



# **Economic and Employment Evidence to Support the Local Plan and Economic Development Strategy**

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*Appendix 3: Demand Analysis*

**Prepared for Epping Forest District Council**

September 2015

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## 1 Introduction

### 1.1 Purpose

This background paper sets out the analysis to assess future employment sites and premises requirements in Epping Forest District over the Local Plan period 2011-33. The results will inform the wider Economic and Employment Evidence study to inform both the Epping Forest District Local Plan and Economic Development Strategy.

### 1.2 Overarching Principles

The assessment of future requirements contained within this report is not designed to be a detailed prediction of exactly what will happen in the future in Epping Forest District. Any exercise which includes an element of forecasting includes substantial risk and uncertainty. Therefore, the results of this exercise are not intended to be the basis of a 'predict and provide' policy response. Rather, the approach is designed to bring together available evidence in order that there is a clear basis on which to consider policy options, in conjunction with other complementary, or potentially competing evidence. In particular, the method has been designed in line with national policy and best practice guidance to help inform the development of the Epping Forest District Local Plan, specifically to inform policies around the provision of land for employment. Policies should be regularly reviewed in the light of new evidence and the passing of time as part of the on-going planning policy development and review process.

### 1.3 Geographic Designations

The analysis is focused on Epping Forest District. However, it is important that this is considered in the context of the functional economic market areas (FEMAs) in which the district is located. This aligns to the Planning Practice Guidance. FEMAs are discussed in more detail in Appendix 2.

FEMA analysis directly informed this work through the joint study that ran alongside the West Essex and East Herts Strategic Housing Market Assessment. This provides a sub-regional basis for the interpretation of the East of England Forecasting Model (EEFM) and scenario analysis.

## 2 Methodology

### 2.1 Overview and Official Guidance

The method employed to assess future requirements has been developed over many years and is aligned to the principles set out in the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG).

Paragraph 21 of the NPPF states that:

*Investment in business should not be over-burdened by the combined requirements of planning policy expectations. Planning policies should recognise and seek to address potential barriers to investment, including a poor environment or any lack of infrastructure, services or housing. In drawing up Local Plans, local planning authorities should:*

- *set out a clear economic vision and strategy for their area which positively and proactively encourages sustainable economic growth;*
- *set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;*
- *support existing business sectors, taking account of whether they are expanding or contracting and, where possible, identify and plan for new or emerging sectors likely to locate in their area. Policies should be flexible enough to accommodate needs not anticipated in the plan and to allow a rapid response to changes in economic circumstances;*
- *plan positively for the location, promotion and expansion of clusters or networks of knowledge driven, creative or high technology industries;*
- *identify priority areas for economic regeneration, infrastructure provision and environmental enhancement; and*
- *facilitate flexible working practices such as the integration of residential and commercial uses within the same unit.*

The NPPG states that:

*Need for all land uses should address ...the ... quantity of economic development floorspace needed based on quantitative assessments, but also on an understanding of the qualitative requirements of each market segment.*

*Assessing development needs should be proportionate and does not require local councils to consider purely hypothetical future scenarios, only future scenarios that could be reasonably expected to occur.*

*The assessment of development needs is an objective assessment of need based on facts and unbiased evidence. Plan makers should not apply constraints to the overall assessment of need, such as limitations imposed by the supply of land for new development, historic under performance, viability, infrastructure or environmental constraints. However, these considerations will need to be addressed when bringing evidence bases together to identify specific policies within development plans.*

*Plan makers should consider forecasts of quantitative and qualitative need (i.e. the number of units and amount of floorspace for other uses needed) but also its particular characteristics (eg footprint of economic uses and proximity to infrastructure). The key output is an estimate of the scale of future needs, broken down by economic sectors.*

*Local authorities should develop an idea of future needs based on a range of data which is current and robust. Authorities will need to take account of business cycles and make use of forecasts and surveys to assess employment land requirements.*

*Emerging sectors that are well suited to the area being covered by the analysis should be encouraged where possible. Market segments should be identified within the employment property market so that need can be identified for the type of employment land advocated.*

*The available stock of land should be compared with the particular requirements of the area so that 'gaps' in local employment land provision can be identified*

*Plan makers should consider:*

- *sectoral and employment forecasts and projections (labour demand);*
- *demographically derived assessments of future employment needs (labour supply techniques);*
- *analyses based on the past take-up of employment land and property and/or future property market requirements;*
- *consultation with relevant organisations, studies of business trends, and monitoring of business, economic and employment statistics.*

The underlying principle is to acknowledge the range of available evidence and the inherent uncertainty. In so doing, various factors can be brought together to give a balanced view of future requirements. As a result, whilst there are elements of this approach which are quantitative and could be viewed as mechanistic, these must be balanced and adjusted in line with other available qualitative evidence to ensure the approach and the interpretation of the results are appropriate to the characteristics of the area of focus.

The key components of method employed are:

- A consideration of the likely pattern of economic growth in the area based on economic and employment forecasts giving an indication of labour demand and sectoral patterns of growth, set in the context of wider sub-regional and national growth trends;
- A consideration of the potential change in labour supply as a result of changes in the demographics of the area and likely changes in patterns of economic activity;
- A consideration of key economic policy ambitions, drivers and confirmed actions which may have an impact upon the future scale and pattern of economic change in the area;
- A consideration of the socio-economic characteristics of the area and the implications of this for future patterns of land and property use;
- A consideration of the commercial property market dynamics and characteristics of the area and the influence the development, occupier and investment markets will exert on future employment property and land use; and

- A consideration of historic patterns of employment property development and land use as a potential indicator of future trends.

## 2.2 Quantitative Assessment

Slightly different methodologies are used for considering the land and floorspace implications of employment change within and outside the B Use Class. These result from the varying availability of robust evidence to inform assumptions and the level of maturity of assessment techniques.

The B Use Class includes business, industrial and storage/distribution uses. These have historically been viewed as the primary employment Use Classes, however, it is often the case that a minority of jobs are actually accommodated within sites and premises classified within the B Use Classes. Many jobs fall within other Use Classes including retail, customer services, hotels, leisure and catering, health, education and construction. Some jobs are entirely mobile and require no sites or premises base at all.

### 2.2.1 Employment within the B Use Classes

Within the balanced approach outlined above is a quantitative component which brings together available evidence within a quantitative model, designed to capture the key drivers of future requirements. This is summarised in the flow diagram (figure 1).

Figure 1: Methodology Diagram



The first part of the process considers the potential for additional requirements for employment land and property as a result of expansion in the economy. This is based on sectoral employment projections, which are then converted into projected employment change by Use Class using a conversion matrix presented at Appendix 1 to this report and then into property and land requirements using employment and development density assumptions.

The second stage then considers wider market factors. Particularly the need to recognise the churn in the economy and a need to replace and upgrade property stocks. For example, whilst the manufacturing sector as a whole has experienced well documented decline in its employment base, there has been a continued demand for new premises within which to operate. This demand can be driven by existing companies needing more/less space, a different location or a different type of premises. It can also be driven by new companies in the market, which may not find the right type of property available in the right location within the market. As a result, whilst overall a sector may be in decline (although this still applies to growing sectors too), there are changes beneath the surface which will continue to drive demand. This can be a particular issue where existing stocks are ageing or where vacant sites are no longer in the locations that are suitable to modern occupiers.

