

North Essex Joint Strategic Plan Examination

Matter 3: Objectively assessed housing need

Statement on behalf of the North Essex Authorities

Supplementary evidence – economic activity rates

Introduction

- 1 This note provides additional evidence to support PBA's the Councils' hearing statement in relation to Matter 3, paragraph 3.2e.2, sub-paragraph 6. In that paragraph we responded to Barton Wilmore's comment that PBA's OAN Study should have tested the impact of alternative UK economic activity rates, as forecast by the Office of Budget Responsibility (OBR). We said that we were in the process of administering this test, through alternative labour market scenarios being run by Experian. The work is now completed, and this note sets out our method and findings.
- 2 As noted in our main hearing statement, the OAN Study used economic forecasts from two sources, EEFM (Cambridge Econometrics) and Experian. Both these forecasting houses are generally more optimistic about future economic activity rates for the UK than OBR – although, as discussed in our hearing statement, in the latest (2017) version of the OBR forecast the gap has shrunk. The purpose of our analysis is to see what would happen to the balance of labour demand and supply if OBR, rather than the forecasting houses, were correct about future UK activity rates.
- 3 To this end we commissioned from Experian an alternative scenario for each district that incorporates OBR's view of future UK activity rates. (We used Experian only, because EEFM cannot produce this type of 'what-if' scenario.)
- 4 The impact of altering activity rates is not straightforward. If UK activity rates are lower than Experian expects:
 - Local activity rates in North Essex will also be lower, because local activity rates broadly follow the national trend. This is as one would expect, because they are largely driven by national factors such as rising pension ages and life expectancies.
 - Therefore, if OBR is correct about future UK activity rates more people will be required to fill a given number of jobs in North Essex than if Experian is right. (The OBR forecast does not quantify this impact, because it does not forecast local activity rates.)
 - In short, lower UK activity rates means lower labour supply (a smaller labour force) in all or most local areas, including North Essex.
- 5 But if OBR is correct about UK activity rates, there will also be fewer jobs to fill in North Essex than if Experian is correct. That is because:
 - If UK activity rates are lower than Experian forecasts, there will be fewer jobs and less output in the UK as a whole than Experian forecasts.
 - This means lower labour demand in all or most local areas. That is because, in the forecasting model as in real life, local economic growth is largely driven by national growth;

and jobs for all local areas add up the national total. Therefore, on average, a lower national total means fewer jobs for individual local authorities.

- In short, lower UK activity rates also means lower demand for labour (fewer jobs to be filled) in all or most local areas, including North Essex.
- 6 In assessing the impact of different activity rates, some housing needs studies consider the impact of lower rates on labour supply, but ignore their impact on labour demand. This of course is logically wrong, as both Cambridge Econometrics and Experian have stated publicly; these statements are at Appendix A below.
- 7 By contrast, the Experian scenarios model the impact of lower activity rates on both sides of the labour market equation. Below, we first set out their method and then their results.

Alternative scenarios - method

- 8 To help understand the alternative scenarios, I will first explain briefly how the Experian model forecasts the labour market:
- i The process starts with a variable called 'job demand', which is not published in Experian's standard tables but is a key part of the model.
 - ii Job demand is the number of jobs in the local area that employers will want to fill. In the local forecasting model, it is largely driven by UK job totals in each economic sector, together with the sector mix of the local economy and the historical performance of each sector in that local economy against the national trend. It is not constrained, or influenced in any way, by local labour supply.
 - iii The next step in local modelling is to compare job demand with the available supply. In the first instance, the Experian model assumes that local population changes in line with the latest sub-national population forecast, SNPP 2014 – which of course provides the population numbers behind the CLG 2014 household projection.
 - iv The model then calculates whether the projected population will be enough to meet the forecast demand. The calculation takes account of economic activity rates as well as unemployment, commuting and double-jobbing. These variables are calculated as part of the model, taking account of demand and supply in neighbouring areas as well as the subject area, and controlled to national totals / averages produced by Experian's macro model. The result is that change in local activity rates by age and sex parallels the national rates broadly, but not exactly.
 - v If the population is enough or more than enough to meet labour demand, the forecast number of jobs – called workforce or workplace jobs – is equal to job demand. The implication for housing need is that there is no justification for a future jobs uplift to the objectively assessed housing need (OAN).
 - vi Conversely, if the SNPP population is too small to meet labour demand the forecast number of jobs is a constrained number based on that population. The difference between job demand and workplace jobs is called 'excess jobs' or 'unfilled jobs'. The implication for OAN is that the housing number should be lifted above the SNPP, to ensure that lack of housing does not constrain economic growth.
 - vii Where there are excess jobs, the model can be re-run to estimate the additional population required to bring the market back into balance.

