Employment provision for the North Essex Garden Communities

Centre for Economics and Business Research report for the North Essex Authorities

1st July 2019

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Contents

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1. Introduction

1.1   In April 2017, Cambridge Econometrics and SQW produced an employment and demographic report for the North Essex Authorities[1]. This included scenarios for the population and employment of the Garden Communities, together with high-level estimates of employment space requirements.

1.2   In March 2019, the Centre for Economics and Business Research (Cebr) was commissioned to produce estimates of employment floorspace and employment land requirements for the three Garden Communities planned in North Essex. These estimates supersede the previous work done by Cambridge Econometrics and SQW.

1.3   In this note, we set out to present clearly and to a reasonable level of detail the assumptions used in the work to generate employment, employment floorspace, and employment land estimates.

1.4   Employment space estimates are for B class uses (industrial, office, and warehousing).

1.5   At the end of this document, results are summarised.

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[1] Colchester Borough Council, Braintree District Council, Tendring District Council and Essex County Council.

2. Methodology

Employment scenarios

2.1   Cebr considered two main scenarios for employment levels in each Garden Community: the 'reference case and 'investment led'.

2.2   Colchester Borough Council provided 2022-2033 housing trajectories per Garden Community which informed employment scenarios. Figures provided are summarised in Table 1. After 2033, 300 dwellings per annum is assumed in each community until they meet the top end of the local plan range (13,000 for West of Braintree, 24,000 for Colchester Braintree Borders, and 9,000 for Tendring Colchester Borders). Results at the end of this note are included for each Garden Community in 2033, 2050, and the 'final state' completion of construction. This last year is different for each Garden Community: 2055 for Tendring Colchester Borders, 2068 for West of Braintree, and 2109 for Colchester Braintree Borders.

Table 1: Annual housing trajectories to 2033/34 for the Garden Communities

	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33
West of Braintree	100	200	300	300	300	300	300	300	300	300
Colchester Braintree Borders	-	-	-	-	-	150	300	300	300	300
Tendring Colchester Borders	100	150	200	250	300	300	300	300	300	300

2.3   In the reference case scenario, total employment in each Garden Community is exactly equal to number of dwellings.

2.4   The investment led scenario is based on previous scenario-based economic analysis carried out by Cebr for NEGC Ltd. In this scenario, employment-to-population ratio in North Essex as a whole gradually increases to converge on the ratio forecast[2] for a set of comparators[3] in 2036. In 2016 North Essex's employment-to-population ratio was 38.5% and under this scenario it increases to 43.5% in 2036.

2.5   The investment led scenario for this piece of work assumes that the employment-to-population ratio remains constant from 2036 onwards, and that in each Garden Community it is identical to the rate across North Essex (i.e. this employment-to-population ratio is achieved across North Essex as a whole and within each of the Garden Communities).

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[2] Based on Cebr's in-house local authority employment forecasts and ONS population forecasts, extrapolated as necessary

[3] West Essex, Cambridgeshire, Milton Keynes, Buckinghamshire, Oxfordshire, Berkshire, and Surrey

2.6   For the purposes of the employment calculations in the investment led scenario, population in each Garden Community is assumed on the basis of household size (i.e. the number of people per house) following the ONS 2016-based household projections for England to 2041 – after 2041, household sizes are assumed to remain constant at 2.26.

2.7   Estimated total employment numbers for each Garden Community in 2033, 2050, and on completion of construction ('final state') are summarised in the results section.

Industrial sectors

2.8   A mix of industrial sectors was assumed for each Garden Community based on an assessment of their relative strengths and economic opportunities. Percentage of jobs in each of the ten high-level sectors under the Standard Industrial Classifications (SIC07) by Garden Community is shown in Table 2. These are based on adjustments to sectoral employment shares for the comparator regions implied by Cebr's in-house forecasts for GVA[4] by sector per local authority.

Table 2: Assumed employment by sector from Cebr work

	West of Braintree	Colchester Braintree Borders	Tendring Colchester Borders
Agriculture, mining, electricity, gas, water and waste	1.0%	1.0%	1.0%
Manufacturing	4.5%	4.5%	2.5%
Construction	5.0%	5.0%	5.0%
Distribution; transport; accommodation and food	25.0%	15.0%	15.0%
Information and communication	20.0%	20.0%	30.0%
Financial and insurance activities	1.0%	9.0%	1.0%
Real estate activities	0.5%	0.5%	0.5%
Business service activities	28.0%	30.0%	30.0%
Public administration; education; health	12.0%	12.0%	12.0%
Other services and household activities	3.0%	3.0%	3.0%

[4] A measure of the value of goods and services produced within a geographic area and/or economic sector of an economy, calculated as the value of output less the value of intermediate consumption (i.e. raw materials and other inputs).

2.9 These assumptions give a different number of jobs per sector depending on total employment scenario (reference case or investment led).

Employment densities

2.10 Homes and Communities Agency (HCA) guidance[5] on observed employment densities for different types of workplace was used to convert employment per sector for each Garden Community into floorspace requirements.

2.11 Business register and employment survey (BRES) data was analysed to inform decisions about the assignment of employment in each sector to different types of workspace; for each sector it provides a breakdown by more specific occupational classes, which were approximately assigned to different types of office, industrial, or warehousing space or to non-B class space. In doing this we made sure to accommodate the NEGC ambition for Garden Communities to contain research and development (R&D) space (assumed 20% of business service activities employment) and business incubators (assumed 10% of information and communication employment).