The third element of the model builds in an allowance for choice and flexibility. This element needs to take account of offering location choice as well as choice in terms of the type of property and setting.

Within the detailed assumptions employed as part of this model, local evidence has been used to ensure the approach is appropriate to Epping Forest District.

### **2.2.2 Employment within the A Use Classes**

There is available information to make an assessment of net additional floorspace requirements using the employment density method for A Use Classes. However, there are also other more traditional methods for assessing future floorspace requirements, particularly for retail use. As a result, the assessment within this analysis is set out as indicative.

### **2.2.3 Employment outside the A and B Use Classes**

Outside the A and B Use Classes the information available to allow the translation of jobs to floorspace is insufficient to complete a full and robust assessment of future requirements. There is a very wide range of activities within Use Classes with hugely varying sites and premises requirements and therefore other more qualitative approaches are required.

Sectoral employment projections are translated into Use Class using a detailed SIC-Use Class matrix which is also used for the A and B Use Classes. This can be found at Appendix 1. This is an important step in understanding the scale and nature of change of employment within each Use Class.

The scale of projected employment change is set out with associated commentary and indicative floorspace implications where appropriate.

## **2.3 Validation**

The results of the quantitative assessment are tested against historic patterns of activity and other available evidence of a more qualitative nature to aid interpretation of the results and set the results in a wider context.

### 3 Economic Futures

A key element of considering future employment land and property requirements is an understanding of the likely pattern of economic and employment change in Epping Forest District. Forecasts for Epping Forest District and the wider FEMA were drawn from the East of England Forecasting Model (EEFM). The EEFM is an econometric model developed by Oxford Economics providing consistent forecasting information for the whole of the East of England region and its constituent areas. The EEFM 2014 model has been used to provide a baseline view of the economy as well as to test alternative scenarios<sup>1</sup>. All data referred to in this chapter is drawn from the EEFM. These may not exactly mirror official published statistics, particularly as a result of the integration of agriculture within employment measures which are typically not well dealt with in the main official datasets.

Analysis of the EEFM was undertaken at the sub-regional level to ensure alignment with the SHMA<sup>2</sup>. As part of this analysis an adjusted EEFM scenario, taking account of Stansted growth was developed<sup>3</sup>. This scenario, based on 1,895 jobs per annum (jpa) across the strategic housing market area, has been adopted as the basis for the analysis in this report. This is an increase from the EEFM baseline of 1,590 jpa. The details are set out in Table 1.

**Table 1: HMA-wide Workplace Based Jobs Scenarios**

	EEFM 2014 Baseline				Stansted Growth Scenario			
	2011	2033	2011-33	JPA	2011	2033	2011-33	JPA
East Herts	66,785	76,750	9,960	455	66,785	76,360	9,570	435
Uttlesford	43,390	50,465	7,080	320	43,390	58,205	14,815	675
Harlow	42,230	49,815	7,585	345	42,230	49,560	7,330	335
Epping Forest	57,545	67,880	10,335	470	57,545	67,545	10,000	455
<b>HMA</b>	<b>209,955</b>	<b>244,915</b>	<b>34,965</b>	<b>1,590</b>	<b>209,955</b>	<b>251,665</b>	<b>41,715</b>	<b>1,895</b>

Figures may not sum due to rounding

The sub-regional total was apportioned to each constituent authority area, with Epping Forest allocated<sup>4</sup> a figure of 400 – 455 jpa across the 2011-33 plan period. This compares to the original EEFM 2014 Baseline of 470 jpa. The slight downward adjustment from 470 jpa to 455 jpa is as a result of growth at Stansted drawing labour and economic activity away from other parts of the sub-region. The reduction of 15 jpa is very modest<sup>5</sup>. The 400 jobs per annum scenario results from an alternative distribution of jobs across the housing market area based on the current (recent history) distribution of workplace based jobs. Sectoral employment projections for Epping Forest District

<sup>1</sup> The EEFM 2014 runs to 2031. The forecasts have been extended to 2033 by extrapolating the long term trends from the period 2028-31.

<sup>2</sup> Hardisty Jones Associates (July 2015) Economic Evidence to Support the Development of the OAHN for West Essex and East Herts

<sup>3</sup> The sub-regional report should be read for full details of scenario development and assumptions made. The baseline EEFM did not incorporate the scale of growth planned at Stansted. A Stansted scenario was developed taking account of evidence prepared by Manchester Airports Group.

<sup>4</sup> The sub-regional report should be read for full details. The apportionment was based on (1) the EEFM forecast distribution of future employment growth and (2) the historic distribution of employment across the SHMA.

<sup>5</sup> To set in context, the EEFM Baseline projects total workplace based employment growth of 0.75% per annum. The Stansted Scenario projects 0.73% per annum. The 400 jpa adjusted scenario projects growth of 0.65% per annum.



have been remodelled to take account of the two headline employment projections emerging from the sub-regional work. The following adjustments from the baseline have been made:

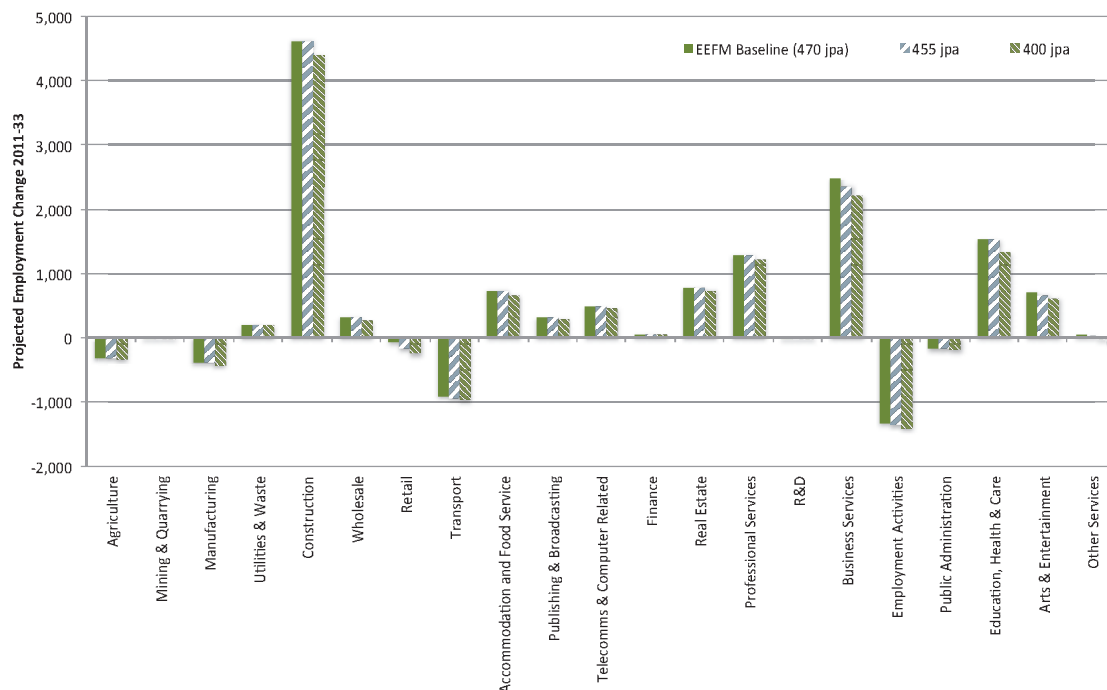
- 455 jpa scenario: 15 jpa reduction apportioned across sectors in line with commentary within technical evidence underpinning the Stansted Sustainable Development Plan 2015<sup>6</sup>. (30% retail, 10% land transport, 30% business services, 10% employment activities, 10% arts and entertainment and 10% other services).
- 400 jpa scenario: adjustment to all sectoral growth rates of 0.0815% per annum.