- 9 As mentioned earlier, OBR takes a different view to Experian of future UK activity rates – which are a crucial input into economic forecasts, both for the UK and local areas. To test the impact of this view, in Experian’s alternative scenario future UK activity rates are by age (five-year band) and sex are taken from OBR 2017. Those rates replace the Experian rates that are normally input into the model. All other inputs and relationships in the forecasting model are unchanged, including the standard Experian assumption that population changes as shown in SNPP 2014.

Alternative scenarios - results

- 10 As we explained in earlier evidence, in Experian’s baseline (standard) forecasts there are no ‘excess’ or ‘unfilled’ jobs over the plan period in any of the North Essex districts. The baseline forecast predicts that, if Experian’s view of future UK activity rates is correct, the population shown in the official projection (SNPP 2014) will provide enough or more than enough workers to meet labour demand over the plan period. Therefore, in the housing needs assessment there is no justification for a ‘future jobs’ uplift to the official projection.
- 11 In the alternative scenario, there are still no unfilled jobs. The scenario predicts that, if OBR’s view of future UK activity rates is correct, the population shown in the official projection will still be enough to meet labour demand over the plan period. Therefore, in the housing needs assessment there is still no justification for a ‘future jobs’ uplift to the official projection.
- 12 The workings of the labour market balance are shown at Appendix B and summarised briefly in the table below.

Table 1 Alternative activity rates: scenarios compared

Change p.a. in plan period thousands	Braintree	Colchester	Tendring	North Essex
Baseline forecast: UK activity rates = Experian				
Labour force	0.6	0.9	0.8	2.4
Job demand	0.5	1.1	0.5	2.1
Alternative scenario: UK activity rates = OBR				
Labour force	0.5	0.8	0.7	1.9
Job demand	0.4	0.9	0.4	1.7
Scenario minus baseline				
Labour force	-0.2	-0.2	-0.1	-0.5
Job demand	-0.1	-0.2	-0.1	-0.4

Notes

The Experian forecasts we have used end in 2036 for Braintree and Colchester and 2035 for Tendring.

We use the forecast period from 2013 to 2035 or 2036 as a proxy for the plan period 2013-37.

The numbers displayed are rounded to the nearest 100. Totals may look wrong due to rounding.

Source: Experian, PBA

- 13 For each district, the shift to OBR activity rates reduces the forecast growth in labour demand by 100-200 jobs a year, and the forecast growth in labour supply by a similar amount.

Considered cumulatively over the 24-year plan period, these reductions amount to 5% of the area's total labour force.

- 14 The above numbers are very approximate, not only because all forecasts are imperfect, but also because the smaller the numbers being forecast the greater is the margin of error. But the message from the modelling is clear: there is no evidence to support a 'future jobs' uplift to the official demographic projection, even if OBR are correct about future UK activity rates.

