The latest forecast from the EEFM (August 2016), which for the same period shows job-led housing demand for 14,500 dwellings (**725 dpa**);

iv A specially commissioned assessment by Pegasus Planning, which for the new plan period 2014-36 produces a need of 19,618 dwellings, or **892 dpa**.

3.3 The first of these figures, 11,000 dwellings or 647 dpa, has already been discussed in Chapter 2 above. For the reasons stated there, I agree with Mr Hewett that it is not a valid up-to-date assessment of housing need – though in my view it is too high, while Mr Hewett says it is too low.

3.4 While I recognise that the Bredfield Inspector reverted to the 11,000 dwellings figure, as I have explained above, in my opinion this approach was not correct because it is not based on the most up-to-date assessment of housing need and instead relies on data that is now some seven years old. Since this data was released, there have been a series of meaningful changes, not least the results of the Census.

3.5 The LPEG figure of 759 dpa is also irrelevant, because it does not comply with Government guidance on how housing need to be assessed. LPEG were asked by ministers in September 2015 'to examine what measures or reforms might be helpful in ensuring the efficient and effective production of Local Plans'[2]. They published a report in March 2016 which set out 47 recommendations, supported by series of appendices including a proposed standardised method for calculating housing need. The 759 figure is an estimate (by my own team [CD11.33]) of what housing need would be under the new assessment method proposed by LPEG.

3.6 That proposal, which would amend the PPG, has proved controversial, and the Government has neither accepted nor rejected it. It has announced that it would start consultation on a new assessment method later this month, but said nothing about

[2] https://www.gov.uk/government/publications/local-plans-expert-group-report-to-the-secretary-of-state

the method itself. Pending that consultation, and any resulting changes to national policy and guidance, the LPEG method has no status. Any housing needs assessments should comply with the current PPG.

3.7 In summary, of the four alternative figures discussed in Mr Hewett's proof the first two have no merit as up-to-date assessments of housing need. This leaves the two higher figures on his list: 725 dpa from EEFM 2016 and 892 dpa from the Pegasus assessment. Mr Hewett (para 4.27) says that both these figures 'represent a robust and credible basis for deriving an OAN'. He concludes that the OAN for the purposes of this appeal is at least 725 dpa, and goes on to use that figure in his calculation of five-year housing land supply.

3.8 A simple problem with this conclusion is that his 725 dpa relates to 2011-31, rather than the plan period 2014-36. The EEFM housing demand for the plan period is 676 dpa[3]. It would seem logical for Mr Hewett to promote this slightly lower figure, for the sake of consistency with the Pegasus assessment and the emerging Local Plan Review. I do not understand why he does not.

3.9 Even leaving aside this minor inconsistency, in my view the figures favoured by Mr Hewett have no merit, because they are based on faulty evidence. I demonstrate this in the next two sections.

EEFM 2016

Introduction

3.10 As discussed in Chapter 2 above, the EEFM integrates economic with demographic forecasting. It forecasts both labour demand – the number of jobs that employers will want to fill – and housing demand – the number of homes that will be required by the future population, including the workers who fill those jobs and their dependants.

3.11 The SHMA compared the forecast from EEFM with that from Experian, which also integrates economic and demographic forecasting, though using different methods. it found that the two forecasters predicted similar numbers of future jobs for the plan period 2014-36. But, contrary to most other places, they took very different views of the population that would be required to fill those jobs:

- Experian predicted that the 2014-based ONS sub-national projection (SNPP 2014) would produce enough or more than enough workers to match the expected job growth; that projection shows population growth of 8,259 persons over the plan period, which based on the CLG household projections translates into housing need of 8,862 dwellings (403 dpa).
- By contrast, EEFM forecast population growth of 23,843, translating as noted earlier into 14,878 dwellings (676 dpa)[4].

[3] See full EEFM forecast on http://cambridgeshireinsight.org.uk/EEFM .

[4] Housing numbers are positively related to population, so greater population growth means greater housing need. But the relationship is not straightforward, because much new housing is taken up by the existing population.

3.12 From these calculations, the SHMA inferred that there was no justification for a 'future jobs' adjustment to the demographic projections. EEFM takes the contrary view, implying that the demographically projected need of 403 dpa should be uplifted to 676 dpa.

3.13 In the SHMA we concluded that the EEFM for Suffolk Coastal and its neighbours overstated the future population needed to fill given numbers of jobs. We explained that EEFM's modelling of age profiles was broad-brush, and therefore it did not take into account the untypical profile of the area – where the population is exceptionally old. We advised that the Experian view of labour market balance was more credible, because it incorporated detailed modelling of individual age groups, taken from the SNPP[5].

3.14 In response to Mr Hewett's evidence we have reconsidered this conclusion, focusing on Suffolk Coastal district as opposed to the wider housing market area. To understand the model's structure and its limitations, I have referred to the technical manual that is published alongside the forecast and consulted Cambridge Econometrics (CE), who operate the EEFM[6]. I start this analysis below by comparing East Suffolk with the rest of the East of England. I will then focus in on the district itself.

Suffolk Coastal in context

3.15 Table 3.1 below compares EEFM with SNPP in regard to population change across the East of England in 2014-36. Numbers are rounded to the nearest thousand. Local authority areas are ranked according to the excess of EEFM over SNPP, starting with the greatest number:

- At the top of the ranking is Ipswich, where population growth in EEFM exceeds SNPP by 21,000. Suffolk Coastal is in second place, with 16,000 more people in EEFM than SNPP, closely followed by St Edmundsbury and Cambridge.
- At the bottom of the list, EEFM shows 28,000 fewer people than SNPP in Central Bedfordshire and 21,000 fewer in Dacorum.
- These outliers are highly untypical of the region as a whole. For 36 of the region's 47 district/unitary areas the absolute difference between EEFM and SNPP is 10 thousand people or less, and for 25 authorities it is five thousand or less.

