

Guildford Borough Employment Land Needs Assessment

# **Final Report**

Prepared for Guildford Borough Council

March 2017



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6	21 March 2017	Final Report (with updated employment projections)	Patrick Deshpande	Dave Widger Project Director					

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# **Executive Summary**

#### Context and Objectives

This Employment Land Needs Assessment (ELNA) updates the Employment Land Assessment produced by AECOM in 2015.

The ELNA contributes to the evidence base underpinning the emerging Guildford Borough Local Plan which will run from 2016 to 2034. It consists of:

- a review of planning policy context;
- an assessment of the socio-economic profile of Guildford borough
- an overview of the existing supply of employment land in the borough including an assessment of employment land quality and characteristics;
- an analysis of the B-use class property market; and
- a forecast of the future demand for employment floorspace and land over the local plan period.

This report does not compare the existing supply and its capacity to accommodate the future demand for employment land or the suitability of sites to cater for future demand. The assessment of how existing sites could meet the future demand for employment land over the plan period, taking in to account both scale and quality characteristics, will be the focus of further work by the Council. In combination with this ELNA that further work will inform the development of strategic planning policy and protection of employment land to meet demand for land for B-use class activities over the plan period.

#### Policy and Socio-Economics

Guildford is a growth hub in the Surrey and M3 Corridor region, with one of the most competitive local economies in the country. Advanced manufacturing, healthcare, learning, IT-related services, professional services finance and tourism are key high-value industry clusters located in the area.

Employment in Guildford borough increased by 4.7% from 2010-2015, reaching 95,000 jobs in 2015<sup>2</sup>. Sectoral growth rates suggest a broad-based recovery from the effects of the recession, although manufacturing employment has declined. The latest sectoral employment forecasts from Experian suggest that Guildford will continue to prosper in healthcare, professional services and electronic gaming sectors.

The residents of Guildford are comparatively highly-qualified and earn more than both the regional and national average. There remain pockets of deprivation in the borough however, with lower educational attainment and employment observed mainly in the Ash Wharf, Friary and St Nicholas, Stoke, Westborough and Worplesdon wards.

# Supply

<sup>&</sup>lt;sup>2</sup> ONS, (2016); Jobs Density.



Sites with B-use class employment land in the borough measure approximately 182ha. Employment sites were categorised as being either strategic (supporting employment of over 100) or non-strategic (supporting employment of under 100). All sites measure at least 0.25ha in size or have upwards of 500sqm of B-use class floorspace and were assessed against a range of criteria to determine their quality characteristics. In summary, sites were found to be functioning well and are fit for purpose.

The out-of-centre strategic employment sites are characterised by high quality units containing B use class activities. Many of the significant employment sites, such as the Surrey Research Park and Slyfield Industrial Estate, benefit from proximity the strategic road network. Strategic employment sites located within the town centre have good access to public transport links, facilities and amenities. However, some of these sites are generally of lower quality and smaller in size than employment sites in out-of-centre locations. The town centre sites generally lack the capacity to accommodate larger occupiers.

Guildford's non-strategic employment sites are smaller than out-of-centre strategic sites, with a greater tendency to be located among areas of residential and community use. The size and location of non-strategic sites in proximity to some sensitive receptors could mean that development potential is more limited than on strategic sites. Although non-strategic sites exhibit good quality environment and public realm characteristics, a number of these sites suffer from poor access to amenities and facilities. Many of the non-strategic employment sites are in proximity to the railway station and therefore benefit from good access to public transport.

There is some potential for the existing supply of employment space to change. This may be through the intensification of sites or a change in use class as a consequence of planning consents and permitted development.

The pipeline for employment floorspace defined by planning permissions yet to be implemented and prior approvals suggests the potential for an additional 33,607sqm of B use class floorspace to come forward. This figure comprises a net loss of 4,750sqm of B1a use class floorspace and a net gain of 38,357sqm in B1c, B2 or B8 use class space.

#### **Property Market**

Guildford is part of a wider functional economic area, referred to as the property market area (PMA) encompassing the boroughs of Woking and Waverley. Guildford's office and R&D market is relatively prosperous compared to the rest of the PMA. Property market agents see Guildford as being more able at facilitating the needs of larger occupiers, and having a more attractive town centre than Woking, despite the latter having strong rail links and access to the M25.

However, there is a risk that a proportion of demand for employment space is going unmet at present, due to a shortage of the high-quality space in the right location. There is a lack of new office development and residential applications are coming forward on sites where office was previously proposed, accentuating the supply gap.

Guildford's industrial/storage property market bucks the negative trend observed across the country as a whole, with take-up of existing buildings increasing in 2012



and rents remaining resilient. However, there are limitations such as a lack of highquality stock and congestion issues, which act as a constraint on demand.

Relative to the other two boroughs in the PMA, Woking's industrial/storage market suffers from many of the same issues as observed in Guildford. These include traffic issues and a lack of available land to provide large, high-quality units. Relative to Waverley, which is more rural and has little capacity for larger occupiers, Guildford is considered to be a more suitable location.

Businesses in Guildford are to be seen to be broadly satisfied with current premises, although a significant number of them see potential for growth in the future and are said to need space for expansion. Further, approximately one third of businesses surveyed stated that they were actively considering relocation, the majority of whom intended on remaining in Guildford.

#### **Demand Forecast**

The total additional floorspace (in the case of office space) and land (in the case of industrial space) requirements under three forecast scenarios are presented in the table below.

	Additional Net Demand at 2034			
	Low Medium High			
Office/R&D Floorspace (sqm)	36,100	39,800	43,700	
Industrial Land (ha)	3.7	3.9	4.1	

#### Net Additional Office Floorspace and Industrial Land Requirements 2016-2034

Source: AECOM

Demand for industrial/storage land is forecast to increase by between 3.7ha and 4.1ha in the period from 2016 to 2034. The central (medium) forecast for Guildford predicts a net demand for industrial land of approximately 3.9ha between 2016 and 2034, equivalent to an additional 0.2ha per annum.