### 3.1 Sectoral Projections

Figure 2 shows the projected absolute change in employment by sector in Epping Forest District across the two scenarios. This shows that the greatest number of additional jobs is projected to be within the Construction sector, with 4,400 – 4,600 new jobs over the plan period. Around half of this growth is recovery of jobs lost through the recent downturn. Other sectors projected to grow substantially in absolute terms include Business Services, Education, Health & Care and Professional Services.

Employment decline is projected in a number of sectors, most notably Transport and Employment Activities but also Agriculture, Manufacturing, Public Administration and Retail. The decline in Agriculture may not fully reflect potential opportunities for growth in the glasshouse industry in Epping Forest District.

**Figure 2: Projected employment change by sector in Epping Forest District 2011-33 (Source: EEFM 2014 and HJA adjustments)**



<sup>6</sup> Economic Impact of Stansted Scenarios, Oxford Economics, 2013, for London Stansted Corridor Consortium

### 3.2 Use Class Projections

Sectoral employment projections have been translated into employment change by Use Class, using the sector – Use Class matrix presented at Appendix 1 to this report.

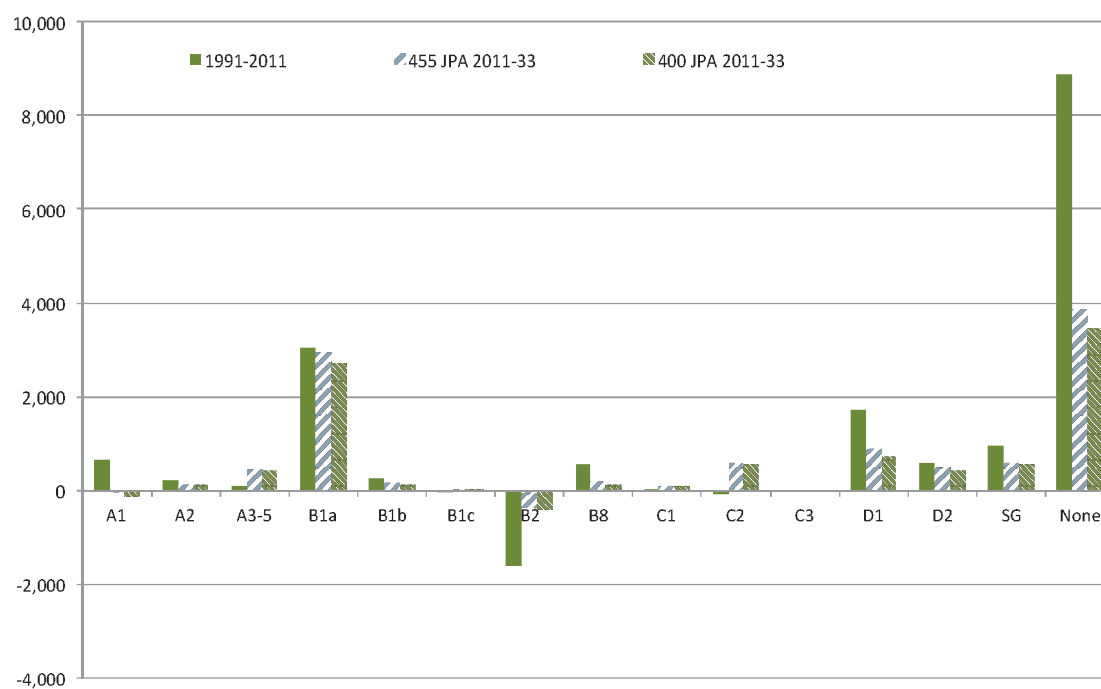
Figure 3 sets out these results. This sets the two forecast scenarios against historic employment change over the period 1991-2011. This shows the substantial projected growth of jobs with no direct sites and premises requirements. This is fuelled by projected growth in sectors including: Construction and cleaning (classified within the Business Services sector and a major employment sector in Epping Forest District).

B1a office employment is projected to grow strongly, fuelled by a range of sectors including elements of Real Estate, Computer Related Activity, Finance, Professional Services and Business Services. There is projected growth in B8 activities, although to a lesser extent than the historical period.

Growth is projected across the C and D Use Classes. In the case of the C Use Class this is greater than in the historical period. Growth in the D Use Classes is projected to be lower than the historical period. There is a projected growth in A3-5 Use Classes employment, much greater than the historical period as well as in employment within A2 and Sui Generis activities.

There is anticipated employment decline in the A1 Use Class, in contrast to growth in the historical period. There is a projected continued decline in B2 employment, but at a much more modest level than the decline experienced 1991-2011.

**Figure 3: Employment change by Use Class in Epping Forest District (Source: HJA based on EEFM 2013 Baseline)**



Appendix 2 sets out the detailed results broken down by five year time period.

## 4 Estimating Future Requirements

This chapter sets out the results of the quantitative assessment, undertaken in line with the method outlined in chapter two of this report. These results are then tested against other evidence on past take up and other qualitative evidence in the following chapter. Details of assumptions used to convert jobs to floorspace can be found at Appendix 1 to this report.

### 4.1 Net Additional Requirements

Figure 3 in the previous chapter set out employment changes by Use Class. This showed that around 50% of net additional employment is projected to be in activities that do not require sites and premises provision. 30% is projected to be within the B Use Classes which have traditionally been the focus of employment sites and premises provision. The remaining 20% falls across the A, C, D and Sui Generis Classes (-6% to -10% is projected within the A Use Classes, 7% in the C Use Classes, 13-14% in the D Use Classes and 6% classified as Sui Generis)<sup>7</sup>.

When considering the impact of net changes in employment upon future sites and premises requirements it is necessary to highlight the caveat that some employment change could be absorbed within current floorspace. That is, existing employers increasing employment with no need for additional floorspace and other employers reducing headcount without releasing floorspace to the market. The nature of the property market with lease structures and freehold ownership is such that floorspace requirements will not adjust in a perfect correlation with employment. Indeed, headcount is not the only or even primary driver of floorspace requirements in some Use Classes. Nevertheless, over the course of the entire Local Plan period there is likely to be scope for adjustments to be made to major shifts in business operations.

To ensure there is no artificial restriction on growth no allowance is made for increasing the intensity of occupation of existing stocks.

#### 4.1.1 A1 Retail

Future retail floorspace requirements are traditionally assessed based on future expenditure patterns compared with current and planned capacity. The approach considered in this assessment is based on employment projections within the retail sector and therefore differs to the more traditional approach which is considered in other evidence prepared on behalf of Epping Forest District Council<sup>8</sup>.