[5] CD11.6 para. 7.28

[6] CD11.36

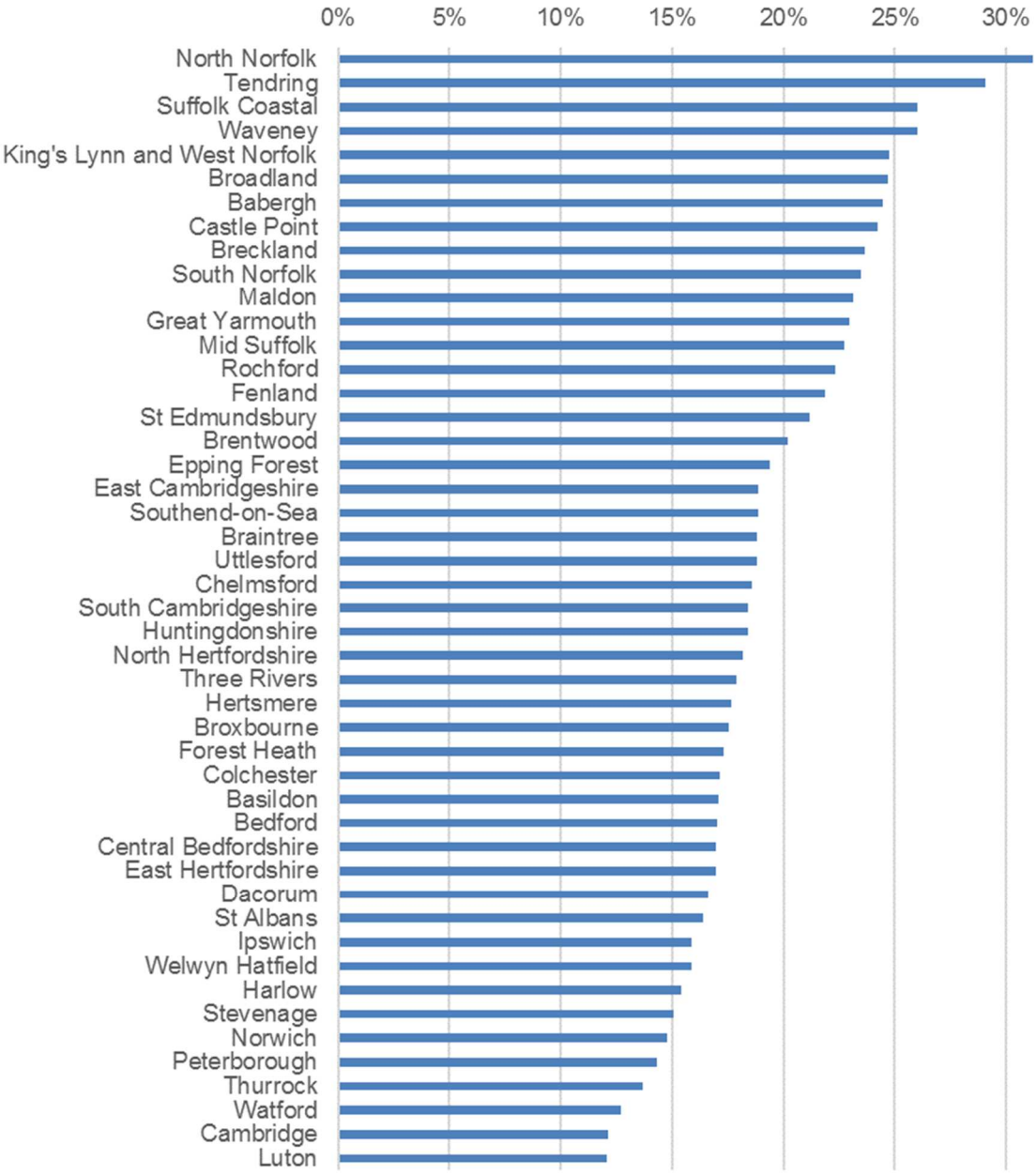
Table 3.1 Population change (000s), EEFM vs SNPP, East of England, 2014-36

Local authority	SNPP 2014	EEFM 2016	EEFM less SNPP
Ipswich	13	34	21
Suffolk Coastal	8	24	16
St Edmundsbury	10	25	16
Cambridge	17	32	14
Great Yarmouth	9	20	11
King's Lynn and West Norfo	17	26	9
South Cambridgeshire	33	42	9
Peterborough	36	45	9
Mid Suffolk	13	22	9
Braintree	23	29	5
Waveney	8	13	4
Rochford	10	14	4
East Cambridgeshire	18	21	4
Norwich	21	25	3
Babergh	8	10	2
Basildon	33	35	2
Chelmsford	26	28	2
East Hertfordshire	31	33	2
South Norfolk	30	32	2
Hertsmere	21	23	2
Colchester	38	40	2
Broxbourne	17	18	1
Stevenage	15	16	0
Welwyn Hatfield	29	29	0
Breckland	20	20	0
North Norfolk	13	13	-0
Maldon	7	7	-0
Tendring	22	22	-1
Fenland	15	14	-1
Thurrock	39	38	-1
St Albans	30	26	-4
Huntingdonshire	30	26	-5
North Hertfordshire	29	24	-5
Broadland	14	9	-5
Harlow	16	11	-6
Forest Heath	15	9	-6
Castle Point	9	3	-6
Southend-on-Sea	32	26	-6
Three Rivers	18	12	-7
Watford	26	20	-7
Brentwood	15	9	-7
Bedford	41	30	-11
Luton	51	39	-12
Uttlesford	25	12	-13
Dacorum	32	17	-15
Epping Forest	30	9	-21
Central Bedfordshire	77	49	-28

Source: EEFM/CE, SNPP, PBA

3.16 In short, Suffolk Coastal is one of a handful of local authority areas for which EEFM shows very different population growth to the official projection. Looking at Table 3.1, these outliers do not have any obvious features in common. This suggests that large differences between the EEFM and SNPP may be explained by different factors in these different authorities. Cambridge, for example, is unusual in that the SNPP is heavily distorted by UPC, a major inconsistency in the demographic statistics. Suffolk Coastal is unusual in a different way: its population is exceptionally old, as shown in Figure 3.1. The chart shows the position at 2014 because this is the base date of the OAN calculation. It ranks local districts in descending order by the proportion of people aged 65+.

Figure 3.1 People aged 65+ as a proportion of the population, East of England, 2014