There is approximately 325,200sqm of gross office/R&D (B1a/b) floorspace in Guildford, of which approximately 6.5% is vacant. It is forecast that there will be demand for between 36,100sqm to 43,700sqm up to 2034. The central case of the forecast puts net demand for office floorspace at approximately 39,800sqm over the period, equivalent to an additional 2,200sqm per annum. Commercial agents expected that up to 70% of additional demand would come forward within out-of-centre locations.

A large proportion of the net additional floorspace and land requirements for both office/R&D and industrial/storage uses could be met through the permissions which have been consented but which have yet to be implemented. However, there is the possibility that some pipeline developments may not come forward at all, or be developed in different quantities by use class than has been consented

#### Conclusions and Next Steps

Based upon these findings, we suggest the following pointers for the Council's next steps:





- To help ensure there is sufficient capacity to meet projected demand for employment land in Guildford to 2034 the Council should be guided by the central case for the future employment floorspace/land requirements presented in this ELNA (3.9ha of industrial/storage land and 39,800sqm of office/R&D floorspace).
- In the context of a net additional demand for employment land / floorspace the Council should act to identify, retain and intensify those existing employment sites that are suitable and will help to meet the identified need. This could be through a criteria-based policy. It is anticipated that strategic sites are retained and, where suitable supported for further provision, given their relative importance over non-strategic sites in providing employment land in the borough.
- Where sites are available the Council could seek to encourage office/R&D development in town centres. The town centre is a more sustainable location and there is evidence of demand from potential occupiers which currently do not necessarily have town centre offices that match their needs. The lack of supply of office/R&D premises in town centres is exacerbated by the loss of offices to residential from the prior approval permitted development regime.
- It will be important for the Council to support its growth sectors and sectors which deliver significant value added, such as the R&D knowledge-based cluster around Surrey Research Park and University. There is some evidence of a lack affordable start up and incubator units in the borough for example. Supporting growth sectors will help contribute to the borough's economic prosperity.
- The Council should monitor changes to the stock of employment land and floorspace arising through planning permissions to ensure that sufficient land is available for economic growth over the planned period. It is important that appropriate and sufficient monitoring mechanisms are embedded within the plan making process in order to record the change in employment land available for economic growth. The aim of the monitoring of employment land is to ensure that overall an approximate quantum of appropriate employment land supply is retained in the borough to meet the level of projected demand indicated in this study.
- The PPG states that the ELNA should be updated every five years or so. In the periods between assessments the Council should regularly review how much employment land has been lost. The Monitoring Report (MR) is likely to be the most appropriate framework for this monitoring and review exercise.





# 1 Introduction

# 1.1 **Context and Objectives**

- 1.1.1 This Employment Land Needs Assessment (ELNA) updates the Employment Land Assessment produced by AECOM in 2015.
- 1.1.2 The ELNA contributes to the evidence base underpinning the emerging Guildford Borough Local Plan, which sets out the Council's strategy for accommodating population growth and encouraging economic prosperity over the plan period to 2034.
- 1.1.3 The ELNA provides:
  - a review of planning policy context
  - an assessment of the socio-economic profile of Guildford borough
  - an overview of the existing supply of employment land in the borough including an assessment of employment land quality and characteristics
  - an analysis of the B-use class property market; and
  - a forecast of the future demand for employment floorspace and land over the local plan period.
- 1.1.4 These points directly reflect the structure of this ELNA.
- 1.1.5 The assessment of employment land supply and demand complies with the National Planning Policy Framework (NPPF) and the revised Planning Practice Guidance (PPG). However the ELNA does not however compare the existing supply and its capacity to accommodate the future demand for employment land or the suitability of sites to cater for future demand. The assessment of how existing sites could meet the future demand for employment land over the plan period, taking in to account both scale and quality characteristics, will be the focus of further work by the Council. In combination with this ELNA that further work will inform the development of strategic planning policy and protection of employment land to meet demand for B-use class activities over the plan period.

# 1.2 **Definition of Employment Land**

- 1.2.1 This report considers all commercial and industrial uses falling into use classes B1 (a, b and c), B2 and B8 of the Use Classes Order 1987 (as amended). It does not consider the need for land/buildings used for health, education, retail or leisure purposes, and also excludes offices provided mainly to visiting members of the public that fall into the A2: Financial and Professional Services use class. Short descriptions of the B use classes are given in **Table 1-1**.
- 1.2.2 For the purposes of this report, we will assess 'office/R&D' (including B1a and B1b use classes) and 'industrial/storage' (including B1c, B2 and B8 use classes) independently. This is because the majority of employment areas in Guildford borough include either offices (mainly B1a sometimes with B1b) or industrial estates serving industrial firms (general industry B2, light industry B1c and storage and distribution B8). In addition, demand forecasts and historic data on employment and employment floorspace are split into office/R&D or industrial/storage categories.



Use Class	Description
B1: Business	
B1a	Offices (other than those that fall within A2: Financial and Professional Services)
B1b	Research and development of products and processes
B1c	Light industry – for industrial process (compatible with residential areas)
B2: General Industrial	Use for industrial process other than one falling within class B1 (excluding incineration purposes, chemical treatment or landfill or hazardous waste)
B8: Storage or distribution	This class includes warehouses and open-air storage

# Table 1-1 Employment Land B-Use Class Descriptions



# 2 Planning Policy Context

# 2.1 Introduction

- 2.1.1 As described in Section 1, this ELNA provides evidence to inform the decisions around future provision of employment land to be set out in Guildford's Local Plan.
- 2.1.2 The ELNA will sit alongside other evidence base documents produced by the Council, including the Guildford Economic Strategy 2012-2031, the Guildford Land Availability Assessment (LAA) and the West Surrey Strategic Housing Market Assessment (SHMA) 2015 and West Surrey SHMA: Guildford Addendum Report 2017.
- 2.1.3 The ELNA is informed by key national planning policy documents, including the NPPF and the PPG. Below we set out the implications of policy and strategy for this ELNA.