The EEFM/HJA analysis indicates a slight decline of 30-130 jobs within the A1 Use Class over the plan period. The EEFM suggests retail employment reached its peak in 2006 in the district and then declined to 2012. The later part of this period reflecting the impact of the economic downturn. Projected change in employment is then fairly flat. This would suggest the decline has largely happened, but certainly no major retail growth is projected in the area. That is not to say there is not a need for a changing mix of retail provision and there will undoubtedly be churn in the retail

<sup>7</sup> Figures may not sum due to rounding. Range depends on scenario used.

<sup>8</sup> Roger Tym & Partners (2010) Epping Forest District Council Town Centres Study

sector. However, in order to assess the implications of this there will be a need for detailed retail sector and market research for the area.

Given the modest changes in employment the data would not suggest a major change in retail floorspace. However, guidance on floorspace per worker shows a substantial variation between high street and food superstore retail and other superstores or retail warehouses. The mix of retail requirements will therefore be a bigger determinant of future requirement and potential floorspace changes.

Given the differing nature of retail requirements, and the associated parking requirements for in-town and out of town locations, there will also be a broad range of development densities relating to such uses, with higher density development in town and district/local centres and much lower density development for food superstores and out of town retail warehouses. This creates challenges in converting outline floorspace estimates into land requirements. Any conversion would exaggerate the range of outcomes with both higher density of development and occupation in town centres and lower densities of both indicators out of town.

More detailed retail analysis will provide greater clarity on the nature of future retail requirements in the Epping Forest District area. The 2010 Epping Forest Town Centres Study considers future retail requirements using the more traditional method of expenditure forecasts. This suggested a retail requirement for 33,000 – 50,000 sq m over the period to 2031. These requirements are well in excess of the scale of retail growth projected using the employment forecast approach. However, the Town Centres study is now a little dated, particularly in terms of demographic evidence to inform future population growth scenarios. As the geographic area used as the focus for the Town Centres study does not map exactly to the district boundary it is not possible to make simple adjustments even for indicative purposes. However, one might reasonably conclude that the population growth scenarios which formed the basis for the retail study are higher than current evidence suggests is likely. On that basis the retail requirements may well be lower than indicated by that research.

#### **4.1.2 A2 Financial & Professional Services**

HJA analysis of the EEFM scenarios projects a growth of 120 -140 jobs within the A2 Use Class over the Local Plan period. A2 jobs are primarily accommodated within town centres and district/local centres. This generates an estimated requirement of 2,400 - 2,700 sq m of A2 floorspace over the plan period.

Conversion of floorspace to site area is reliant on assumed plot ratio/development density. Within town centres plot ratios will vary depending on provision of car parking and the number of storeys achieved. Plot ratios upwards of 0.7:1 or 70% might reasonably be considered a minimum and greater than 2:1 or 200% could be achieved. This would suggest a land requirement of up to 0.4 hectares.

#### **4.1.3 A3 – A5 Food & Drink Uses**

The A3-A5 Use Classes cover a range of settings including restaurants, cafes, pubs, bars and takeaways. HJA analysis of the EEFM scenarios projects an additional 410 - 460 jobs within the A3-A5 Use Classes over the Local Plan period.

On this basis future net additional requirements are estimated at 8,900 - 9,900 sq m over the plan period. The nature of likely requirements is likely to reflect the demographics of the area and changing trends in leisure behaviour. Given the range of settings it is very difficult to translate the indicative floorspace requirement into a land use figure. Some requirements will be town centre and district centre based with no associated car parking. Other requirements are likely to be at out of town locations with at least an element of car parking provision.

#### **4.1.4 B1a Office**

HJA analysis of the EEFM scenarios projects an additional 2,700 - 3,000 jobs within the B1a Use Class over the Local Plan period. This would suggest a net additional requirement of around 32,600 - 35,400 sq m in Epping Forest District over the Local Plan period.

The land requirement for this quantity of office development will depend on the type of developments coming forward. Where offices are developed within town centres, either as dedicated office developments or above retail uses plot ratios of 1:1 (100%) or above are potentially achievable. In edge of centre and out of town/business park developments a plot ratio of around 40% is more typical, reflecting the requirement for car parking and landscaping. In reality, a mix is likely to be achieved. At the two extremes the associated land requirement ranges from 3.3 – 8.8 hectares.

#### **4.1.5 B1b/c Research, Development and Light Industry**

HJA analysis of the EEFM scenarios projects an additional 140 - 150 jobs within the B1b Use Class and a very small (less than 50) increase in the level of employment within the B1c Use Class over the Local Plan period. This leads to a requirement of 4,600 - 5,000 sq m of B1b R&D floorspace over the plan period. The small projected increase in employment for B1c light industry is anticipated to require around 1,200 - 1,300 sq m of net additional floorspace. It is anticipated that B1b/c developments would be primarily based in business park type environments with development densities of around 40%. This would lead to a land requirement of 1.5 hectares combined.

#### **4.1.6 B2 Industry**

The EEFM scenarios forecast a decline of around 390 - 420 jobs within the B2 Use Class as a result of the continued decline in manufacturing employment. None of the manufacturing subsectors within the EEFM analysis are forecast to grow in employment terms over the Local Plan period. This might lead to a reduction in floorspace of 14,600 – 15,900 sq m. At a development density of 40% this equates to some 3.7 – 4.0 hectares of land. Further discussion of the potential for land release is set out below.

The decline in employment in the B2 Use Class is not projected to drive any expansion in the requirement for space<sup>9</sup>. The issue is whether there is a release of space to the market. As noted in chapter two, whilst there has been employment decline in the industrial sector for some time, there continues to be demand for new premises (see take up data presented at section 5.1). Issues around the need to upgrade the supply of employment premises are dealt with in the next section of

<sup>9</sup> That does not mean there will be an absence of demand for new B2 premises as a result of churn in the market and changing occupier requirements. This is considered in following sections of the chapter.

this chapter. However, when reflecting on the employment reduction in the industrial Use Class the following issues should be considered:

- Whilst a business may shed some of its staff, it may not close in its entirety and it may not release any of its property holdings to the market. Due to the lumpy nature of the commercial property market, through both lease structures and freehold ownership there is not necessarily a direct relationship between employees and floorspace. The trends that hold true across the economy at large do not always apply evenly at the individual business level. There are indications of increasing space per worker measures in the industrial sector over recent years, which likely reflect the trend towards reduced employment and increasing capital intensity. As a result, one should not necessarily expect a direct release of floorspace in this instance.
- Where a business does close, there may well be a release of either property or indeed an entire site. In some instances these will be available for re-occupation and redevelopment through normal market mechanisms. In other cases, this may not happen within the plan period. There may be constraints upon the re-use of premises or land (such as ownership or contamination), or the site/property may be located unfavourably or be inappropriate for modern business occupiers. As a result, its continued use within the stock of employment land/property could be uncertain.

As a result of both of these issues it is not easy to assess the potential release of land and property as a result of the projected scaling back of the labour force. However, it does suggest there may be some windfall releases which could contribute to future supply. Potentially, windfalls of around 6 - 8 hectares could be seen, based on the entirety of projected employment declines. If it is assumed that 50% of space was released and made available for re-use within the Local Plan period a figure of around 2 hectares might be contributed to future supply. However, this is an outline estimate and should not be relied upon as anything more than indicative for detailed policy making.

