

Appendix 8: Employment Sites and Premises Requirement Methodology

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1 Methodological Assumptions

1.1 SIC to Use Class Matrix

The proportion of employment in each category in this matrix is based upon the share of reported employment as recorded by the Business Register and Employment Survey (BRES) in different activities. This approach was applied to each of the sub-sectors in turn and with analysis going down to 4 digit SIC codes. The matrix therefore reflects the current structure of the Swindon and Wiltshire economy in detail.

	A1	A2	A3-5	B1a	B1b	B1c	B2	B8	C1	C2	C3	D1	D2	SG	None/ Home
Primary Industries	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Manufacturing	0%	0%	0%	0%	0%	1%	91%	0%	0%	0%	0%	0%	0%	1%	8%
Utilities	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
Construction	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Wholesale & Retail	56%	0%	0%	1%	0%	0%	3%	30%	0%	0%	0%	0%	0%	9%	2%
Transport	0%	0%	0%	0%	0%	0%	0%	8%	0%	0%	0%	0%	0%	17%	76%
Warehousing & Postal	0%	0%	0%	18%	0%	0%	0%	50%	0%	0%	0%	0%	0%	0%	32%
Accommodation & Food Services	0%	0%	60%	0%	0%	5%	0%	0%	22%	0%	0%	0%	0%	0%	13%
Media & IT	0%	0%	0%	67%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	27%
Financial & Professional Services	0%	15%	0%	53%	13%	0%	0%	0%	0%	0%	0%	0%	0%	2%	17%
Business Support Services	6%	0%	2%	24%	0%	0%	8%	4%	2%	5%	1%	3%	1%	8%	36%
Public Administration	0%	1%	0%	46%	0%	0%	0%	0%	0%	0%	0%	23%	0%	0%	31%
Education & Health	0%	0%	0%	5%	0%	0%	0%	0%	0%	34%	0%	58%	0%	1%	1%
Other Services	15%	1%	0%	19%	0%	2%	0%	0%	0%	0%	0%	11%	28%	16%	9%

1.1.1 Homeworking

It is important to consider the effects of homeworking. 2011 Census of Population data shows us that homeworking is substantially more prevalent in Wiltshire than Swindon. This is generally typical of more rural areas. Consultations indicate that home-based working could become more prevalent with the rise of communications technology.

In aggregate 8% of the Swindon resident workforce and 15% of the Wiltshire resident workforce reported working mainly from or at home.

Data on homeworking by sector is relatively limited and crude because of the aggregation of broad sectors. Agriculture and others is the sector with the highest reported homeworking, particularly concentrated in Wiltshire as would be expected. 11% of manufacturing employment in Wiltshire is reported to be mainly at or from home.

In some sectors, homeworking may be a reflection of home-based businesses, which might include some itinerant working, e.g. the construction sector. The level of detail in the data does not allow clear conclusions to be drawn.

The SIC/Use Class matrix used for assessing employment by Use Class already makes allowance for employment that does not require land. This could include some who report being home-based, or itinerant workers. It could also include those with home-based businesses in a wide range of sectors. It would not therefore be appropriate to apply the figures from the Census as standardised deductions by sector. However, it should be utilised. The data clearly suggests:

- A proportion of manufacturing based employment is homebased.
- Homeworking in office based sectors, particularly financial and business services is important in the area, especially in Wiltshire.
- A proportion of public administration employment is home based.
- Other services includes a substantial element of home based activity.

	Swindon	Wiltshire	Swindon & Wiltshire Combined Area
All categories: Industry	8%	15%	13%
A, B, D, E Agriculture, energy and water	8%	39%	29%
C Manufacturing	5%	11%	8%
F Construction	13%	19%	17%
G, I Distribution, hotels and restaurants	6%	11%	9%
H, J Transport and communication	12%	22%	18%
K, L, M, N Financial, Real Estate, Professional and Administrative activities	10%	22%	17%
O, P, Q Public administration, education and health	7%	10%	9%
R, S, T, U Other	14%	24%	21%

1.2 Floorspace per Worker

The table below sets out further details on assumptions in respect of average floorspace per worker.

Use Class	Assumption
B1a Offices	The Employment Densities Guide (2015) provides estimates for a range of office functions ranging from 8 – 13 sq m per employee (Net Internal Area). The higher end of this range relates to Corporate HQ and the lower end relates to call centres. Financial Services, Public Sector and Professional Services fall within the 10-12 sq m range. The Occupier Density Study (2013) indicates an average density of 10.9 sq m for the UK. On this basis, an assumption of 11 sq m per employee has been adopted, with a 20% uplift to provide Gross External Area (GEA). The utilised assumption is therefore 13.2 sq m per employee .
B1b R&D	The most recent (2015) best practice guidance sets out a range of 40-60 sq m (NIA) for R&D B1b premises. The mid point of this range has been adopted, and uplifted by 20% to convert to GEA. A figure of 60

	sq m per employee has been used within the analysis.
B1c Light Industry	The most recent (2015) best practice guidance indicates a figure for B1(c) light industry at 47 sq m per employee (NIA). Allowances are made to align to GEA (+20%) with a final assumption of 56.4 sq m per employee (GEA) .
B2 General Industry	B2 General is estimated at 36 sq m per employee (GIA). Allowances are made to align to GEA (+5%) with a final assumption of 37.8 sq m per employee (GEA) .
B8 Storage & Distribution	Latest available estimates suggest a range of 70 – 95 sq m per employee. 70 sq m per employee (GEA) for ‘final mile’ distribution centres and 95 sq m per employee (GEA) for national distribution centres. There is the potential for a mix of both and 80 sq m per employee has been adopted for this analysis.