# 2.2 National Planning Policy

# Planning Policy Guidance (PPG)

- 2.2.1 In March 2014 the Government published the online PPG<sup>3</sup> on 'Housing and Economic Development Needs Assessments' and 'Housing and Economic Land Availability Assessments' amongst others. This guidance as amended replaces the ODPM Employment Land Reviews: Guidance Note (2004).
- 2.2.2 For this ELNA, 'need' relates to the amount of employment floor space required based on a quantitative assessment and the qualitative requirements of the B-use class occupiers. The PPG requires the assessment of need to be objective and not biased or influenced by constraints to the overall assessment or limitations imposed by the supply of land for new development, historic under performance, viability, infrastructure or environmental constraints.
- 2.2.3 The PPG requires plan makers to consider sectoral and employment forecasts and projections, demographically derived assessments of future employment needs, past take-up of employment land and property and/or future property market requirements, consultation and studies of business trends and statistics.
- 2.2.4 The PPG emphasises the following specific requirements for the assessment of future need for employment land:
  - A need to take account of the wider 'functional economic area' in which the local authority operates;
  - A greater emphasis on business engagement to help understand current and future requirements for employment land;
  - Consideration of the opportunities for providing employment space as part of mixed-use developments;
  - Increased integration of employment land studies and housing land assessments to ensure that sites are allocated for the most appropriate use;
  - A more in-depth assessment of the 'achievability' and deliverability/viability of development of available or pipeline sites;
  - A supply side appraisal of all employment sites over an updated (lower) size threshold of 0.25ha (or 500sqm of floorspace); and

<sup>&</sup>lt;sup>3</sup> Department for Communities and Local Government, (2014); Planning Practice Guidance (PPG)



• Greater consideration of the legal or ownership problems that may affect the availability of sites and the ways to overcome them.

#### The National Planning Policy Framework (NPPF)

- 2.2.5 The National Planning Policy Framework (NPPF)<sup>4</sup> replaced the Planning Policy Statements and Planning Policy Guidance in March 2012, with the aim to make the planning system less complex and to promote sustainable growth.
- 2.2.6 The NPPF describes the Government's vision for building a strong, competitive economy. It sets out a presumption in favour of sustainable development, in the absence of a local plan or where the plan is silent or indeterminate. This means that the Local Plan, and support studies, should present robust evidence to support clearly defined allocations of land for employment to avoid applications for alternative use being granted on the basis they are sustainable development.
- 2.2.7 The NPPF recognises that the planning system plays an important role in promoting economic growth and building a strong, competitive economy. The NPPF sets guidelines for the preparation of local plans which includes setting out a clear economic vision and strategy; identifying strategic sites for investment; supporting existing businesses; and planning positively for the location, promotion and expansion of economic clusters. Policies should be flexible enough to accommodate needs not anticipated in the plan and to allow a rapid response to changes in economic circumstances.

#### Permitted Development Rights

- 2.2.8 In May 2013 changes were made to permitted development rights. These were originally intended to be for a temporary three-year period to 30 May 2016 but became permanent. They permit a change of use from:
  - B1(a) offices to C3 residential use, subject to prior approval covering flooding, highways and transport issues and contamination;
  - Premises in B1, C1, C2, C2A and D2 use classes can change use permanently to a state-funded school, subject to prior approval covering highways and transport impacts and noise; and
  - Buildings with A1, A2, A3, A4, A5, B1, D1 and D2 uses will be permitted to change use for a single period of up two years to A1, A2, A3 and B1 uses; and
- 2.2.9 These new permitted development rights cover change of use: any associated physical development, which currently requires a planning application, will continue to require permission.

# 2.3 Enterprise M3 Local Enterprise Partnership

2.3.1 Guildford is part of Enterprise M3 (EM3) Local Enterprise Partnership. **Figure 2-1** shows the EM3 LEP area. It runs along the lines of the M3 motorway to the New Forest and South Coast taking in several towns in Hampshire and Surrey (including Basingstoke, Camberley, Aldershot, Andover, Guildford and Woking) and the city of

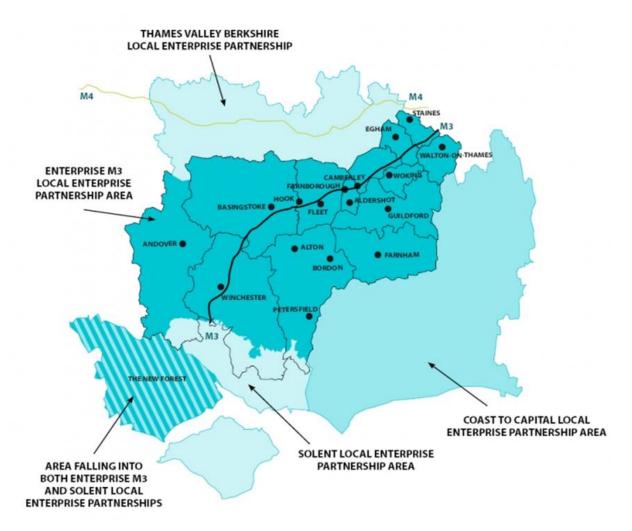
<sup>&</sup>lt;sup>4</sup> Department of Communities and Local Government (DCLG) (March 2012) National Planning Policy Framework



Winchester. It is close to London, has key international gateways at Heathrow, Gatwick and sea routes from Southampton.

2.3.2 As well as urban centres, the EM3 area includes a significant rural economy with traditional farming and forestry as well as tourism and leisure industries. The rural economy has diversified over the last few decades with many Small and Medium Enterprises (SMEs) and home-based workers.