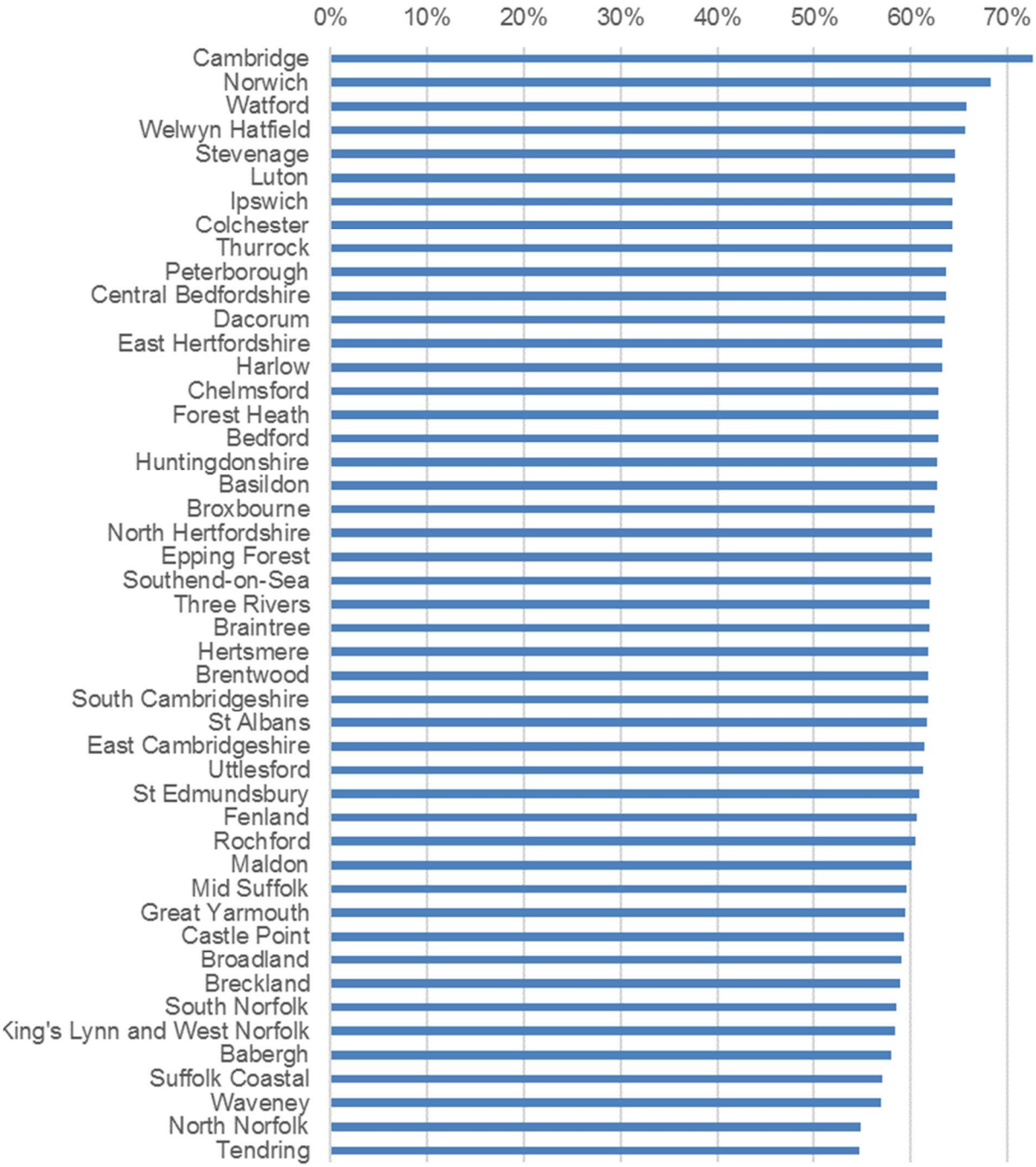


Source: ONS Mid-Year Population Estimates

3.17 Suffolk Coastal comes third in the ranking, with 26% of its population aged 65+, against a regional average of 19%.

3.18 Conversely, as Figure 3.2 shows, the district has an exceptionally low proportion of people aged 16-64 – a group that EEFM calls the working age population (WAP), although many people older than 64 also work, as I discuss later.

Figure 3.2 Working-age people (16-64) as a proportion of the total population, East of England, 2014



Source: ONS Mid-Year Population Estimates

3.19 This time Suffolk Coastal is fourth from the bottom of the list, with 57% of its population aged 16-64, against a regional average of 63%.

3.20 To understand how Suffolk Coastal's age profile impacts on the EEFM forecast, I will now look at the mechanics of that forecast.

Components of population change

3.21 The table below compares the detailed components of population change between EEFM and SNPP. These components comprise natural change (births minus deaths), migration and an adjustment for errors and omissions. The table shows that the additional population growth in EEFM against SNPP is more than accounted for by economic migration of over 20,000.

Table 3.2 Components of population change, Suffolk Coastal district, 2014-36

Change 2014-36 (thousands)	EEFM	SNPP	EEFM less SNPP
Natural change	-6.9	-13.2	6.3
Non-economic migration	16.5	21.6	-5.1
Economic migration	20.5	0.0	20.5
Residual adjustment	-6.3	0.0	-6.3
Total population change	23.8	8.3	15.5

Source: EEFM, Cambridge Econometrics, ONS[7]

3.22 To understand why EEFM shows so much more population growth than the SNPP therefore, we need to understand what economic migration is and how it is forecast. This is the subject of the next section.

Economic migration

3.23 The EEFM splits migration into two components, which it models separately:

- Non-economic migration, which rolls forward (projects) past trends, as the SNPP does (though not using the same method)
- Economic migration, which resolves any discrepancies that might arise between trend-based demographic change and the demand for labour.

3.24 Economic migration does not exist in the SNPP, because that projection, as its name indicates, aims only to project past demographic trends – unlike the EEFM, which seeks also to predict the impact of economic factors.

3.25 In the EEFM, economic migration is driven by unemployment. Economic migrants, in search of job opportunities, move out of districts where unemployment is high to those where unemployment is low. For each year of the forecast, economic migration and its impact on total population are modelled in three main steps:

[7] Table does not sum due to rounding

i *Unemployment*

To calculate the change in unemployment, the model compares the change in jobs (labour demand) with the change in resident working-age population (labour supply). That working-age population is defined as people aged 16-64; this definition is important, for reasons which I will explain shortly.

ii *Economic migration*

For each district, each year's unemployment impacts on economic migration in the following year. Districts with unemployment rates above the regional average have negative economic migration, as they export people to district where unemployment is below the average. Those people move to districts with below-average unemployment, which therefore have positive economic migration. The lower is a district's unemployment rate, the greater will be the inflow of economic migrants in the following year.

iii *Total population*

The district's population change is the sum of natural change, economic migration and non-economic migration, as shown at Table 3.2 above. In the EEFM these components of change are total numbers of people, with no specified age profiles. Once it has calculated each year's total population, the model splits into three age groups: working age (16-64), young (0-15) and elderly (65+). To determine working-age numbers, the model applies a uniform regional trend, taken from the SNPP. The trend is a negative one: over the plan period, in all districts, the working-age population as a proportion of the total population falls by 8.8%.

3.26 There is a simplification in the first stage of this method, which particularly affects Suffolk Coastal. The calculation of unemployment, and hence economic migration, assumes that no one aged 65+ is part of the labour force. However, in reality significant minorities of older people do work, and across the UK over the plan period they will account for a rising proportion of the labour force, for two reasons: first, the share of older people in the population will continue to grow as the 'baby-boomer' generation ages; and second, the proportion of those people who work will continue to increase, in response to rising pension ages and life expectancies. But EEFM ignores the contribution of older people to the workforce. For Suffolk Coastal, which has exceptionally high number of such people, this must lead to the model under-estimating unemployment relative to other parts of the region. Hence it will over-estimating economic in-migration, because in the model economic in-migrants are attracted to an area by low unemployment relative to the region.

3.27 A more fundamental problem arises at the second and third stages of the calculation. The problem is that EEFM has a simplified, broad-brush approach to the age profile of the population – i.e. the mix of age groups. It is quite unlike demographic models, such as the SNPP, PopGroup and Chelmer – where births, deaths and migration in each district are modelled by age and sex, based on either single years of age or five-year groups (e.g. 0-4, 5-9 etc.). Demographic projection models do this because different age and sex groups behave very differently from each other – so in any given year young women are the most likely to give birth, young-to-early-middle-aged adults are the most likely to work, and the same adults are most likely to migrate –

especially to where the migration is economic. Indeed, the main point of demographic models is to predict the impacts of these differences between age groups.

3.28 The EEFM does not model this local demographic detail, but replaces it with regional averages taken from the SNPP. The reason for this broad-brush approach is to avoid excessive complication - bearing in mind that unlike the demographic models EEFM also incorporates economic forecasting, and that it is designed for easy operation, so users can create their own scenarios. The result is that the model's demography should work well on average – that is, for those districts (the majority) whose profile is reasonably close to the region's. But for demographic outliers, using regional averages may distort the results.

3.29 Specifically, the problem is that economic migration in the model does not change the profile of the population in favour of workers. In projection models that focus on local demography, migration – and certainly economic migration – is weighted towards younger age groups, which are most likely to work. Over time this closes gaps in the labour market, so workers move to places where there are more jobs. But in EEFM, as we have seen, this is not the case, because all local authority areas lose population at the same proportional rate:

- The model says that Suffolk Coastal over the plan period will have growing demand for labour, which its relatively elderly population cannot fill.
- Consequently the district attracts large numbers of economic migrants, to fill the surplus jobs.
- But this economic migration does not solve the problem, because it makes no difference to the age profile of the population. All districts lose 'working-age' people at the same rate, regardless of the state of their labour market. Hence at the end of the plan period Suffolk Coastal has the fourth lowest share of 'working-age people' as did at the beginning, as shown in the table below.