1.3 Changing Employment Densities

Research publications setting out employment densities have indicated a trend towards increasing density of occupation of office space (i.e. reduced space per worker) over the last 20 years. Guidance published in 2001 indicated general office density of 19 sq m per worker (GIA) which had reduced to 13.8 sq m per worker (GIA) within the 2010 2nd edition of the guidance and a range of 9.2 – 15.0 sq m per worker in the 2015 guidance. As a result of increasing density of occupation across the whole office stock it was possible for substantial increases in employment to be accommodated within existing stocks through the reconfiguration and modernisation of space.

However, the September 2013 Occupier Density Study published by the British Council for Offices suggests this trend might be levelling off, for various reasons. This is in keeping with the findings of the 2012 and 2015 guidance documents. For the purposes of the quantitative assessment in this report it is assumed that there is no further substantive increase in the density of office occupation so as not to artificially restrict the provision of office space. However, when interpreting the results it should be considered that if the recent historic trend did continue there may be scope for a lower requirement for new office development than set out within this analysis. Particularly if there is a high proportion of call centre type occupiers.

1.4 Replacement Allowances

An allowance for replacement has been included within the methodology to encapsulate the wider changes in the economy not picked up in the employment projections. Working practices change, new technologies are adopted, and the sites and premises used by firms need to adapt to these new ways of working. As a result, there will be a need for some existing employment stocks to be replaced. There will also be instances where existing buildings are so dilapidated that they require complete reconstruction.

Developing a methodology to estimate the scale of replacement activity is not straightforward. As a result, the team at Hardisty Jones Associates, draws on our experience of working with clients over a number of years, particularly Hampshire County Council and the Partnership for Urban South Hampshire, has developed a methodology which is robust in terms of its underpinning logic and the evidence used to derive assumptions.

Typically within the property sector, development appraisals on new buildings consider a 25-30 year time horizon. As a result, one may expect that after this period, a building would be ripe for replacement. However, data on the age of commercial employment buildings indicates a very different picture.

Data from 2004 (no more recent data has been published) for Swindon and Wiltshire (shown in the table below) indicates that a notable proportion of the existing stocks were built pre 1940 and around 40% pre 1970. This implies that the useful lifespan of some stocks is considerable.

Age of Commercial Stocks in Swindon and Wiltshire

	% built Pre 1940	% built 1940 - 1970	Total Pre 1970
Retail	27%	19%	47%
Office	23%	14%	37%
Factory	11%	34%	45%
Warehouse	10%	25%	35%
Total	15%	26%	41%

Source: CLG archive. Total floorspace by LAD and age. 2004.

If buildings were replaced every 30 years, one would expect around 3% of all commercial employment property stocks to be replaced each year. Due to the existence of a substantial stock of property aged pre 1970 (41%) this assumption is not supported by the evidence and is too strong. A range of assumptions were tested at a stakeholder workshop. This proposed options ranged from 0.5% per annum to 1% per annum and up to 2% per annum, with a suggestion that a figure around 1% per annum was a sensible working assumption. This effectively equates to a replacement of the entire commercial employment stock every 100 years (clearly there will be some property which is not replaced and other buildings which could be replaced more than once). It was suggested by a workshop attendee that for Swindon this figure may be a little low and that a substantial stock of property is approaching the end of its useful life and will need replacing in the next plan period.

Consideration of age of stock data indicates that Swindon has a very low proportion of stock aged pre 1970 relative to Wiltshire, the south west region and England & Wales averages. As a result it has a greater proportion of stocks built in the period 1970-90, particularly in the office sector. The data is presented in the tables below. This reflects the historic development pattern of Swindon. In the stakeholder workshop it was suggested that stocks built in this period will not have such a long life as earlier built property, and therefore justifies a slightly higher assumption for replacement of office stocks in the Borough. As a result a figure of 1.5% is used in this sector and location.

Age of Commercial Stocks – Swindon Borough

	% built Pre 1940	% built 1940 - 1970	% built 1970-90
Retail	16%	16%	30%
Office	12%	5%	68%
Factory	6%	27%	25%
Warehouse	3%	19%	51%
Total	8%	18%	43%

Source: CLG archive. Total floorspace by LAD and age. 2004.

A higher proportion of stocks (13%) are of unknown age in Swindon than in Wiltshire (3%)

Age of Commercial Stocks – Wiltshire

	% built Pre 1940	% built 1940 - 1970	% built 1970-90
Retail	34%	21%	26%
Office	35%	24%	21%
Factory	15%	38%	31%
Warehouse	17%	31%	39%
Total	21%	31%	31%

Source: CLG archive. Total floorspace by LAD and age. 2004.

A higher proportion of stocks (13%) are of unknown age in Swindon than in Wiltshire (3%)

1.5 References

Arup for English Partnerships (2001) Employment Densities: A Full Guide

Drivers Jonas Deloitte for OffPAT and Homes & Communities Agency (2010) Employment Densities Guide, 2nd Edition

Homes & Communities Agency (2015) Employment Density Guide, 3rd Edition

Occupier Density Study, 2013, British Council for Offices