Source: Enterprise M3 Strategy for Growth

#### Enterprise M3 Strategy for Growth (May 2013)<sup>5</sup>

- 2.3.3 The EM3 Strategy for Growth has a central objective; the growth of business, supported by investments in innovation capacity, skills development, infrastructure and place. The strategy focuses on:
  - Enterprise: Maintaining and growing the business base;
  - Innovation: Delivering accelerated economic growth through positive action to promote innovation and growth in high value industries;

<sup>&</sup>lt;sup>5</sup> http://www.enterprisem3.org.uk/strategy-for-growth/



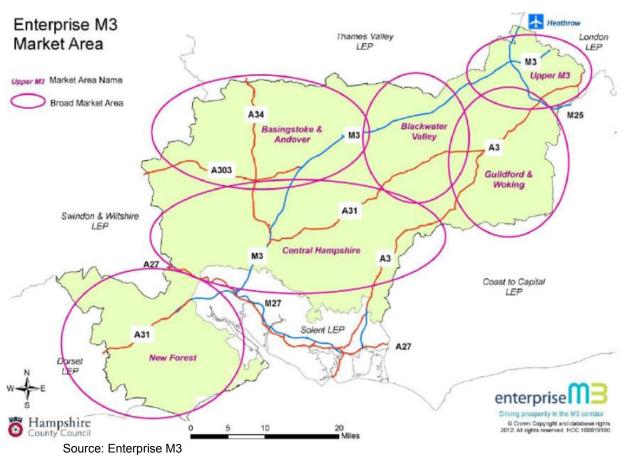
- Skills and Employment: Ensuring that investment in skills and employment support meets the needs of employers; and
- Infrastructure and Place: Ensuring that connectivity improvements are in place for road, rail, air and broadband that allow the area's business base to grow.
- 2.3.4 The strategy identifies the whole of Enterprise M3 area as the primary Sci:Tech Corridor in the UK. It also identifies Guildford as a 'growth town'. It identifies a target of 25,000 new jobs within the EM3 LEP area by 2020, with an increase in gross value added (GVA) per head from 8% to 10% above the national average and the addition of 1,400 new businesses per annum.

# Commercial Property Market Study, Land and Property Action Group for EM3, April 2013<sup>6</sup>

- 2.3.5 This study identified a number of smaller market areas within Enterprise M3 LEP area, mapped in **Figure 2-2** below. The study looked at the characteristics of the local labour market, the nature of the current supply of employment land, and market indicators such as rental values, in order to determine the most appropriate subdivision of the LEP area into smaller market areas. The market areas incorporate:
  - New Forest;
  - Basingstoke & Andover;
  - Central Hampshire (including Winchester and Petersfield);
  - Blackwater Valley (including Camberley, Aldershot, Farnborough and Farnham);
  - Guildford & Woking (including Waverley); and
  - Upper M3 (including Staines-upon-Thames and part of the south western quadrant of the M25).
  - 2.3.6 The analysis suggests that the appropriate functional economic area, known as property market area in this report, could encompass Guildford, Woking and Waverley.

<sup>&</sup>lt;sup>6</sup> http://www.enterprisem3.org.uk/uploads/91b5f4fd436a53e0110e58a1de44da8e02f76f05.pdf





# Figure 2-2 Enterprise M3 Property Market Areas

# Enterprise M3 Commercial Property Market Study 2016

- 2.3.7 Due to a change in market conditions, the Enterprise M3 LEP decided to refresh the 2013 study and Regeneris Consulting published an update in July 20168. In contrast to the original study, the 2016 update suggested that Guildford and Woking belong to separate commercial property market areas based on the significant difference in demand and resulting rental prices in the two towns. Supply in Woking could not be used to address a shortfall in office space in Guildford.
- 2.3.8 Retaining consistency with the 2013 report, the reformed Guildford commercial property market area incorporates large parts of the borough of Waverley, including the towns of Godalming and Haslemere. These towns are recognised in the study as much smaller office centres and therefore play a secondary role to the main office centre of Guildford in the market area. Guildford's importance as a source of employment for these areas is evidenced by the large commuting flows from Waverley to Guildford.
- 2.3.9 However, the Study recognised strategy for future employment space in Guildford, Waverley and Woking would be determined by the spatial strategies and policies set out in each Council's emerging Local Plans, informed by all of the evidence base

<sup>&</sup>lt;sup>8</sup> https://www.enterprisem3.org.uk/document/commercial-property-market-study-2016-final-report



documents upon which they hinge, including the respective Employment Land Needs Assessments.

#### Enterprise M3 Strategic Economic Plan (March 2014)

- 2.3.10 This document presents the Strategic Economic Plan (SEP)<sup>9</sup> for the Enterprise M3 LEP to 2020. The Plan outlines the vision for the Enterprise M3 area to be 'the premier location in the country for enterprise and economic growth, balanced with an excellent environment and quality of life'.
- 2.3.11 The Plan identifies that the Enterprise M3 LEP is ranked second out of 39 LEPs in terms of the local business base with export-led growth sectors disproportionately represented, and high business survival rates. The Enterprise M3 LEP area is home to world-class businesses in ICT and digital media, pharmaceuticals, aerospace and defence, and professional and business services.

# *Working for a Smarter Future, the Enterprise M3's Strategic Economic Plan* 2014-20

- 2.3.12 The Enterprise M3 Delivery Plan<sup>10</sup> identifies Guildford as a 'growth town' with the potential to deliver an evolving and vibrant economy. It states that recent economic growth has come primarily from high value R&D sectors including ICT, healthcare and bioscience, satellite technology and computer games including high profile businesses Electronic Arts and Media Molecule. The borough is also home to some key global players including Ericsson, Allianz, BOC and Avaya. Retail, business services and the visitor economy are also highly significant to economic growth within the area.
- 2.3.13 The Delivery Plan acknowledges however that without adequate investment in business critical infrastructure such as commercial land and premises and the provision of space for a range of business types, the borough's economic potential will be diminished.