Table 3.3 Working-age people (16-64) as a proportion of the total population, East of England, 2014 and 2036

Rank	Area	2014	2036	% change
1	Cambridge	73%	66%	-8.80%
2	Norwich	68%	62%	-8.80%
3	Watford	66%	60%	-8.80%
4	Welwyn Hatfield	66%	60%	-8.80%
5	Stevenage	65%	59%	-8.80%
6	Luton	65%	59%	-8.80%
7	Ipswich	64%	59%	-8.80%
8	Colchester	64%	59%	-8.80%
9	Thurrock	64%	59%	-8.80%
10	Peterborough	64%	58%	-8.80%
11	Central Bedfordshire	64%	58%	-8.80%
12	Dacorum	64%	58%	-8.80%
13	East Hertfordshire	63%	58%	-8.80%
14	Harlow	63%	58%	-8.80%
15	Chelmsford	63%	57%	-8.80%
16	Forest Heath	63%	57%	-8.80%
17	Bedford	63%	57%	-8.80%
18	Huntingdonshire	63%	57%	-8.80%
19	Basildon	63%	57%	-8.80%
20	Broxbourne	62%	57%	-8.80%
21	North Hertfordshire	62%	57%	-8.80%
22	Epping Forest	62%	57%	-8.80%
23	Southend-on-Sea	62%	57%	-8.80%
24	Three Rivers	62%	57%	-8.80%
25	Braintree	62%	56%	-8.80%
26	Hertsmere	62%	56%	-8.80%
27	Brentwood	62%	56%	-8.80%
28	South Cambridgeshire	62%	56%	-8.80%
29	St Albans	62%	56%	-8.80%
30	East Cambridgeshire	61%	56%	-8.80%
31	Uttlesford	61%	56%	-8.80%
32	St Edmundsbury	61%	55%	-8.80%
33	Fenland	61%	55%	-8.80%
34	Rochford	60%	55%	-8.80%
35	Maldon	60%	55%	-8.80%
36	Mid Suffolk	60%	54%	-8.80%
37	Great Yarmouth	59%	54%	-8.80%
38	Castle Point	59%	54%	-8.80%
39	Broadland	59%	54%	-8.80%
40	Breckland	59%	54%	-8.80%
41	South Norfolk	59%	53%	-8.80%
42	King's Lynn & West Norfolk	58%	53%	-8.80%
43	Babergh	58%	53%	-8.80%
44	Suffolk Coastal	57%	52%	-8.80%
45	Waveney	57%	52%	-8.80%
46	North Norfolk	55%	50%	-8.80%
47	Tendring	55%	50%	-8.80%

Source: EEFM 2016, PBA

Summary

3.30 My analysis above confirms the conclusion of the SHMA, that EEFM 2016 greatly overstates the population and housing that will be needed to meet labour demand in Suffolk Coastal.

3.31 Over the plan period this EEFM estimate of housing need is 676 dpa, rather than the 725 dpa mentioned by Mr Hewett (725 dpa relates to a different period). More importantly, EEFM 2016 is not robust as regards population growth and hence housing need in Suffolk Coastal. The reason is that the district has an exceptionally elderly population profile, which EEFM's broad-brush approach to local demography does not capture. The result is that the EEFM's job-led housing need of 676 dpa is not a credible view of future housing need. This is why the SHMA did not rely on the EEFM's view of labour market balance, but preferred the alternative approach used by Experian – which incorporates much more detail of local demography, based on the SNPP.

The Pegasus calculation

3.32 As I mentioned earlier, the highest of the alternative OAN figures provided by Mr Hewett is 892 dpa, based on an assessment by Pegasus using the Chelmer demographic model (Appendix 1 to Mr Hewett's proof of evidence, March 2017). Below, I provide a brief critique of this Pegasus assessment, showing that it is neither robust in itself or compliant with national planning guidance. I will keep the discussion brief, partly because the Pegasus study pre-dates the SHMA and it may no longer be part of the appellant's case.

Demographic projections

3.33 Like the SHMA, and following the PPG, the Pegasus calculation starts from the CLG 2014 household projection, which over the plan period implies housing need of 402 dpa. Pegasus calls this Scenario 1.

3.34 Pegasus goes on to change features of the official projections that it considers unreliable. In the first of these changes, they alter the base period, or reference period, whose migration trends the projection rolls forward. While the official projections are based on the five years 2009-14, Pegasus substitutes a 10-year period, 2005-15. The result is their Scenario 2, which shows housing need of 429 dpa.

3.35 This first departure from the official projections makes relatively little difference in practice. But it is wrong in principle, because in the case of Suffolk Coastal (and its neighbours) the local 10-year migration history includes a highly untypical period – the exceptional inflows associated with the EU accession of Eastern European countries.

3.36 I agree with Mr Hewett that housing needs assessment should generally be based on a migration history of 10 years (or even longer if data allow). Other things being equal the resulting predictions should be more robust than the official five-year-based versions, due to being more representative of long-term underlying trends, more

stable and less distorted by economic cycles. But for Suffolk Coastal district other things are not equal, because as mentioned earlier the 10-year base period includes several years of exceptionally high in-migration around the middle of the last decade, due to the EU accession of eight Eastern and Central European countries in 2004. This migration is pictured at Figure 4.2 of the SHMA. The commentary below, produced by the BBC at the time, illustrates the scale of its impact nationally and in East Anglia:

Last Updated: Tuesday, 22 August 2006, 23:47 GMT 00:47 UK

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'Nearly 600,000' new EU migrants

About 600,000 people have come to work in the UK from eight nations which joined the European Union in 2004, says Home Office minister Tony McNulty.

Bulgaria and Romania are set to join the EU in 2007

New figures show that 447,000 people from Poland and the seven other new EU states have applied to work in the UK.

But Mr McNulty said the figure would be nearer 600,000 if self-employed workers - such as builders - were included.

He said the migrants were helping the UK economy, but the figures will fuel fears about strains on public services.

And they will increase debate about whether the right to work should be limited when Bulgaria and Romania join the EU.

The figures show those 427,000 migrant workers who successfully registered to work brought with them 36,000 dependents - spouses and children. Some 27,000 child benefit applications were approved.

KEY STATISTICS

- 427,000 workers from eight EU accession states successfully applied for work in UK
- Over half (62%) are Polish
- 82% are aged 18-34
- 56% work in factories*
- Anglia region has highest proportion of workers (15%)

Source: Home Office
All figures May 2004-Jun 2006 except *Jul 2004-Jun 2006

Job market country-by country

The government predicted there would be 15,000 people a year from the new EU member countries moving to the UK for work.