#### 4.1.7 B8 Storage & Distribution

The HJA analysis of the EEFM scenarios suggests a growth of around 120 - 180 jobs within the B8 Use Class. This equates to a net additional floorspace requirement of 9,400 – 13,300 sq m. In land terms, at a development density of 40% some 2.3 – 3.3 hectares of land could be required.

#### 4.1.8 C Use Classes

The C Use Classes cover a broad range of activities including hotels, guest houses, care homes, boarding schools and colleges, hospitals, prisons and detention centres, and barracks. Some data is available within best practice guidance for hotels, showing varying levels of employment depending on the quality of the hotel. Typically hotel demand is assessed via other market driven assessments. The most recent Hotels Study for Essex was completed in 2009<sup>10</sup> and so is now dated. Nevertheless, this did not suggest strong market drivers for significant hotel development within Epping Forest District.

The HJA analysis of the EEFM scenarios suggest less than 100 net additional jobs in the C1 (hotels) Use Class. Based on best practice guidance this might support growth of between 50 – 190 hotel rooms in Epping Forest District depending on the quality of hotel provision.

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<sup>10</sup> Essex Hotel Futures, Hotel Solutions (2009)

Growth of up to 600 jobs is projected within the C2 Use Class covering residential institutions. This will incorporate the care home sector. The requirement for care home provision is likely to be driven in part by demographic change as well as commercial market pressures. Demand for such facilities should not be assessed using employment forecasts alone.

#### 4.1.9 D Use Classes

The EEFM scenarios suggest a range an additional 740 – 880 jobs within the D1 Use Class covering non residential institutions. This captures the projected growth in health and education employment. Requirements for floorspace for such uses are not particularly driven by employment change but rather by service delivery plans and demographic changes. Provision will need to be planned alongside future housing development and through discussion with key education and health stakeholders.

A growth in employment of around 440 - 480 jobs is projected within the D2 Use Class. This covers a range of leisure uses including cinemas, concert halls, bingo halls and casinos, dance halls, swimming pools, skating rinks, gyms and other sports grounds. Current employment in Epping Forest District in this Use Class is concentrated within sports and fitness facilities and clubs. On this basis the projected growth in employment would require around 30,000 - 33,000 sq m of net additional floorspace. At a development density of 40% this would equate to 7.5 – 8.2 hectares of land. However, this would be dependent on the nature of developments coming forward and should be treated as indicative.

#### 4.1.10 Sui Generis

Sui Generis covers a range of activities that do not fall within the specified Use Classes order. These include theatres, amusement arcades, funfairs, laundrettes, sale and repair of motor vehicles and many other activities.

HJA analysis of the EEFM projections suggest some 550 - 600 additional jobs across activities that fall within the Sui Generis category. The range of activities is very broad. Current employment data suggests the largest employment activities are motor trades including renting and leasing of vehicles and machinery as well as sale and repair (50%) and waste and utilities (20%). The major sector growth projected in the EEFM which is driving Sui Generis growth is Business Services which includes vehicle hire and leasing activities and Arts and Entertainment. There are no robust assumptions to generate floorspace estimates for this category given the variance in activities.

#### 4.1.11 Summary

The following table (table 2) summarises the results of analysis to estimate net additional future property and sites requirements for the various employment accommodating Use Classes.

This suggests some growth in A Use Class requirements which are likely to be located in town and district centres, but also feature out of town leisure and retail provision. More detailed sector research is required to understand trends in these markets, and it is likely any trends will fluctuate throughout the life of the plan.

The analysis of net changes within the B Use Class shows a continuation of the shift towards office based activities with a continued growth in employment within warehousing based activities. Whilst

manufacturing based employment is projected to decline the implications for floorspace requirements are uncertain.

There will be growth in employment within the C and D Use Classes. The health and education elements of this will be primarily driven by demographic changes and through new models of service delivery (particularly in health care).

**Table 2: Summary –Net Additional Requirements for Epping Forest District 2011-33** (figures may not sum due to rounding)

Use Class	Projected Employment Change	Projected Net Additional Floorspace Requirement	Projected Net Additional Land Requirement
A1	-130 to -30	-3,000 to -700 sq m	Uncertain
A2	120 to 140	2,400 to 2,700 sq m	0.3 to 0.4 ha
A3-5	410 to 460	8,900 to 9,900 sq m	Uncertain
B1a	2,720 to 2,950	32,600 to 35,400 sq m	8.1 to 8.8 ha
B1b/c	160 to 170	5,800 to 6,300 sq m	1.5 ha
B2	-420 to -390	-15,900 to -14,600 sq m	-4.0 to -3.7 ha <i>Estimated 2 ha might be available for re-use</i>
B8	120 to 180	9,400 to 13,300 sq m	2.3 to 3.3 ha
C1	80 to 90	50 to 190 hotel rooms	Uncertain
C2	550 to 600	Uncertain	Uncertain
D1	740 to 880	Uncertain	Uncertain
D2	440 to 480	30,000 to 33,000 sq m	c 7.5 to 8.2 ha
Sui Generis	550 to 600	Non quantifiable	Non quantifiable

## 4.2 Churn and Replacement

The following analysis relates only to the B Use Classes. It is assumed that the majority of A, C and D Use Class redevelopment activity that would be required would take place at existing locations and no major new provision of sites is required to facilitate such replacement activity e.g. town centre redevelopment would take place at current town centres and not require a major town centre relocation. There has been no evidence presented to suggest that this is not the case.

The methodology employed for estimating the level of replacement demand assumes that a proportion of the total existing stock of employment property is replaced each year to ensure the overall stock of premises is appropriate to modern needs in terms of both building quality and site characteristics. This is particularly important for the manufacturing sector where ongoing development of industrial premises has been observed, despite a decline in employment in the sector over many years.

In Epping Forest District, the supply review suggests there is some aging stock, particularly in the Waltham Abbey and Oakwood Hill areas and although there are no huge pressures to bring redevelopment it is likely that there will be a need to upgrade some of the stock over the course of the Local Plan period as it becomes unfit for purpose. A significant amount of industrial stocks will be in excess of 70 years of age by the end of the plan period without redevelopment.

It has also been suggested by local agents that the permitted development rights (PDR) relating to office space will create a requirement to replace lost office stocks. The situation regarding PDRs is



somewhat uncertain, with speculation that the original temporary three year period for PDRs will be extended or made permanent and the potential for further employment Use Classes to be added. However, whilst consultation on such plans was undertaken by government, no policy has as yet been enacted. Data provided by Epping Forest District Council relating to the fiscal year 2014/15 indicated a loss of 9,356 sq m of office stock via PDRs, although it is not certain that all approvals have been enacted. This included a mix of small and large schemes<sup>11</sup> and equates to more than 8% of total office stock in the district. It is uncertain as to whether the pace of PDR conversion would be higher, lower or in line with that experienced over the 2014/15 period so it is not possible to make accurate projections. However, provision should be made to at least re-provide that which has been lost and the need to provide an additional buffer to off-set further losses should be borne in mind when shaping policy.

Based on what can be observed in the data, and what is known of the property market, it is assumed that provision should be made for 1% of commercial stock to be replaced each year. This is equivalent to the entire stock of employment property being replaced over a 100-year period. Further details relating to this assumption are contained in Appendix 1 to this report.