# 2.4 Local Planning Policy

# Guildford Local Plan

- 2.4.1 The 2003 Local Plan<sup>11</sup> will remain the relevant development plan for the borough until replaced by the new Local Plan. It recognises that Guildford experiences strong pressures for development and Policies E1 to E5 aim to maintain the current supply of employment land via the objectives of:
  - 1. 'Promoting employment development on existing allocated sites;
  - 2. Resisting the loss of existing employment land and premises to other uses;

3. Supporting the redevelopment of existing employment premises and land for employment uses;

- 4. Supporting the diversification of the rural economy;
- 5. Encouraging the provision of premises suitable for small firms; and

<sup>&</sup>lt;sup>9</sup> http://www.enterprisem3.org.uk/uploads/b01eb103c8b05d66ba7d036bcf1267057dc9f5c6.pdf

<sup>&</sup>lt;sup>10</sup> http://www.enterprisem3.org.uk/uploads/1dbac429c2bbb7f75d0c2a9c9b4ef71cb25b0330.pdf

<sup>&</sup>lt;sup>11</sup> Guildford Borough Council, (2003); Local Plan 2003.



- 6. Encouraging redevelopment of inappropriately located premises.
- 2.4.2 The Local Plan goes on to say that 'These objectives will be achieved through the implementation of the polices and proposals set out in the Plan and by the following supporting measures:

1. continue to make available units for small firms on Borough Council owned industrial estates

2. take into account the needs of small firms when releasing Council owned employment land for development, and

3. make sites available at Slyfield Industrial Estate for displaced non-conforming uses.

# *Guildford Borough Proposed Submission Local Plan: Strategy and Sites (June 2016)*

- 2.4.3 The Guildford Borough Proposed Submission Local Plan: Strategy and Sites<sup>12</sup> document was consulted upon in summer 2016 and sets out the Council's vision, objectives and approach to development potential and the locations to meet identified needs for development within the borough over the plan period.
- 2.4.4 The document noted the large amount of office floorspace that has been lost through permitted development rights, particularly in Guildford town centre. It recognised the emergence and clustering of innovative industries within the borough, particularly around and linked to the Surrey Research Park and the University of Surrey and included a specific policy (E4) on the Research Park. It suggested that a lack of development sites for additional employment land, or for large sites suitable for headquarter buildings in particular, may have an adverse impact on inward investment, and was encouraging firms to relocate.
- 2.4.5 The Proposed Submission Local Plan also noted that there was demand for high quality, fit-for-purpose office space attractive to modern businesses, and that the borough faces competition with other areas in the South East as well as London to provide for these occupiers.
- 2.4.6 Over 32,000 comments were received from over 6,000 residents, businesses, community groups and stakeholders to the consultation in 2016. A further targeted regulation 19 consultation is planned for June and July 2017 which will only be asking for comments about the proposed changes to the document.

#### Guildford Borough Economic Strategy 2013-2031

- 2.4.7 The Guildford Borough Economic Strategy<sup>13</sup> outlines that Guildford is one of the top performing economies within Surrey with a diverse industrial base formed around finance, IT and professional services, gaming, advanced manufacturing, healthcare, education and tourism.
- 2.4.8 The thriving economy of the borough contributes to the other factors which make Guildford borough an attractive place to live. The Strategy states that with an

<sup>&</sup>lt;sup>13</sup> <u>Guildford Borough Council, (2013); Economic Strategy 2013-2031.</u>



increasing local population there is a need to provide new job opportunities within the borough.

2.4.9 The Strategy states that 'a sufficient supply of economic land and premises of an appropriate quality are available where needed across the borough' but that the availability of suitable sites and premises 'is a vital factor in attracting new firms into the area and retaining existing firms that have the opportunity to increase their scale of production'.

# West Surrey Strategic Housing Market Assessment: 2015 and West Surrey SHMA: Guildford Addendum Report 2017

- 2.4.10 The West Surrey Strategic Housing Market Assessment (SHMA)<sup>14</sup> aims to develop a robust understanding of housing market dynamics in Guildford, Waverley and Woking, assessing the future needs for both market and affordable housing in the West Surrey region. The SHMA uses the same workplace employment projections as this ELNA to contribute to deriving a projected need for housing to 2034. Whereas the SHMA uses the net change in workplace employment in Guildford borough across the whole of the economy, the ELNA looks at workplace employment within B-use classes.
- 2.4.11 The SHMA identifies that within Guildford borough there is a requirement for 654 new homes per annum over the period 2034 period.

#### Guildford Borough Land Availability Assessment (February 2016)

- 2.4.12 The 2016 Land Availability Assessment (LAA) replaces the Strategic Housing Land Availability Assessment (SHLAA) (2014), the Traveller SHLAA (2014) and the sites included in the 2013 Employment Land Assessment. The LAA meets the requirement of the NPPG in assessing land availability for housing and economic development uses.
- 2.4.13 The primary role of the LAA is to:
  - Identify sites and broad locations with potential for development for housing and economic development over the plan period,
  - Assess their development potential, and
  - Assess their suitability for development and the likelihood of development coming forward (availability and achievability).

# The West Surrey Functional Economic Market Area for Guildford, Waverley and Woking Borough Councils (August 2016)

2.4.14 In line with the recommendation of the Planning Practice Policy Guidance (PPG) (March 2014) consideration of the wider Guildford property market area, also referred to as the Functional Economic Market Area (FEMA), has been undertaken.