Source: http://news.bbc.co.uk/1/hi/uk_politics/5273356.stm

3.37 The impact of such one-off events, which will not be repeated, should not be carried forward in projections. The PPG confirms this principle, though using different examples of one-off events:

'…*Issues will vary across areas but might include:*

- *migration levels that may be affected by changes in employment growth or a one off event such as a large employer moving in or out of an area or a large housing development such as an urban extension in the last 5 years*
- *demographic structure that may be affected by local circumstances or policies e.g. expansion in education or facilities for older people.*[8]

Future jobs

3.38 A much greater problem with the Pegasus assessment is the next step, which brings in additional migration to help fill the jobs forecast by EEFM 2016.The resulting Scenario 3 more than doubles the calculated need, from 402-429 dpa in earlier scenarios to 892 dpa.

3.39 This figure as mentioned earlier is Pegasus' final view of the OAN. In their modelling it represents the number of new homes required to house enough residents to meet the labour demand forecast by EEFM.

3.40 As I discussed earlier, EEFM's own view of this number of new homes is 676 dpa, which I consider too high. But the Pegasus figure is even higher, by almost a third.

3.41 The reason why Pegasus produces a different housing number to EEFM is that it has different expectations about UK economic activity rates – the percentage of the population that will be part of the labour force, which means working or looking for work. Pegasus uses the UK rates forecast by the Office for Budget Responsibility (OBR) in the 2017 Fiscal Sustainability Report; while CE takes its own view (the UK forecast is provided, alongside local ones, on the EEFM website). From the OBR national activity rates Pegasus derives future activity rates for Suffolk Coastal, assuming that change in local rates will parallel the change in national rates. This is a very reasonable assumption, as local rates have followed national trends in the past, because they are driven by national factors, including rising State Pension Ages and life expectancies, and of course local rates must sum to the national ones.

3.42 This use of different activity rates is also the reason why Pegasus' Scenario 3 is invalid. A note posted on the EEFM website, by the housing expert Neil McDonald (whom the Pegasus report quotes approvingly in another context) advises specifically against what Pegasus has done:

'EEFM is an integrated model, which forecasts both jobs (labour demand) and the population needed to fill those jobs. Users should not make alternative estimates of the population needed to fill the EEFM jobs, based on economic activity / participation rates from another source. To do so is logically inconsistent with EEFM and the results may be highly misleading.'

3.43 The note is reproduced in full at Appendix B below and provides a full explanation for this statement. Briefly, the reason why EEFM job numbers should not be combined with activity rates from another source is that these job numbers already incorporate a view of future activity rates, for the UK as a whole. If such national activity rates

[8] Paragraph: 017 Reference ID: 2a-017-20140306

were different from those expected by CE, the EEFM job forecasts would be different, both for the UK and for each local authority area. Indeed, they are likely to be very different, because future UK activity rates have a large impact on total job numbers. This is illustrated by the example in McDonald's note.

Market signals

3.44 The last step in Pegasus' analysis is to consider if the demographic projections should be uplifted to take account of market signals, as discussed in the PPG. They conclude that such an uplift would be justified and should be around 10%. They add that, since the market signals uplift overlaps with the future jobs uplift, the job-led figure of 892 does not need uplifting separately for market signals. Without the future jobs uplift, they say the OAN would be the Scenario 2 number of 429 plus 10%, resulting in a housing need of 472 dpa.

3.45 The SHMA takes a slightly different view of market signals, concluding that 15% would be appropriate. This is a question of judgment, to which there is no single 'scientific' answer. In the SHMA there is no future jobs adjustment as mentioned earlier; the 15% market signals uplift takes the demographically projected need of 400 dpa to 460 dpa.

Summary

3.46 Pegasus' OAN of 892 dpa more than doubles the need implied by the CLG 2014 household projections, and this for one reason: the 'future jobs' calculation, which estimates how many people and homes would be needed to match EEFM's job forecast. This calculation cannot be valid, because it is inconsistent with the model that produced the EEFM job forecast. A technical note posted on the EEFM website warns against the exact approach that Pegasus has used. Therefore, the OAN of 892 dpa put forward by Pegasus is not valid evidence and should be given no weight.

3.47 If Pegasus' job-led calculation is set aside, their analysis implies that the OAN over the plan period is 472 dpa. This is slightly higher than the SHMA's 460 dpa, because it is based on a lightly higher demographic projection, which is only partly offset by a slightly lower market signals uplift.

3.48 In my view the Pegasus 'market-signals-only' 472 dpa is not correct, because it is based on a period that included exceptionally high migration due to the enlargement of the EU in 2004. But this makes little difference in practice, as the resulting figure of 472 dpa is very close to the 460 dpa that we calculated in the SHMA.

4 SUMMARY

4.1 My evidence relates to the objectively assessed housing need for housing (OAN) for Suffolk Coastal District over the plan period 2014-36. The SHMA Vol 1, produced by my team, set that need at 10,111 net new homes over the period, equal to 460 dwellings per annum (dpa). I show why that finding is valid and defend it against alternative views of the OAN, which comprise:

- 11,000 homes for the earlier period 2010-27 (647 dpa), put forward by the Council at the Core Strategy examination and supported by the Inspector in 2013
- A range of figures from 725 upwards put forward by the present appellant in March 2017.

4.2 The figure of 11,000 does not provide a valid up-to-date measure of housing need, for two main reasons:

- It is very much out of date. It relates to a period of which almost half is now in the past, the EEFM forecast on which it is based is now seven years old, and the demographic data and projections that underpinned that forecast are even older. Since 2010 there have been two new rounds of official demographic projections, both informed by the results of the Census – which were not available in 2010 and radically changed our understanding of demographic trends.
- Regardless of this, the EEFM's demographic predictions for Suffolk Coastal are flawed, because they do not take account of the district's unusual population profile.

4.3 Turning to the appellant's case, my evidence responds to Mark Hewett's proof of evidence, dated March 2017. This evidence pre-dates the SHMA and it may no longer represent the appellant's current view. Mr Hewett focuses on two alternative housing need figures: 725 dpa from EEFM 2016 and 892 dpa from the Pegasus assessment. He says that both these figures 'represent a robust and credible basis for deriving and OAN'. He concludes that the OAN for the purposes of this appeal is at least 725 dpa, and goes on to use that figure in his calculation of five-year land supply.

4.4 A simple problem with this conclusion is that his 725 dpa relates to 2011-31, rather than the plan period 2014-36. The EEFM housing demand for the plan period is 676 dpa. It would seem logical for Mr Hewett to promote this slightly lower figure, for the sake of consistency with the Pegasus assessment and the emerging Local Plan Review. I do not understand why he does not.

4.5 Leaving this aside, my analysis above has shown that neither of Mr Hewett's figures is valid:

- EEFM 2016 is not robust as regards population growth and hence housing need in Suffolk Coastal. The reason is that the district has an exceptionally elderly population profile, which EEFM's broad-brush approach to local demography does not capture. The result is that the EEFM's job-led housing need of 676 dpa

is not a credible view of future housing need. This is why the SHMA did not rely on the EEFM's view of labour market balance, but preferred the alternative approach used by Experian – which incorporates much more detail of local demography, based on the SNPP.

- Pegasus' OAN of 892 dpa more than doubles the need implied by the CLG 2014 household projections, and this for one reason: the 'future jobs' calculation, which estimates how many people and homes would be needed to match EEFM's job forecast. This calculation cannot be valid, because it relies on different UK activity rates to EEFM. As explained in a technical note that accompanies EEFM, this approach is invalid, because if UK activity rates are as assumed by Pegasus the job forecast will be different. Therefore, the OAN of 892 dpa put forward by Pegasus is technically flawed and should be give no weight.