Summary

- 15 This note provides additional evidence to support the Councils' hearing statement in relation to Matter 3, paragraph 3.2e.2, sub-paragraph 6. It tests the impact on PBA's housing needs assessment of alternative economic activity rates, as forecast by the Office of Budget Responsibility (OBR).
- 16 The purpose of our analysis has been to see what would happen to the balance of labour demand and supply if OBR, rather than Experian and EEFM, were correct about future UK activity rates. To this end, we commissioned from Experian an alternative scenario for each district that incorporates OBR's view of future UK activity rates. In those alternative scenarios, UK activity rates by age and sex are taken from OBR 2017. Those rates replace the Experian rates that are normally input into the model. All other inputs and relationships in the forecasting model are unchanged.
- 17 As we explained in earlier evidence, in Experian's baseline (standard) forecasts there are no 'excess' or 'unfilled' jobs over the plan period in any of the North Essex districts. The baseline forecast predicts that, if Experian's view of future UK activity rates is correct, the population shown in the official projection (SNPP 2014) will provide enough or more than enough workers to meet labour demand over the plan period. Therefore, in the housing needs assessment there is no justification for a 'future jobs' uplift to the official projection.
- 18 In the alternative scenario, there are still no unfilled jobs. The scenario predicts that, if OBR's view of future UK activity rates is correct, the population shown in the official projection will still be enough to meet labour demand over the plan period. Therefore, in the housing needs assessment there is still no justification for a 'future jobs' uplift to the official projection, regardless of whether OBR or Experian are right about future activity rates.

APPENDIX A
CONSISTENCY IN FORECASTING

In the main text above, we note that in predicting labour market balance some housing needs assessments consider the impact of lower rates on labour supply, but ignore their impact on labour demand. Such assessments take future job demand from modelled economic forecasts; they go on to compare that demand with labour supply using different UK activity rates from those used in the forecasting model. Our view, that this approach is logically invalid, is shared by the three main authors of local economic forecasts in the UK.

19 Thus, the Managing Economist responsible for local forecasting at Experian writes:

'If the OBR's national activity rate trends are used to forecast labour supply, the forecast job demand used in the market balance calculation should be based on the same trends in activity rates. Otherwise the calculation will be fundamentally inconsistent, because:

- Economic forecasting models incorporate a view about future trends in national activity rates into their predictions of future jobs.*
- These trends in economic activity rates inform the prediction of national economic performance and hence job growth, which largely drive forecasts of local job demand.'*¹

20 The same point is made in a note by the housing expert Neil McDonald, posted on the EEF website:

*'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.'*²

21 Similarly, the Head of Regional Modelling at Oxford Economics writes: (my emphasis):

*'When we provide an organisation with employment forecasts, we also provide the forecasts for all indicators for that area given that the forecasts are produced within a fully-integrated system. This ensures that the user is provided with the consistent assumptions on migration, commuting and activity rates on which the employment forecasts are based. If adjustments are made to some but not all assumptions/forecasts, it is important to acknowledge this and justify the rationale for doing so. **Such forecasts should not be sourced as Oxford Economics.** Whether the resulting forecasts provide a plausible combination of outputs would be dependent on the scale of the changes made.'*³

¹ NMSS, PBA and Manchester University, *Representations on Local Plan Expert Group*, April 2016

² Neil McDonald, *Using the East of England Forecasting Model (EEFM) to Estimate the Number of Homes needed to support Economic Growth*, April 2017