The stock based assumption set out above indicates a total level of replacement activity one might expect to observe in the property market. This is shown in Table 3 as 'Total Replacement'. However, this does not consider whether this replacement activity takes place on existing employment sites (replacing or refurbishing one building with another on the same plot of land) or whether currently unoccupied land needs to be made available. The evidence and market observation suggest there will be elements of both.

Given the density of development in the southern parts of the district it is likely that redevelopment will need to take place on existing sites whilst accepting there may be constraints (e.g. remediation, infrastructure, ownership) and some may not be attractive to the market for redevelopment or reoccupation. For the purposes of this analysis we assume that 50% of replacement activity requires appropriate supply to be made available through new allocations. This therefore equates to a need to accommodate 0.5% of stock each year, or 11% over the course of the 22 year Local Plan period. This is translated into land requirements assuming a development density of 40% for industrial development and a range of 40% - 100% for office development to highlight the range of development types.

Table 3 sets out the results of this analysis. This shows the total replacement requirement for offices at around 2.5 times the losses already recorded as a result of PDRs to date. If PDR for office to residential are extended then there may be a need to boost provision for potential office development. In land terms a requirement for 1.2 – 3.1 hectares is estimated for offices. A much greater figure for industrial replacement is estimated, at 13.7 hectares. This reflects the much larger industrial stock in the district at present and the need to ensure this remains fit for purpose.

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<sup>11</sup> The largest of which include 5,000 sq m at Fyfield Business Park, Ongar comprising seven units. 1,630 sq m at Conquest House, Waltham Abbey and 1,278 sq m at Hillgrove Business Park, Nazeing. A further large application relating to 1,430 sq m of office space was withdrawn.

Table 3: Estimates of Requirements for Churn and Replacement

Use Class	Total Stock (2012)	Total Replacement (1% of stock per annum)		Requiring New Sites (50% of Total)		
		Total Replacement (1% per annum)	Plan Period (22 Years)	Per Annum	Plan period (22 Years)	Projected Net Additional Land Requirement
B1a	111,000 sq m	1,110 sq m	24,420 sq m	555 sq m	12,210 sq m	1.2 - 3.1 ha
B1b/c/B2/B8	498,000 sq m	4,980 sq m	109,560 sq m	2,490 sq m	54,780 sq m	13.7 ha

### 4.3 Choice and Flexibility

Two core components are added to take account of choice and flexibility. Firstly, a percentage uplift of the combined requirement for net additional and churn/replacement is applied to ensure an allowance for range and choice is incorporated. This uplift also builds in some additional flexibility to allow the normal frictional movement in the market. An uplift of 10% has been applied.

### 4.4 Combined Results

Table 4 draws together the results of the various components within the quantitative assessment to provide an indication of potential future requirements for Epping Forest District.

This sets out floorspace data across the Use Classes where it is possible to estimate future requirements. For the B Use Classes a more detailed assessment captures the need for replacement activity and converts to land requirements. This is split by office and industrial requirements.

No aggregate totals are provided given the different Use Classes.

Table 4: Results of Quantitative Assessment

	Net Additional (Sq m)	Floorspace	Net Additional Land (ha)	Replacement (ha)	Choice (ha)	Core Requirement
A1	-3,000 to -700 sq m		Uncertain	n/a		
A2	2,400 to 2,700 sq m		0.3 to 0.4 ha	n/a		0.3 to 0.4 ha
A3-5	8,900 to 9,900 sq m		Uncertain	n/a		
B1a	32,600 to 35,400 sq m		8.1 to 8.8 ha	1.2 to 3.1	0.9 to 1.2	10.2 to 13.1
B1b/c	5,800 to 6,300 sq m		1.5 ha	13.7	1.8 to 1.9	17.3 to 18.3 <i>Includes reduction of 2ha based on reduced overall requirement</i>
B2	-15,900 to -14,600 sq m		-4.0 to -3.7 ha <i>Estimated 2 ha might be available for re-use</i>			
B8	9,400 to 13,300		2.3 to 3.3 ha			
C1	50 to 190 hotel rooms		Uncertain	n/a		
C2	Uncertain		Uncertain	n/a		
D1	Uncertain		Uncertain	n/a		
D2	30,000 to 33,000 sq m		c 7.5 to 8.2 ha	n/a	0.8	8.3 to 9.0
Sui Generis	Non quantifiable		Non quantifiable	n/a		

## 4.5 Spatial Distribution

The figures presented above relate to the Epping Forest District as a whole. In order to consider how these requirements may be distributed spatially three primary factors are considered. Firstly, the current distribution of employment is used as a basis for an initial distribution of future requirements. Secondly, this is considered in the light of commercial market intelligence to make any required adjustment for property market drivers. Finally, account is taken of wider planned developments within the district (e.g. housing provision or infrastructure development) and potential development opportunities outside the district that may influence the future pattern of employment demand.

Two sub areas have been considered within the initial spatial allocation. The south and west area captures the more densely populated urban areas which form part of the north London fringe and are largely bounded by the M25. The exception is Waltham Abbey which lies just outside the M25. The north and east sub area includes much of the more rural parts of the district and the towns which lie within it, including Epping and Chipping Ongar. Figure 4 illustrates the two sub-areas.

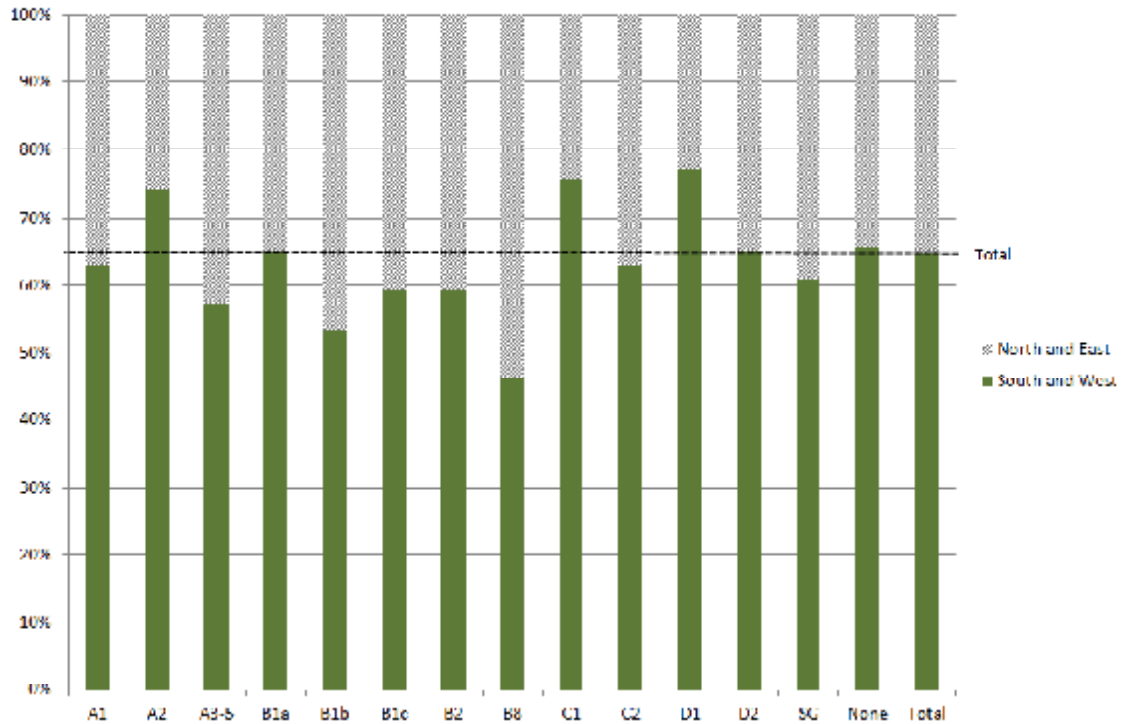
Figure 4: Sub Areas



Data from the 2009-2013 Business Register and Employment Survey is presented in Figure 5<sup>12</sup>. This shows the distribution of employment by Use Class at the start of the Local Plan period. When considering total employment the split is broadly one third in the north and east sub area with two thirds in the south west sub-area. However, there are variations across the Use Classes. Most notably concentrations of A2, C1 and D1 activities in the south west sub-area and a greater than average share of A3-5, B1b/c, B2 and B8 activities in the north and east sub area.