4.6 There is nothing in the appellant's evidence, therefore, to disprove the SHMA's conclusion that the district's housing need for the plan period is 460 dpa (10,111 dwellings across the plan period).

APPENDIX A GLOSSARY

Cambridge Econometrics (CE): are an economic consultancy with track record in local economic forecasting. They prepared the August 2016 EEFM baseline forecasts. This run of the EEFM is referred to in the SHMA.

Cambridge Research Group (CRG): part of Cambridgeshire County Council. CRG were commissioned by the IBC, BDC, MSDC, SCDC and WDC to prepare four alternative population and household projections to the 2014 SNPP: five-year trend (2010 to 2015) and fourteen-year trend (2001 to 2015), excluding and including UPC. These are referred to in the SHMA as CRG5X, CRG5, CRG14X and CRG14.

CLG household projections: these projections group the SNPP population into households. Their publication follows each release of the SNPP. The SHMA used the CLG 2014 projections, published in 2016.

East of England Forecasting Model (EEFM): was developed to project economic, demographic and housing trends in a consistent fashion and in a way that would help inform spatial economic planning in the East of England. The model was formed following the July 2007 'Review of sub-national economic development and regeneration' by HM Treasury, Department for Business Enterprise and Regulatory Reforms and DCLG. This review sought to combine regional and economic functions through a single integrated regional strategy. OE constructed the first iteration of the model in August 2007. There was recognition that the greater the complexity, the greater the time and cost needed to maintain the model. The technical guide [CD11.36] confirms that the EEFM's 'outputs are just one piece of evidence to assist in making strategic decisions. As in all models, forecasts are subject to margins of error which increase at more detailed geographical levels'. The model steering group is led by Rebecca Roebuck (Cambridgeshire Insight/CRG) who is commissioned through the East of England Local Government Association (EELGA).

Experian: are an economic consultancy specialising in forecasting, including at local level. They provided economic forecasts for the SHMA. This included their baseline regional planning service forecast. Experian were also commissioned to carry out several scenarios specifically for the SHMA: these are described in the SHMA as the Experian EEFM scenario, as well as two scenarios which related more specifically to Ipswich and Waveney boroughs.

Oxford Economics (OE): are another economic consultancy specialising in forecasting, also at local level. They were the original developers of the EEFM, and prepared all baseline EEFM forecasts up to the autumn 2014 EEFM run. They were also commissioned by SCDC in 2010 to provide updated forecasts of housing need using the EEFM to inform the Suffolk Coastal Core Strategy.

Sub-national population projections (SNPP): published at intervals by the Office for National Statistics (ONS). Those used in the SHMA are the 2014-based projections at local authority level, published in 2016 (SNPP 2014).

APPENDIX B NOTE ON EEFM

USING THE EAST OF ENGLAND FORECASTING MODEL (EEFM) TO ESTIMATE THE NUMBER OF HOMES NEEDED TO SUPPORT ECONOMIC GROWTH

*This note has been produced by **Neil McDonald** (**NMSS**) with input from Rebecca Roebuck (Cambridgeshire County Council) and Cristina Howick (Peter Brett Associates) and has been agreed by **Cambridge Econometrics** (who provide the EEFM).*

SUMMARY

This note discusses how the EEFM can be used to estimate the number of homes needed in a local authority area to support the forecast change in jobs in that area. It concludes that:

- ***The EEFM's forecast of the change in the population in a local authority area can be used to estimate the homes needed to support the forecast change in jobs.** If the demographically-based assessment of the area's need for housing does not provide at least the working age population suggested by the EEFM, migration from the rest of the UK should be increased until a sufficiently large working age population is projected. Having produced a population projection that is consistent with the EEFM, household formation rate assumptions can then be used to turn that projected population into a number of households, and hence a number of homes.*
- ***The EEFM is an integrated model, which forecasts both jobs (labour demand) and the population needed to fill those jobs. Users should not make alternative estimates of the population needed to fill the EEFM jobs, based on economic activity/participation rates from another source. To do so is logically inconsistent with the EEFM and the results may be highly misleading.** The note includes a worked example which shows that using Office for Budget Responsibility employment rates to estimate the working age population required to support an Experian UK jobs forecast over-estimates the increase required by a factor of 3. Had Experian assumed that the OBR activity rates represented the limit of the jobs which the population could support it would have produced a much lower jobs forecast.*

1. Introduction

1.1. The Planning Practice Guidance (PPG) advises:

> *"Plan makers should make an assessment of the likely change in job numbers based on past trends and/or economic forecasts as appropriate and also having regard to the growth of the working age population in the housing market area. .....*
>
> *Where the supply of working age population that is economically active (labour force supply) is less than the projected job growth, this could result in unsustainable commuting patterns (depending on public transport accessibility or other sustainable options such as walking or cycling) and could reduce the resilience of local businesses. In such circumstances, plan makers will need to consider how the location of new housing or infrastructure development could help address these problems."*[1]

[1] Planning Practice Guidance Paragraph: 018 Reference ID: 2a-018-20140306

1.2. This makes it clear that Local Plans should provide enough housing to ensure that the area's economic potential is not stifled by a lack of workers. This, in effect, directs those estimating the 'objectively assessed housing needs' (OAN) of an area to consider whether a demographically-based estimate of housing need would accommodate a sufficiently large resident labour force to support the likely growth in labour demand (the jobs that employers wish to fill).

1.3. The PPG is commonly interpreted to mean that, if the labour supply resulting from demographic projections falls short of expected demand, the OAN should be increased, so it provides enough homes to attract more people into the area. To determine if such a shortfall is likely, the analysis should take account of likely changes in unemployment, activity rates and commuting. Any predicted changes to these variables should be realistic, in the light of economic forecasts and historical experience. Wishful thinking or arbitrary assumptions are not acceptable. If significant changes in commuting are predicted, authorities should consider if these would result in unsustainable travel. If that is the case, as a matter of policy they should work co-operatively to resolve the issue.

2. Estimating the number of homes needed to support job growth

2.1. As the EEFM output contains an estimate of the 'working age population' (defined to be all those aged 16-64) it is straightforward to produce an estimate of the number of homes needed to support economic growth by comparing the EEFM working age population estimate with that used to produce the demographic projection-based estimate of housing need.

2.2. If the EEFM estimate of the working age population is lower than that in the demographically-based estimate there is no need for additional homes as the resident workforce will be more than large enough to support the forecast jobs increase. Note that the PPG does not provide for the demographic projection-based estimate to be reduced in such circumstances.

2.3. If the EEFM estimate of the working age population is larger than that in the demographically-based estimate it is necessary to increase the projected population above the level assumed in the demographic projection. This means assuming that net migration into the area is larger than assumed in the demographic projection as there is no other potential source of additional population. As the driver of increased net migration into the area is filling jobs, it is likely that the additional people moving into the area will come from the rest of the UK. Assumptions need to be made about how the demographically-based projected inflow is increased: for example, assuming that the extra migrants are not above or near state pension age as the driver of additional migration is jobs. Once this is done it is possible to produce a revised population projection broken down by age and sex that is consistent with the EEFM.