2.12 Densities provided in the HCA guidance were all converted into GEA (Gross External Area) measurements for consistency, following HCA rules of thumb for conversions of NIA (Net Internal Area) into GIA (Gross Internal Area) and GIA into GEA.[6]

2.13 GEA, GIA, and NIA are defined as follows:[7]

   a. Gross External Area (GEA) includes walls, plant rooms, and outbuildings, but excludes external space such as balconies and terraces.

   b. Gross Internal Area (GIA) refers to the entire area inside the external walls of a building and includes corridors, lifts, plant rooms, service accommodation (e.g. toilets).

   c. Net Internal Area (NIA) – this is commonly referred to as the net lettable or 'usable' area of offices and retail units. It includes entrance halls, kitchens and cleaners' cupboards, but excludes corridors, internal walls, stairwells, lifts, WCs and other communal areas.

2.14 To give an example, within the particularly varied 'Distribution; transport; accommodation and food' sector, we arrived at an average density of 26.2m^2 of B class space per employee. The assignment of employment to different types of workplace was as follows:

   a. 0.10 to B1c Light Industrial, with a GEA of 52.1m^2/employee.
   b. 0.30 to B8 Final Mile Distribution, with a GEA of 70.0m^2/employee.
   c. 0.60 to non-B class uses.

2.15 B class space per employee for each sector is shown in Table 3[8].

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[5] *Employment Density Guide 3rd Edition*, Homes & Communities Agency, November 2015, page 29

[6] Conversion of NIA to GIA: HCA says that for non-industrial premises GIA is 15-20% higher than GIA; industrial NIA is 95% of GIA
Conversion of GIA to GEA: assumed that GIA = 0.95*GEA for all premises, again as per HCA guidance

[7] Definitions based on *Employment Density Guide 3rd Edition*, Homes & Communities Agency, November 2015, page 4

[8] Cebr considered employment densities per sector for 'baseline' and 'digital focus' scenarios. The former did not account for R&D and incubator space requirements, so the digital focus densities are shown here. In the baseline the requirements were 13.6 rather than 16.7 for information and communication and 12.9 rather than 20.1 for business service activities.

Table 3: B class employment space requirements (m²/employee) per industrial sector from Cebr work

Industrial sector	B class space per employee
Agriculture, mining, electricity, gas, water and waste	1.5
Manufacturing	46.4
Construction	26.1
Distribution; transport; accommodation and food	26.2
Information and communication	16.7
Financial and insurance activities	13.6
Real estate activities	14.8
Business service activities	20.1
Public administration; education; health	3.0
Other services and household activities	0.0

2.16   From the B class space requirements and number of employees per sector it was thus possible to estimate employment space requirements for each Garden Community for key future years.

2.17   Estimated floorspace requirements for each Garden Community in 2033, 2050, and on completion of construction ('final state') are summarised in the results section.

Conversion to employment land requirement

2.18   Floorspace requirements were converted into employment land requirements using a plot ratio[9] of 200% for offices (B1a Offices, Mixed B Class in the HCA employment densities table), 40% for industrial (B1b, B1c, B2), and 50% for warehousing (B8). This was based on government guidance[10] and Cebr's discussions with AECOM, who confirmed these were widely-applicable ratios which have been used in other North Essex planning policy work.

2.19   Estimated employment land requirements for each Garden Community in 2033, 2050, and on completion of construction ('final state') are summarised in the results section.

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[9] A plot ratio defines the employment land requirement relative to the employment floorspace requirement, giving the latter as a percentage of the former. E.g. a 50% plot ratio indicates that employment floorspace requirement is 50% of the land required; 5,000m² of floorspace requires 10,000m² (1 hectare) of land.

[10] Office of the Deputy Prime Minister, *Employment Land Reviews: Guidance Note* (2004), page 101.

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3. Summary of Results

3.1   Employment, floorspace required, and land required under each scenario and key year are summarised by Garden Community in Table 4.

Table 4: Summary of employment, floorspace, and land results by employment scenario, Garden Community, and year

West of Braintree		**2033**	**2050**	**Final state**
Reference case	Employment	2,700	7,800	13,000
	Employment floorspace (sq. m.)	52,666	152,147	253,579
	Employment land (hectares)	9.2	26.5	44.1
Investment led	Employment	2,685	7,671	12,786
	Employment floorspace (sq. m.)	52,380	149,640	249,400
	Employment land (hectares)	9.1	26.0	43.4
Colchester Braintree Borders		**2033**	**2050**	**Final state**
Reference case	Employment	1,350	6,450	24,000
	Employment floorspace (sq. m.)	24,807	118,524	441,020
	Employment land (hectares)	4.0	19.1	71.2
Investment led	Employment	1,343	6,344	23,605
	Employment floorspace (sq. m.)	24,672	116,571	433,753
	Employment land (hectares)	4.0	18.8	70.1
Tendring Colchester Borders		**2033**	**2050**	**Final state**
Reference case	Employment	2,500	7,600	9,000
	Employment floorspace (sq. m.)	45,083	137,053	162,300
	Employment land (hectares)	6.9	21.0	24.9
Investment led	Employment	2,486	7,475	8,852
	Employment floorspace (sq. m.)	44,838	134,795	159,625
	Employment land (hectares)	6.9	20.7	24.5