<sup>&</sup>lt;sup>14</sup> GL Hearn, (2015); West Surrey Strategic Housing Market Assessment and GL Hearn (2017) and West Surrey SHMA: Guildford Addendum Report 2017



### Green Belt and Countryside Study (2013)

- 2.4.15 This study<sup>16</sup> provides a robust assessment of the potential suitability of sites within the borough's green belt, and the countryside beyond the green belt, for development should there not be sufficient suitable sites within the existing urban areas. The study determined appropriate Potential Development Areas (PDAs) for future development.
- 2.4.16 The study identified a range of potential sites adjoining the main urban areas of Guildford, Ash and Tongham, small and large scale sites surrounding some of the larger villages and a potential new settlement at the former Wisley airfield. The study identified a total of 16 PDAs within the periphery of the main urban areas and a further 48 PDAs on the periphery of villages across the borough.
- 2.4.17 Further to considering the potential locations of PDAs the study also provided recommendations on whether villages within the borough should be included in the Green Belt designation. The study recommended that eight of the 24 villages should remain within the green belt whilst the other 16 villages should be inset from the Green Belt and provided with a defensible Green Belt boundary. It also concluded that seven major previously developed sites should be inset from the Green Belt four should remain washed over.

#### Guildford Retail and Leisure Study Update 2014 and 2017 Addendum

2.4.18 The Guildford Retail and Leisure Study Update 2014 and 2017 Addendum will inform the emerging new Local Plan by identifying the 'objectively assessed need' for retail and commercial town centre leisure uses throughout the plan period. The Study advises on level of quantitative and qualitative need arising from growing population and expenditure within the study area, based on consistent market share, as well as considering other potential scenarios. The study also considers the need for retail and leisure uses to support the proposed planned housing in the Proposed Submission Local Plan: Strategy and Sites document. It provides recommendations on retail and leisure opportunities for existing centres in Guildford borough; focusing on Guildford Town Centre, and the borough's two District Centres (Ash and East Horsley). The study findings supersede the Guildford Retail and Leisure Study of May 2011.

#### Guildford Town Centre Regeneration Plan

- 2.4.19 A draft Guildford Town Centre Regeneration Strategy has been prepared in January 2015 as an aspirational document that sets out a recommended approach to delivering this growth, developing previously developed land and driving significant town centre improvements.
- 2.4.20 The Regeneration Strategy also sets out a regeneration work programme to set the focus for the Major Projects Team to take forward the various project strands associated with the overall strategy. As the Strategy is an aspirational document only, it will not form part of the development plan for the borough or carry any material planning weight. Nevertheless, it does provide a narrative on a number of bids in the Capital Programme.

<sup>&</sup>lt;sup>16</sup> Guildford Borough Council, (2013); Guildford Borough Green Belt and Countryside Study.



2.4.21 It is intended that both the Strategy itself and its work programme are flexible 'living' documents that will adapt over time to take account of new opportunities, external pressures, physical constraints and corporate priorities.

#### 2.5 Conclusions

- 2.5.1 The NPPF replaced PSSs as of March 2012, with the aim to make the planning system less complex and to promote sustainable growth. The NPPF recognises that the planning system plays an important role in promoting economic growth and building a strong, competitive economy. Planning Policy Guidance (PPG) published in March 2014 includes directions on what an objective assessment of employment land should comprise.
- 2.5.2 At a sub-national level LEPs help to promote economic growth across a sub-region. The LEP's Strategy for Growth aims to support the growth of business, investment in innovation, skills development and infrastructure. Within the LEP area Guildford town is identified as a 'growth town', with the potential to attract high value R&D sector.
- 2.5.3 At a borough level, the 2003 Local Plan remains the relevant development plan. The Council is currently preparing a replacement Local Plan, with a further targeted consultation on the Proposed Submission Local Plan: Strategy and Sites document being planned for summer 2017. That document recognised the emergence and clustering of innovative industries within the borough, particularly around and linked to the Surrey Research Park and the University of Surrey. It suggested that a lack of development sites for additional employment land, or for large sites suitable for headquarter buildings in particular, was having an adverse impact on inward investment, and was encouraging firms to relocate.



# **3** Socio-Economic Context

# 3.1 Introduction

- 3.1.1 This analysis of Guildford's socio-economic characteristics informs our understanding of some of the opportunities and constraints within the borough, which could impact upon the demand and supply for employment land.
- 3.1.2 The most up-to-date and relevant Office for National Statistics (ONS) data has been used in producing this analysis. Data for Guildford is benchmarked against national and regional data for comparison purposes, as well as the Enterprise M3 LEP area where data is available.

# 3.2 Economic Context

- 3.2.1 Guildford is a major regional hub in the Surrey and M3 Corridor region, with one of the most competitive local economies in the country outside of London. The borough is situated on the western edge of the county of Surrey, within close commuting distance of London, with direct road access to the A3 into central London and to Portsmouth and the South East. There are also direct rail services to Waterloo, Gatwick and Reading. The UK's two largest international airports, Heathrow and Gatwick, are only 40 minutes by road and Gatwick is only 40 minutes by rail from Guildford mainline station. The proximity of these airports provides good access to international markets. However, there are growing problems with increased congestion and journey times on some routes.
- 3.2.2 Guildford town has the largest population of all Surrey's towns, and the highest number of jobs. It has a concentration of learning institutions, including the University of Surrey, College of Law and Guildford College, Guildford School of Acting and the Academy of Contemporary Music. The University of Surrey specialises in science, engineering, medicine and business and is developing new research centres for 5G and veterinary research.
- 3.2.3 Guildford's *Economic Strategy 2013-2031* (2013)<sup>13</sup> identifies advanced manufacturing, healthcare, learning, gaming, professional services and tourism as key high-value industry clusters located in the area. Of particular note is the Surrey Research Park which is a major centre of excellence in technology, science, health and engineering and is widely regarded as the best science park of its kind in the UK. It is owned and managed by the University of Surrey and is home to over 110 companies engaged in a broad spectrum of research, development and design activities.
- 3.2.4 Guildford has a lower rate of Jobseeker's Allowance claimants (0.5%) than across the South East (1.0%) and Great Britain (1.7%)<sup>17</sup>. There are however, pockets of disadvantage and concentrations of people on low incomes, in receipt of benefits and with no or low qualifications, with some areas being amongst the most deprived in Surrey.