³ Source: email, Kerry Houston to Cristina Howick, May 2016

APPENDIX B EXPERIAN SCENARIOS

Appendix Table A1 Alternative activity rates: scenarios compared, Braintree

Area	Variable 000s unless otherwise stated	Historical data		Forecast baseline UK activity rates = Experian		Alternative scenario UK activity rates = OBR		Scenario less baseline	
		2013	2015	2036	Change 2013-36 p.a.	2036	Change 2013-36 p.a.	2036	Change 2013-36 p.a.
Braintree	Labour Force	76.9	78.9	91.1	0.6	87.4	0.5	-3.700	-0.2
Braintree	Labour Force - 16 to 64	74.8	73.8	78.9	0.2	78.6	0.2	-0.3	0.0
Braintree	Labour Force - 65 +	2.1	5.1	12.1	0.4	8.8	0.3	-3.3	-0.1
Braintree	Population - 16 +	120.1	121.9	142.8	1.0	142.8	1.0	0.0	0.0
Braintree	Population - 16 to 64	92.9	93.0	94.5	0.1	94.5	0.1	0.0	0.0
Braintree	Population - 65 +	27.3	28.9	48.3	0.9	48.3	0.9	0.0	0.0
Braintree	Total Population	149.1	151.0	173.3	1.1	173.3	1.1	0.0	0.0
Braintree	Economic Activity Rate (%) - 16+	64.0	64.7	63.8	0.0	61.2	-0.1	-2.6	-0.1
Braintree	Economic Activity Rate (%) - 16 to 64	80.5	79.4	83.5	0.1	83.1	0.1	-0.4	0.0
Braintree	Economic Activity Rate (%) - 65+	7.8	17.5	25.1	0.8	18.3	0.5	-6.8	-0.3
Braintree	Workforce Jobs	58.0	61.6	68.6	0.5	66.1	0.4	-2.5	-0.1
Braintree	Jobs Demand	58.0	61.6	68.6	0.5	66.1	0.4	-2.5	-0.1
Braintree	Excess Jobs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Braintree	FTE jobs	45.8	47.5	52.7	0.3	50.7	0.2	-2.0	-0.1
Braintree	Workplace based employment	56.7	59.1	65.3	0.4	62.9	0.3	-2.4	-0.1
Braintree	Residence based employment	72.0	75.5	87.2	0.7	83.8	0.5	-3.4	-0.1
Braintree	Unemployment	4.9	3.3	3.8	0.0	3.6	-0.1	-0.2	0.0
Braintree	Net commuting balance (inflow)	-15.3	-16.4	-21.9	-0.3	-20.9	-0.2	1.0	0.0
Braintree	Unemployment Rate (%)	6.4	4.2	4.2	-0.1	4.1	-0.1	-0.1	0.0
UK	Economic Activity Rate (%) - 16 to 64	76.9	77.3	79.7	0.1	77.2	0.0	-2.5	-0.1
UK	Economic Activity Rate (%) - 65+	9.5	10.3	17.0	0.3	13.8	0.2	-3.2	-0.1

Source: Experian, PBA

Appendix Table A1 Alternative activity rates: scenarios compared, Colchester

Area	Variable 000s unless otherwise stated	Historical data		Forecast baseline UK activity rates = Experian		Alternative scenario UK activity rates = OBR		Scenario less baseline	
		2013	2015	2036	Change 2013-36 p.a.	2036	Change 2013-36 p.a.	2036	Change 2013-36 p.a.
Colchester	Labour Force	93.3	96.7	115.0	0.9	111.2	0.8	-3.8	-0.2
Colchester	Labour Force - 16 to 64	89.4	93.1	104.3	0.6	103.4	0.6	-0.9	-0.0
Colchester	Labour Force - 65 +	4.0	3.5	10.7	0.3	7.8	0.2	-2.9	-0.1
Colchester	Population - 16 +	144.8	148.8	178.6	1.5	178.6	1.5	0.0	0.0
Colchester	Population - 16 to 64	114.8	117.3	130.4	0.7	130.4	0.7	0.0	0.0
Colchester	Population - 65 +	30.0	31.6	48.3	0.8	48.3	0.8	0.0	0.0
Colchester	Total Population	177.7	182.9	218.5	1.8	218.5	1.8	0.0	0.0
Colchester	Economic Activity Rate (%) - 16+	64.5	64.9	64.4	0.0	62.2	-0.1	-2.2	-0.1
Colchester	Economic Activity Rate (%) - 16 to 64	77.8	79.4	80.0	0.1	79.3	0.1	-0.7	-0.0
Colchester	Economic Activity Rate (%) - 65+	13.2	11.2	22.2	0.4	16.1	0.1	-6.1	-0.3
Colchester	Workforce Jobs	89.2	94.5	114.7	1.1	110.6	0.9	-4.1	-0.2
Colchester	Jobs Demand	89.2	94.5	114.7	1.1	110.6	0.9	-4.1	-0.2
Colchester	Excess Jobs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Colchester	FTE jobs	67.9	70.9	87.7	0.9	84.6	0.7	-3.1	-0.1
Colchester	Workplace based employment	84.4	88.0	106.7	1.0	102.8	0.8	-3.9	-0.2
Colchester	Residence based employment	87.4	92.8	110.4	1.0	106.8	0.8	-3.6	-0.2
Colchester	Unemployment	5.9	3.9	4.6	-0.1	4.4	-0.1	-0.2	-0.0
Colchester	Net commuting balance (inflow)	-3.0	-4.8	-3.7	0.0	-4.0	0.0	-0.3	-0.0
Colchester	Unemployment Rate (%)	6.3	4.0	4.0	-0.1	4.0	-0.1	0.0	0.0
UK	Economic Activity Rate (%) - 16 to 64	76.9	77.3	79.7	0.1	77.2	0.0	-2.5	-0.1
UK	Economic Activity Rate (%) - 65+	9.5	10.3	17.0	0.3	13.8	0.2	-3.2	-0.1