2.4. Aligning the projected population in this way to the level suggested by the EEFM gives an increase in population that is consistent with the projected increase in job numbers, from which the number of households formed and homes needed can be calculated using household formation rate assumptions.

3. Why it is inappropriate to use economic activity rates from another source to estimate the housing implications of a local jobs forecast

3.1. Some have been tempted to use economic activity rates derived from some other source such as the rates published by the Office for Budget Responsibility (OBR) in November 2015 to estimate the population (and hence homes) needed to support a jobs forecast. This can produce highly misleading results – for the reasons discussed below.

3.2. The relationship between the number of jobs in a given area ('workplace employment') and the number of people living in that area is governed by four factors:

3.2.1. The **economic activity rate**. This is the proportion of the population that is available for work, whether in work or unemployed. In what follows the economic activity rate will be defined to be the number of people of all ages who are available for work divided by the 16-64 population. (This is a measure of overall economic activity: economic activity varies by age and gender and there are significant numbers aged over 64 who are economically active.)

3.2.2. The **unemployment rate**. The proportion of a population who are unemployed. In what follows the unemployment rate will be given as a proportion of the 16-64 population.

3.2.3. **Net commuting**. This is the number of people who come into an area to work less the number who travel out of the area to work. A negative figure implies net out-commuting i.e. more people leave the area to work than come into it.

3.2.4. **Double jobbing**. This is the number of people with two or more jobs.

3.3. These factors link the working age population of an area to the number of jobs in that area as follows:

Total workplace employment (jobs) = 16-64 resident population x (economic activity rate – unemployment rate)
+ double jobbing
+ net commuting

3.4. All four of the factors can vary over time and the assumptions made about how they do so can have a large impact on the estimate made of the size of the population needed to support a given number of jobs.

3.5. The economic activity rate minus the unemployment rate (as in the brackets in the above formula) is equal to the employment rate i.e. the number of employed people of all ages living in the area ('residence employment') as a proportion of the 16-64 population. Using the employment rate rather than separate economic activity and unemployment rates, the above formula becomes:

Total workplace employment (jobs) = 16-64 resident population x employment rate
+ double jobbing
+ net commuting

3.6. Of particular importance is the assumption made about how economic activity rates will change in the future. It is generally accepted that the economic activity rates of older people will increase as more people remain in the workforce for longer as the state pension age increases, pensions become less generous and health and life expectancy improve. There is, however, a range of views about how large the change will be and hence how economic activity rates will change.

3.7. The following worked example illustrates how different national forecasts imply different changes in economic activity rates and why using economic activity rate assumptions which are different from those used in a jobs forecast can produce highly misleading estimates of the population needed to support that forecast. It is, of course, the case that local authority forecasts of the numbers who are economically active must sum to the national forecast so it is reasonable to expect national and local rates to move broadly in parallel.

3.8. Chart 1 and Table 1 compare the EEFM 2016 UK jobs forecast with UK forecasts of similar data from Experian and Oxford Economics[2]. There are differences in the population projections used in the three forecasts but the differences are small. Experian's forecast is based on the 2012 National Population Projections (2012 NPP) and envisages an increase of 6,870,000 people over the period 2014-2031; the EEFM forecast (based on the 2014 NPP) has a population increase that is 240,000 (3.5%) larger; and Oxford Economics' estimate is 32,000 (0.5%) larger than Experian's figure. However, these small differences do not explain the very different increases in jobs, the Experian forecast for the increase in jobs over the period 2014-2031 being over 60% greater than the EEFM figure:

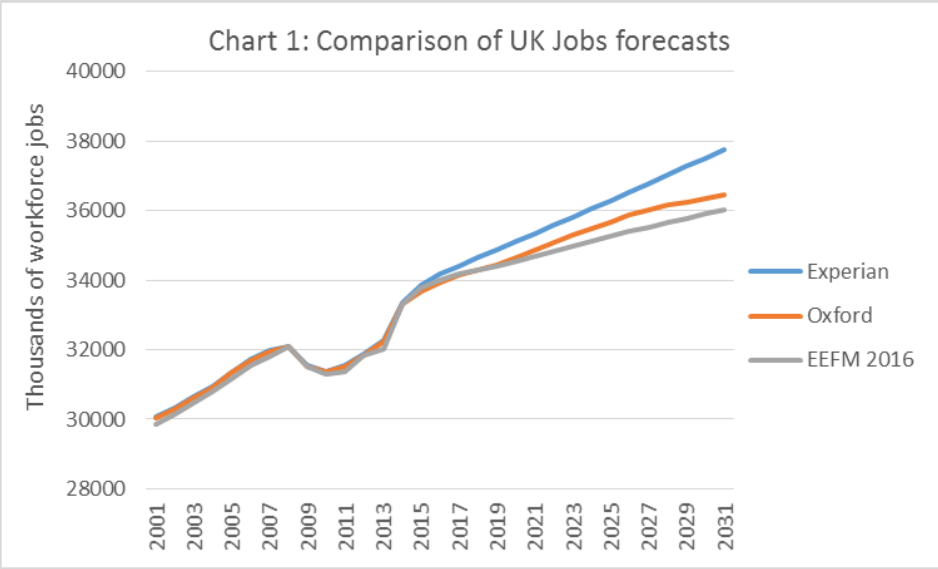


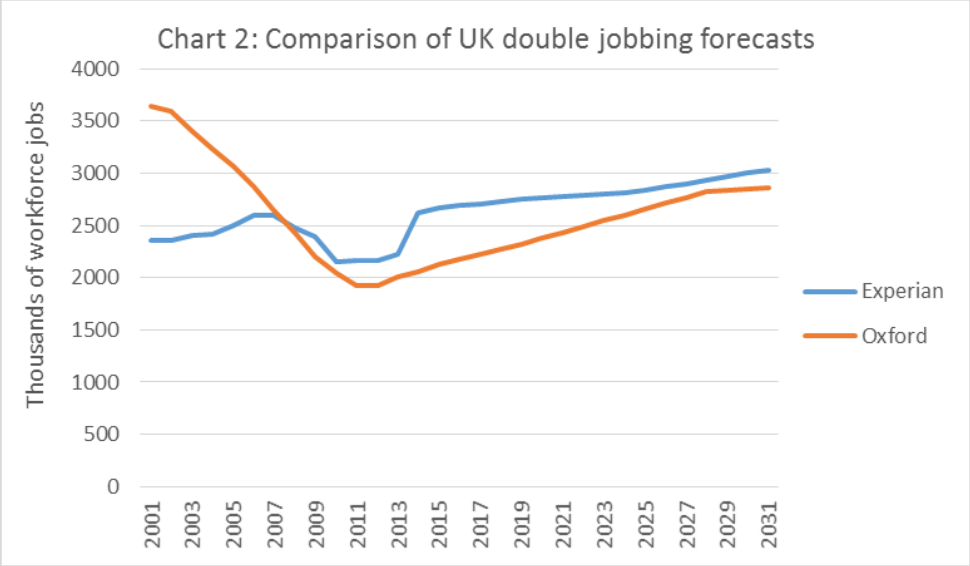
Table 1: UK jobs increase: 2014-2031		
Experian	Oxford Economics	EEFM 2016
4,419,000	3,139,000	2,696,000

[2] Note that these are not the current Oxford Economics and Experian forecasts but forecasts that were approximately contemporaneous with the EEFM forecast. They are used merely to provide a realistic illustration of the differences which can exist between reputable forecasts.