<sup>12</sup> Average data over five years was used to smooth variations between years and over reliance on a single year of data.

Figure 5: Spatial Distribution of Employment by Sub Area (Source: BRES 2009-13, ONS)



Land requirements for the B Use Classes have been apportioned in line with these existing shares to provide a starting point in distributing future provision. This is summarised in Table 5 below. This takes no account of the supply of sites, potential infrastructure investments or other factors which may adjust the future distribution of employment from the current situation.

Table 5: Spatial Distribution ‘Starting Point’

	South and West	North and East	Total
Office (B1a)	6.6 – 8.5	3.6 – 4.6	10.2 – 13.1
Industrial (B1b/c, B2 and B8)	9.0 – 9.5	8.3 – 8.5	17.3 – 18.3
<b>Total</b>	<b>15.6 – 18.0</b>	<b>11.9 – 13.1</b>	<b>27.5 – 31.4</b>

## 5 Testing the Results

### 5.1 Historic Take-Up and Market Context

Epping Forest DC monitors development through the Annual Monitoring Report (AMR), with records available from 2006-07 to 2014-15. The AMRs report take-up based on planning application approvals. As a result the data does not record development completions and given that a proportion of applications will not be implemented the figures as reported below are likely to be overstating actual completions.

The main focus is on the B Use Classes, with some data on A and D Use Classes available from 2007-08 and 2008-09 respectively. Data on the B Use Classes reflects the fact that many schemes incorporate a mix of B1, B2 and B8 elements. Therefore, it is not possible to accurately disaggregate the individual B Use Classes from the data that is available, although there is clear evidence of gains and losses in each of the Classes. The following analysis is based on the best available data following a data cleansing exercise with EFDC officers.

Gross gains<sup>13</sup> in B Use Class development average approximately 21,000 sq m per annum. Gross losses<sup>14</sup> of B Use Class premises are approximately 13,000 sq m per annum. The net change is therefore approximately +8,000 sq m per annum. This suggests a higher level of gross completions than is projected by the quantitative assessment set out above<sup>15</sup>.

Using the AMR data it is assessed that more than 61% of gross B Use Class gains result from change of use or direct on-site replacement. The corollary is that only 36% of total new development activity is taking place on land that was previously vacant.

Around 5% of gross development is assessed as extensions to existing premises. Therefore the level of development that appears to be on new development plots is approximately one third of total new B Use Class floorspace. This equates to around 7,000 sq m per annum.

The outputs of the quantitative analysis set out previously suggest a requirement for approximately 5,200 – 5,500 sq m per annum of development on new sites in the B Use Class (net additions plus replacement on new sites). This is some 25% below the level indicated by the historic data. The potential reasons for this include:

- Historic data based on applications rather than completions
- Uncertainty when forecasting
- Lower projected net employment growth in B Use Classes than historically – by a factor of 30% - 40%

On this basis there is no clear evidence to suggest any need for major adjustment to the figures emerging from the quantitative analysis, even though gross levels of activity appear greater. The

<sup>13</sup> Data has been adjusted to remove applications for continued use or retrospective use. This therefore captures gross new floorspace. It does not take account of any losses of floorspace that are provided in the process of redevelopment.

<sup>14</sup> This includes losses as part of redevelopment of B Use Class premises and losses to other Use Classes. It only measures losses recorded as part of a planning application.

<sup>15</sup> To compare like with like the total estimate for replacement activity is added to the net additional requirement to create an estimate of gross completions. This creates a estimated level of future completions of 8,300 sq m – 8,700 sq m per annum in the quantitative assessment.

quantitative assessment also includes a 10% uplift for choice and to cover frictional movement which provides some additional flexibility.

## 5.2 Planned Developments in the Sub-Region

The scenarios tested in the quantitative assessment are based on the EEFM which adopts a 'business as usual' approach. The EEFM does not take account of major 'game changers'. In adjusting the EEFM baseline to take account of growth plans at Stansted there has been an element of adjustment. However, there are potential developments which need to be at least considered.

Within Epping Forest District the most significant potential game changer is an additional motorway junction on the M11 (junction 7A). This may open up new development land in the north of the district in close proximity to Harlow. However this remains a long term proposal.

The more significant employment generating developments influencing Epping Forest District, recent and planned, lie outside the district boundaries. For example:

- Retail – Westfield Stratford and Bluewater continue to provide significant comparison shopping destinations.
- Office – Stratford is becoming a significant office location and the Park Plaza developments within Broxbourne have the potential to provide a further significant employment location to the west of Epping Forest District.
- Industrial – Enfield is recognised as the major industrial location in the area.
- Harlow – has substantial growth ambition to the immediate north of the district with substantial employment development opportunity sites with Enterprise Zone status and improved connectivity via the Junction 7a proposals.
- London – there is no anticipated slow-down in the role of London as an economic hub. This will continue to provide a major economic growth pole to the immediate south of the district.

There is no strong policy aspiration to see substantive growth in Epping Forest District. However, there are growth opportunities elsewhere within the FEMA. The focus for Epping Forest District is to maintain a healthy economy delivering incremental growth. The development of Junction 7a may come forward later in the plan period and should be considered as part of any plan review. The economic aspiration and opportunity does not suggest a need for major revision to the assessment of future requirements.

## 5.3 Labour Market Capacity

The East Herts and West Essex SHMA<sup>16</sup> sets out the demographic and housing evidence. HJA prepared economic evidence to inform the development of the SHMA to ensure alignment between the two topics. On a sub-regional (HMA/FEMA) basis the evidence has been developed to ensure the demand and supply of labour are broadly in balance given current available evidence.

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<sup>16</sup> Hardisty Jones Associates (2015) Economic Evidence to Support the Development of the OAHN for West Essex and East Herts

## Appendix 1: Methodological Assumptions

### Standard Industrial Classification (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 Epping Forest District economy in detail.