Source: Experian, PBA

Appendix Table A1 Alternative activity rates: scenarios compared, Tendring

Area	Variable 000s unless otherwise stated	Historical data		Forecast baseline UK activity rates = Experian		Alternative scenario UK activity rates = OBR		Scenario less baseline	
		2013	2015	2035	Change 2013-35 p.a.	2035	Change 2013-35 p.a.	2035	Change 2013-35 p.a.
Tendring	Labour Force	56.1	63.0	73.5	0.8	70.6	0.7	-2.9	-0.1
Tendring	Labour Force - 16 to 64	52.5	59.5	64.3	0.5	64.5	0.5	0.2	0.0
Tendring	Labour Force - 65 +	3.6	3.4	9.2	0.3	6.1	0.1	-3.1	-0.1
Tendring	Population - 16 +	116.2	117.8	137.1	1.0	134.9	0.9	-2.2	-0.1
Tendring	Population - 16 to 64	76.4	76.5	77.9	0.1	79.6	0.1	1.7	0.1
Tendring	Population - 65 +	39.8	41.4	59.2	0.9	55.4	0.7	-3.8	-0.2
Tendring	Total Population	138.8	140.7	162.6	1.1	163.8	1.1	1.2	0.1
Tendring	Economic Activity Rate (%) - 16+	48.3	53.4	53.6	0.2	52.3	0.2	-1.3	-0.1
Tendring	Economic Activity Rate (%) - 16 to 64	68.7	77.9	82.5	0.6	81.1	0.6	-1.4	-0.1
Tendring	Economic Activity Rate (%) - 65+	9.0	8.3	15.6	0.3	11.0	0.1	-4.6	-0.2
Tendring	Workforce Jobs	45.2	47.7	55.9	0.5	53.7	0.4	-2.2	-0.1
Tendring	Jobs Demand	45.2	47.7	55.9	0.5	53.7	0.4	-2.2	-0.1
Tendring	Excess Jobs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tendring	FTE jobs	33.1	35.0	40.7	0.3	39.0	0.3	-1.7	-0.1
Tendring	Workplace based employment	45.9	47.0	55.3	0.4	53.1	0.3	-2.2	-0.1
Tendring	Residence based employment	50.9	59.2	69.5	0.8	67.3	0.7	-2.2	-0.1
Tendring	Unemployment	5.1	3.8	4.0	-0.1	3.3	-0.1	-0.7	-0.0
Tendring	Net commuting balance (inflow)	-5.0	-12.2	-14.2	-0.4	-14.2	-0.4	0.0	0.0
Tendring	Unemployment Rate (%)	9.2	6.0	5.5	-0.2	4.7	-0.2	-0.8	-0.0
UK	Economic Activity Rate (%) - 16 to 64	9.5	10.5	17.8	0.4	13.9	0.2	-3.9	-0.2
UK	Economic Activity Rate (%) - 65+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Experian, PBA