3.9. As the forecasts are for the UK as a whole, net commuting is relatively small[3] so, to a reasonable approximation, the formula in paragraph 3.5 can be simplified to:

Total jobs = 16-64 resident population x employment rate + double jobbing

3.10. Chart 2 shows the double jobbing figures from the Experian and Oxford Economics forecasts (calculated by subtracting the people-based employment figures given in both forecasts from the workforce jobs figures):

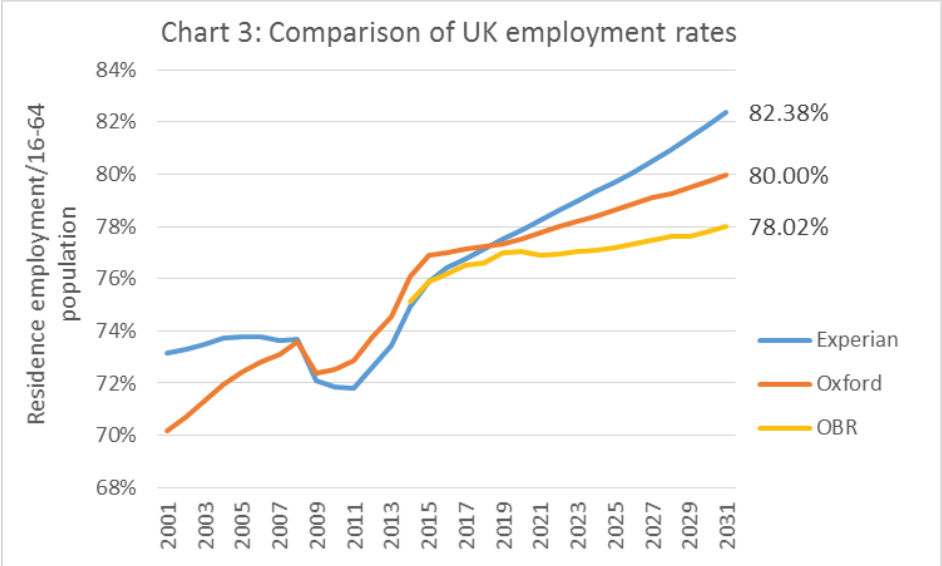


3.11. There seems to be curious disagreement about historical double jobbing rates, but by 2031 the difference between the two forecasts is less than 180,000. This compares with a difference between the two jobs forecasts of 1,300,000 jobs in 2031. This means that the vast majority of the difference between the two forecasts is due to the difference in employment rates[4].

[3] The Oxford Economics UK forecast used here assumes the net UK commuting is a net outflow of 167,000 after 2015. This suggests that differences between the forecasts in the assumptions made about net international commuting will be negligible compared with the differences in the job increase forecasts.

[4] Employment rates are used in the example rather than separate economic activity and unemployment rates because the Oxford Economics and Experian forecasts use different definitions of unemployment (one using the claimant count and the other the ILO definition which includes those who are unemployed but not claiming benefit). It is not therefore possible to calculate consistent unemployment and economic activity rates for the two forecasts.

3.12. Chart 3 compares the employment rates in the Experian and Oxford Economics forecasts and adds in the OBR rates as a further comparator:



3.13. Although the difference between the employment rates used by Experian and Oxford Economics in 2031 is only a little over 2%, that is responsible for most of the difference between the two forecasts. It follows that, had Experian assumed that the Oxford Economics employment rate assumptions represented the practical limit of the number of jobs which the population could support, they would have produced a jobs forecast that was lower and relatively close to the Oxford Economics forecast.

3.14. The following calculation illustrates how a misleading result can be obtained by applying a different set of economic activity rate assumptions to estimate the population increase needed to support a jobs forecast.

3.15. Assume that an attempt is made to estimate the increase in the 16-64 population needed to support the Experian jobs increase forecast for 2014-2031 using the OBR economic activity rates:

3.15.1. The Experian forecast envisages that the 16-64 population of the UK will increase from 41.00 million in 2014 to 42.16 million in 2031, an increase of 1.16 million people.

3.15.2. The Experian forecast also envisages that there will be 37.76 million jobs in 2031 and that these will be filled by 34.73 million people (the difference being double jobbing). Using the OBR employment rate for 2031 of 78.02%, the number of working age people needed to produce 34.73 million people in employment is:

16-64 population = 34.73 million ÷ 78.02%

= 44.51 million

3.15.3. The 16-64 population in 2014 is 41.00 million so this calculation implies that the 16-64 population needs to increase by 3.51 million by 2031. This compares with the actual assumption made by Experian of 1.16 million, a third of the figure obtained if the OBR rates are assumed.

3.16. This example shows:

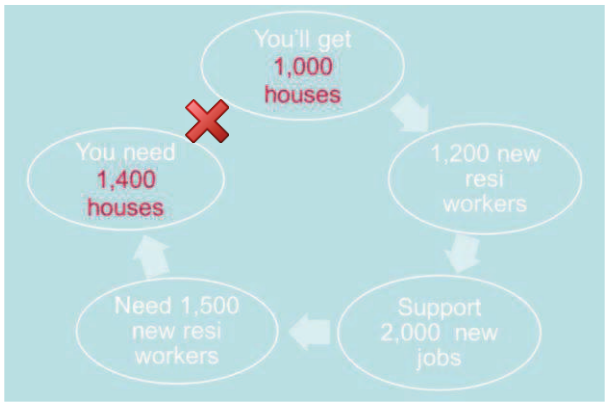
3.16.1. **The number of jobs a population will be able to support in future (i.e. the future economic activity/employment rate) is a key assumption in a jobs forecast: had a different assumption been made, a different number of jobs would have been forecast.**

3.16.2. **Using economic activity or employment rate assumptions different from those used in a forecast is likely to produce highly misleading conclusions as to the number of people and homes needed to support a jobs forecast.**

4. Conclusion

4.1. Some have been tempted to use economic activity rates derived from some other source such as the rates published by the Office for Budget Responsibility to derive alternative population projections, and then household projections, using the EEFM's employment forecasts, but, because the employment and population forecasts are inter-linked in the EEFM forecasts, it is not consistent to use the EEFM employment forecasts with alternative population assumptions. The employment and population forecasts are calculated simultaneously within the EEFM. Alternative population assumptions would lead to different employment forecasts and vice versa. Using economic activity/employment rates from another source to estimate the population (and hence homes) needed to support an EEFM jobs forecast can produce highly misleading results.

4.2. Such misleading housing calculations are warned against in the 2015 Planning Advisory Service technical advice note[5]: *"translating future numbers of workplace jobs into future resident population, based on assumptions about the factors that link workplace jobs to resident population – comprising commuting, double-jobbing, economic activity rates and unemployment, will often produce invalid results, because most economic forecasts already include a view of future population. The economic forecast and housing calculation taken together amount to an inconsistent statement, or self-defeating prophecy. Whether the calculation is merely circular, or logically inconsistent as shown in the graphic, it cannot produce a valid result, because its logic is faulty."*



April 2017

[5] Planning Advisory Service Objectively Assessed Need and Housing Targets Technical Advice Note Second Edition July 2015 (Peter Brett Associates)