	A1	A2	A3-5	B1a	B1b	B1c	B2	B8	C1	C2	C3	D1	D2	SG	None
AGRICULTURE	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MINING & QUARRYING	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
MANUFACTURING															
- FOOD MANUFACTURING	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
- GENERAL MANUFACTURING	0%	0%	0%	0%	0%	3%	94%	0%	0%	0%	0%	0%	0%	0%	3%
- CHEMICALS	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
- PHARMACEUTICALS	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
- METALS MANUFACTURING	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
- ELECTRONICS	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
- TRANSPORT EQUIPMENT	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
UTILITIES	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
WASTE & REMEDIATION	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%
CONSTRUCTION	0%	0%	0%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	90%
WHOLESALE	1%	0%	0%	2%	0%	0%	0%	75%	0%	0%	0%	0%	0%	20%	2%
RETAIL	95%	0%	0%	0%	0%	0%	0%	2%	0%	0%	0%	0%	0%	2%	1%
LAND TRANSPORT	0%	0%	0%	29%	0%	0%	0%	8%	0%	0%	0%	0%	0%	3%	60%
WATER & AIR TRANSPORT	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	75%
ACCOMMODATION & FOOD SERVICES	12%	0%	63%	0%	0%	3%	0%	0%	13%	0%	0%	0%	0%	0%	10%
PUBLISHING & BROADCASTING	0%	0%	0%	75%	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
TELECOMS	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
COMPUTER RELATED ACTIVITY	0%	0%	0%	96%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	0%
FINANCE	0%	31%	0%	69%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
REAL ESTATE	0%	21%	0%	79%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
PROFESSIONAL SERVICES	0%	2%	0%	85%	5%	0%	0%	0%	0%	0%	0%	0%	0%	6%	1%
RESEARCH & DEVELOPMENT	0%	0%	0%	2%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
BUSINESS SERVICES	1%	0%	0%	26%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	65%
EMPLOYMENT ACTIVITIES <sup>17</sup>	0%	5%	0%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	82%
PUBLIC ADMINISTRATION	0%	0%	0%	72%	0%	0%	0%	0%	0%	0%	0%	28%	0%	0%	0%
EDUCATION	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%
HEALTH & CARE	0%	0%	0%	6%	0%	0%	0%	0%	0%	60%	0%	34%	0%	0%	0%
ARTS & ENTERTAINMENT	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11%	71%	16%	0%
OTHER SERVICES	43%	0%	0%	6%	0%	0%	0%	0%	0%	0%	0%	20%	0%	15%	16%

<sup>17</sup> The Employment Activities sector is one of the hardest to code given that temporary agency workers that are distributed throughout the economy are often recorded as employed by the agency within this sector. An allowance is therefore made for the administrative functions of employment agencies with the majority of employment assigned to no Use Class.

## Floorspace per Worker

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

Use Class	Assumption
Office (B1a)	The Employment Densities Guide (2010) provides estimates for a range of office functions ranging from 8 – 12 sq m per employee (Net Internal Area). The higher end of this range relates to ‘general office’ uses including HQ, Administration and ‘Client Facing’ office types. The lower end relates to call centres with Business Park and Serviced Office developments averaging 10 sq m. The Occupier Density Study (2013) indicates an average density of 9.4 sq m for the East of England region and a mean density for the UK of 10.9 sq m. On this basis, an assumption of 10 sq m per employee has been adopted, with a 20% uplift to provide Gross External Area (GEA). The utilised assumption is therefore <b>12 sq m per employee</b> .
R&D B1b	The most recent (2010) best practice guidance does not include an employment density figure for R&D B1b premises. The average of B1a office and B1c light industrial equates to 29.5 sq m NIA (35.4 sq m GEA), this is broadly aligned to the first edition (2001) of the best practice guidance estimate for High Tech R&D of 29 sq m GIA (30.5 GEA) in non Science Park locations and 32 sq m GIA (33.6 sq m GEA) within Science Parks. <b>A figure of 34 sq m (GEA) has been used within the analysis.</b>
B1c	The most recent (2010) 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 (+15% NIA to GIA, +5% GIA to GEA) with a final assumption of <b>57 sq m per employee (GEA)</b> .
Other Business Space (B1b/c, B2)	B2 General is estimated at 36 sq m per employee (GIA). Allowances are made to align to GEA (+5% GIA to GEA) with a final assumption of <b>38 sq m per employee (GEA)</b> .
Warehouse (B8)	Latest available estimates suggest 70 sq m per employee (GEA) for general warehousing and 80 sq m per employee (GEA) for large scale warehousing. There is the potential for a mix of both in Powys and the mid point has been adopted for this analysis, <b>75 sq m per employee</b> .

## Changing Densities over Time

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 2012 2<sup>nd</sup> edition of the 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. 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.

### Allowing for Replacement

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. Within sectors there is constant churn of businesses and employees. 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 experience of the team at Hardisty Jones Associates, working with clients over a number of years, particularly Hampshire County Council and the Partnership for Urban South Hampshire, to develop 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 Epping Forest District (shown in the table below) indicates that a notable proportion of the current stocks were built pre 1940 and around 60% pre 1970. This implies that the useful lifespan of some stocks is considerable.

	% built Pre 1940	% built 1940 - 1970	Total Pre 1970
Retail	25%	47%	72%
Office	24%	30%	54%
Factory	10%	64%	74%
Warehouse	10%	34%	44%
<b>Total</b>	<b>15%</b>	<b>46%</b>	<b>61%</b>

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 (61%) this assumption is not supported by the evidence and is too strong.

As a result, for this analysis an assumption that 1% of existing stock is replaced each year. 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).

**References:**

Employment Densities: A Full Guide, 2001, Arup for English Partnerships

Employment Densities Guide, 2<sup>nd</sup> Edition, 2010, Drivers Jonas Deloitte for OffPAT and Homes & Communities Agency

Occupier Density Study, 2013, British Council for Offices

## Appendix 2: Detailed Data Tables

### Employment Projections by Use Class and Time Period

Table 1: Employment change by Use Class by time period – 400 jpa

Use Class	2011-2016	2016-21	2021-2026	2026-2033	Total
A1	-30	80	-70	-100	-130
A2	-40	60	40	60	120
A3-5	390	90	-20	-50	410
B1a	980	800	420	510	2,720
B1b	60	40	20	20	140
B1c	20	0	0	0	20
B2	150	-150	-180	-240	-420
B8	170	40	-30	-50	120
C1	80	20	0	-10	80
C2	460	-10	50	50	550
C3	0	0	0	0	0
D1	140	80	210	310	740
D2	-40	190	120	170	440
SG	270	150	60	70	550
None	200	1,310	790	1,160	3,460
<b>Total</b>	<b>2,810</b>	<b>2,700</b>	<b>1,390</b>	<b>1,890</b>	<b>8,790</b>

Table 2: Employment change by Use Class by time period – 455 jpa

Use Class	2011-2016	2016-21	2021-2026	2026-2033	Total
A1	-10	100	-50	-70	-30
A2	-40	70	50	60	140
A3-5	410	100	-10	-30	460
B1a	1,030	850	470	600	2,950
B1b	60	40	20	20	150
B1c	30	10	0	0	20
B2	160	-140	-170	-240	-390
B8	180	50	-20	-40	180
C1	80	20	0	-10	90
C2	470	10	60	70	600
C3	0	0	0	0	0
D1	170	110	240	360	880
D2	-40	200	130	180	480
SG	290	160	70	90	600
None	280	1,400	880	1,300	3,860
<b>Total</b>	<b>3,060</b>	<b>2,970</b>	<b>1,670</b>	<b>2,300</b>	<b>10,000</b>