<sup>&</sup>lt;sup>17</sup> ONS, 2014; Total Jobseeker's Allowance Claimants (June 2014)



# 3.3 **Population and Demographics**

- 3.3.1 Demand for housing, retail, community facilities and employment space will be driven in part by population change. Between 2001 and 2011 Guildford's population increased by 6% to 137,200<sup>18</sup>. This growth rate is somewhat lower than within both the South East region and England as a whole (both 8%). However, ONS analysis suggests that population growth in Guildford will outpace that for both Woking and Waverley over the forecast period<sup>19</sup> with an additional 22,000 residents expected to reside in the borough by 2034 (compared to 2014) - an increase of 15.1% over the period.
- 3.3.2 In 2001, 86,658 people in Guildford (equivalent to 67% of the population) were of working age compared with 64% in both the South East and England as a whole. In 2011 the proportion of Guildford residents of working age was broadly unchanged, at 66.5%, a similar trend to that experienced both within the South East (63.8%) and nationally (64.8%). This is presented in **Table 3-1** below.

	Guildford	South East	England
Under 16	17.9	19.0	18.9
16 to 64	66.5	63.8	64.8
65 and Over	15.6	17.1	16.4

#### Table 3-1 Age Structure of Guildford's Residents

Source: ONS (2012); Census 2011

3.3.3 In 2014, approximately 75.8% of the working age population was economically active, which is slightly less than that observed within both the South East and England (79.7% and 77.3% respectively)<sup>20</sup>. This is likely due to the relatively high proportion of full-time students in the borough. In 2014, the unemployment rate in Guildford was 3.1%, which lower than that recorded within the South East (4.9%) and England as a whole (6.4%).

# 3.4 **Supply of Labour and Employment**

3.4.1 Business investment decisions are typically based on the availability and accessibility of sites, as well as the availability of capital and labour. Below we consider the labour market by profiling the broad occupational breakdown, earnings and qualifications of the borough's residents.

# Occupational Structure

3.4.2 The latest statistics available indicate that approximately 62% of the resident working population in Guildford is employed in managerial, professional and associate professional occupations, which is somewhat greater than within the Enterprise M3 LEP area and England as a whole (both 52%) and significantly more than within the South East (49%). This is presented in **Table 3-2** and **Figure 3-1**.

<sup>&</sup>lt;sup>18</sup> ONS (2011); Census (2001 and 2011).

<sup>&</sup>lt;sup>19</sup> ONS (2016); Sub-National Population Projections 2014

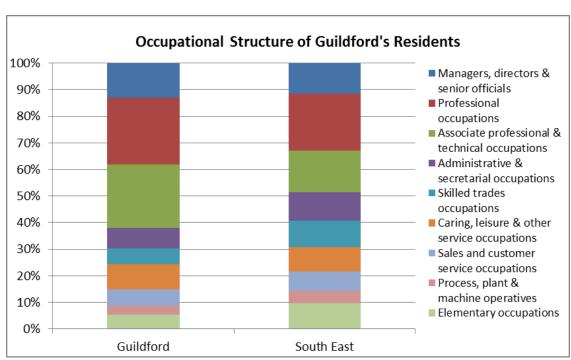
<sup>&</sup>lt;sup>20</sup> ONS (2015); Annual Population Survey 2014



#### Table 3-2 Occupational Structure of Guildford's Residents

	Guildford	Enterprise M3 LEP	South East	England
Managers, directors & senior officials	13.0	13.1	11.5	13.1
Professional occupations	25.1	23.2	21.3	23.2
Associate professional & technical occupations	23.9	15.4	15.7	15.4
Administrative & secretarial occupations	7.6	11.0	10.7	11.0
Skilled trades occupations	6.2	9.6	9.8	9.6
Caring, leisure & other service occupations	9.3	8.2	9.3	8.2
Sales and customer service occupations	6.2	7.0	7.1	7.0
Process, plant & machine operatives	3.4	3.5	4.6	3.5
Elementary occupations	5.3	8.7	9.7	8.7

Source: ONS (2014); Annual Population Survey, 2013



#### Figure 3-1 Occupational Structure of Guildford's Residents

Source: ONS (2014); Annual Population Survey, 2013

#### Earnings by Residents and Workers

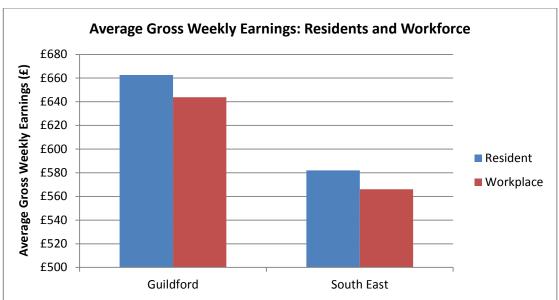
3.4.3 In 2016, the average (median) gross weekly earnings (full-time) for residents within Guildford were £662.60 which is approximately £81 higher than levels recorded within the South East and £122 higher than recorded across England as a whole. Guildford residents earned £18.70 more per week than did workers in Guildford, on average, suggesting that residents commuting out of the borough to work are travelling to higher-skilled, higher-paid jobs (commuting patterns are discussed further in Section 3.6). Earnings data are presented in Table 3-3 and Figure 3-2.



	Average Gross Weekly Earnings: Residents (£)	Average Gross Weekly Earnings: Workforce (£)
Guildford	662.60	643.90
South East	582.00	566.00
England	541.00	540.20

#### Table 3-3 Average Gross Weekly Earnings of Guildford's Residents

Source: ONS (2016); Annual Survey of Hours and Earnings, 2016.



