**Employment Densities for Property Projects**

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| **Employment densities are benchmarking data on the average number of employees who can be accommodated per unit of floorspace provided. These benchmarks can then be used to estimate the gross employment and GVA impacts of physical developments.** |

**Why is it important?**

Employment density data can be used to estimate the level of gross employment that can be accommodated within new or refurbished accommodation. This information can then be used to derive an estimate of the likely gross GVA impact.

**When do we need to use floorspace densities?**

It is always preferable to use actual information on the number of employees that could be accommodated, obtained through consultations with beneficiaries and/or partners. However, this information may not always be available: for example, for speculative developments there may be no detailed information on the end users who might occupy the premises. In these circumstances, employment density ratios provide an alternative means of estimating indicative gross impacts.

**How do you apply floorspace densities?**

The key source for benchmark data is ***Employment Densities Guide, 2nd Edition, 2010[[1]](#footnote-1)*** (OffPAT and Homes and Communities Agency). This provides average density ratios, expressed in terms of the square metres of floorspace needed to accommodate one FTE job, for a variety of end uses/industrial classifications, including;-

* Industrial;
* Warehouse and distribution;
* Office;
* Retail; and
* Leisure and visitor attractions.

However, the figures are very general and do not cover some of the activities that SE is increasingly asked to support. An example is the renewables industry, especially those elements of it that involve large scale fabrication activities. Using company specific data on employment and site floor areas, SE is gradually developing more realistic densities.

For large scale fabrication activities (such as wave generation and wind turbines) it is estimated that some 300 square metres of space are required per employee. This covers buildings and yard space which often forms a large proportion of total site area[[2]](#footnote-2).

As more sector specific employment density data is generated then this guidance will be updated.

To calculate the gross employment impact, the area of floorspace is simply divided by the employment density ratio. Consider the following example for a mixed use development. It can be seen that using data from the Employment Densities Guide the total gross employment that the development can accommodate is 570 employees.

**TABLE 1 Gross Employment Impact Calculation**

|  |  |  |  |
| --- | --- | --- | --- |
| **Function** | **Floorspace (m2)** | **Floorspace density** | **Gross FTE’s** |
| Call centre | 2,000 | 8 | 2,000/8= 250 |
| Light industrial use | 10,000 | 47 | 10,000/47= 213 |
| General warehousing | 7,500 | 70 | 7,500/70=107 |
| TOTAL | 19,500 | N/A | 570 |

Having calculated this information an estimate can then be made of the gross GVA impact. This is done by:-

* Using figures from the Scottish Annual Business Statistics (pp.42-46)[[3]](#footnote-3) (unless other better evidence is available), the GVA per employee for the relevant activities can be identified; and
* This can then be multiplied by the relevant number of employees to derive a gross GVA figure.

This is illustrated in Table 2. It can be seen that the annual gross GVA estimated to be created by the employees housed in this space is some £29.6 million.

**TABLE 2 Gross GVA Impact Calculations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Function[[4]](#footnote-4)** | **GVA per employee (2011)** | **Gross FTEs** | **Annual Gross GVA** |
| Call centre (SIC 82) | £49,000 | 250 | £12,250,000 |
| Light industrial use (SIC 32) | £40,000 | 213 | £8,520,000 |
| General warehousing(SIC52) | £83,000 | 107  | £8,881,000 |
| TOTAL | N/A | 570 | £29,651,000 |

**Note:** GVA per employee figures are rounded.

**Caveats**

The approach outlined above needs to be heavily caveated:-

* The figures are gross and make no allowance for the normal additionality adjustments, especially deadweight and displacement;
* The figures are based on 100% occupancy levels which are unlikely to be the case. For smaller units the vacancy rate is likely to be higher than for larger units. These rates are also likely to vary according to local property market conditions. Given this, if vacancy rates need to be factored in it may be best to seek guidance from property specialists; and
* The data used is very general (Business Park, General Industrial Use, for example) as is the GVA data (unless better evidence is available). Thus the estimates of both employment and GVA may deviate significantly from the actual figures once actual end users can be identified.

Given these factors any impacts estimated using employee densities should be heavily caveated.

**How is floorspace defined?**

When calculating gross employment, different types of end use/industrial classifications apply different floorspace areas, including:-:

* Gross External Area (GEA) - the area of a building measured externally at each floor level;
* Gross Internal Area (GIA) - the area of a building measured to the internal face of the perimeter walls at each floor level; and
* Net Internal Area (NIA) – the **usable** area within a building measured to the internal face of the perimeter walls at each floor level. This includes such communal space as kitchens and entrance halls.

The ***Employment Densities Guide*** provides more detail on each of these and guidance on which is the appropriate floorspace area to apply. Care therefore needs to be taken that the relevant floorspace area is used when making the impact estimates.

**Hotels and other accommodation**

For hotels and other accommodation employment density is based on the number of rooms and star rating of the accommodation. Again further detail is provided in the ***Employment Densities Guide***.

Other useful information and links

***Employment Densities Guide, 2nd Edition, 2010*** (OffPAT and Homes and Communities Agency)

<http://www.homesandcommunities.co.uk/employment-densities-guide-2nd-ed>

**Converting square feet to square metre’s**

<http://www.metric-conversions.org/area/square-feet-to-square-meters.htm>

**Need more help?**

For further information contact:-

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1. http://www.researchonline.org.uk/sds/search/go.do?action=addToReadingList&docFlag=true&ref=B18509 [↑](#footnote-ref-1)
2. These figures were derived from company specific data (on employment and site areas) for a small number of companies involved in fabrication of offshore renewable generating equipment. [↑](#footnote-ref-2)
3. <http://www.scotland.gov.uk/Resource/0043/00432251.pdf> [↑](#footnote-ref-3)
4. . The SIC code that was felt to best fit the function of the floorspace was used. Thus call centres are assumed to fall within Office, Administration, Office Support and other Business Support Activities. [↑](#footnote-ref-4)