#### Figure 3-2 Average Gross Weekly Earnings of Guildford's Residents

Source: ONS (2016); Annual Survey of Hours and Earnings, 2016.

# Resident Qualifications

3.4.4 In 2014, approximately 93.9% of working age residents within Guildford had a qualification, in line with that recorded within both the Enterprise M3 LEP area (95.1%) and the South East (94.4%) but slightly higher than across England as a whole (91.3%). Guildford had a lower proportion of working age residents with a degree or higher degree (NVQ4+) (39%) compared to the Enterprise M3 LEP (42.6%) and the South East (43%). This is shown in **Table 3-4** below.

	Guildford	Enterprise M3 LEP	South East	England
% with NVQ4+	39.0	42.6	43.0	35.7
% with NVQ3+	57.7	62.5	63.2	56.5
% with NVQ2+	75.3	78.9	77.8	73.2
% with NVQ1+	88.7	90.8	88.6	85.1
% with other qualifications (NVQ)	5.2	4.3	5.8	6.2
% with no qualifications (NVQ)	6.1	4.9	5.6	8.6

Source: ONS (2015); Annual Population Survey, 2014

# 3.5 Employment and Sectors of the Economy



- 3.5.1 According to the ONS Business Register and Employment Survey (BRES), in 2015 the number of full time equivalent (FTE) jobs in Guildford borough stood at 76,432<sup>21</sup>. BRES estimates cover UK businesses registered for Value Added Tax (VAT) and/or Pay As You Earn (PAYE), and is regarded as the definitive source of official employee and employment statistics by industry. However, as some businesses operate below the VAT and/or PAYE thresholds, BRES represents an underestimate of the total level of employment in the workforce economy. The ONS Jobs Density series, which take into account estimates of employment for businesses below this threshold, estimates the level of workplace employment to be 95,000 in 2015<sup>22</sup>.
- Employment in Guildford is predominantly concentrated within the Professional, 3.5.2 Scientific & Technical (13.3%), Health (12.1%) and Education (11.6%) sectors, which is in line with the equivalent breakdown across the Enterprise M3 LEP area as a whole.<sup>23</sup> There is a somewhat higher representation of employment within the Professional, Scientific and Technical sector, particularly within Guildford, but also in the LEP area than is the case both regionally and nationally (both approximately 9%). Retail employment is also a key employment sector, representing 9.6% of jobs within the borough, this is similar to that recorded within both the LEP area and nationally. Land for retail employment uses is not considered in this study, but in Guildford's Retail and Leisure Needs Study Update. Key employment sectors are shown below in Table 3-5.

<sup>&</sup>lt;sup>21</sup> ONS, (2016); Business Register and Employment Survey (BRES), 2015 (Employment is defined as employees plus self-employed people) <sup>22</sup> ONS, (2016); Jobs Density, 2015.

<sup>&</sup>lt;sup>23</sup> ONS BRES



%	Guildford (%)	Enterprise M3 LEP (%)	South East (%)	England (%)
Agriculture, Forestry & Fishing	0.3	0.4	1.4	1.3
Mining, Quarrying & Utilities	0.6	1.4	1.1	1.1
Manufacturing	4.5	5.7	6.1	8.0
Construction	4.5	5.0	4.8	4.6
Motor Trades	2.6	2.0	2.0	1.8
Wholesale	4.4	5.2	4.7	4.1
Retail	9.6	8.9	10.0	9.9
Transport & Storage (including postal)	2.3	2.9	4.4	4.7
Accommodation & Food Services	7.3	7.9	7.4	7.0
Information & Communication	6.4	7.4	6.1	4.3
Financial & Insurance	3.3	2.6	2.9	3.5
Property	1.8	2.0	1.8	1.9
Professional, Scientific & Technical	13.3	11.0	9.1	8.8
Business Administration & Support Services	4.1	7.8	7.8	9.0
Public Administration & Defence	5.0	2.7	3.2	4.0
Education	11.6	9.5	10.1	9.0
Health	12.1	11.8	12.5	12.5
Arts, Entertainment, Recreation & Other Services	6.3	5.8	4.8	4.5

#### Table 3-5 FTE Jobs by Sector 2015 - Percentage

Source: ONS (2016); Business Register and Employment Survey, 2015 (Employees)

- 3.5.3 **Table 3-6** shows the changes in employment by sector over the period 2010 to 2015 (latest available data). Overall the Guildford economy grew by 4.9% between 2010 and 2015 compared with 5.6% and 7.2% for regional and national comparators. However, employment fell by 4.8% across the Enterprise M3 LEP area over this period.
- 3.5.4 The sectors that have exhibited the highest growth over this time period include the Information & Communication sector, which has grown by 30.4%; Professional, Scientific & Technical sector (22.1%); Arts, Entertainment, Recreation & Other Services (21.4%) and Accommodation & Food Services (20%). While both the Agriculture, Forestry & Fishing and Mining, Quarrying & Utilities sectors have grown strongly (78.9% and 49.7% respectively), this is from a very low base and as such reflects only a small absolute increase in employment (equivalent to 100 and 200 net additional jobs respectively).
- 3.5.5 Employment within the Business Administration and Support Services sector has decreased by 28.3% in Guildford in contrast to an increase of 11.7% within the South East region and 20.6% nationally. A significant factor in this was the closure of several regional public-sector headquarters. The sectors of Manufacturing, and Transport & Storage have also seen slight contractions between 2010-2015.



	Guildford (%)	Enterprise M3 LEP (%)	South East (%)	England (%)
Agriculture, forestry & fishing	78.6	78.8	6.6	1.0
Mining, quarrying & utilities	49.7	13.6	-10.8	8.6
Manufacturing	-3.7	-27.0	-6.6	0.3
Construction	-7.3	-19.7	-6.2	4.4
Motor trades	12.5	-5.6	5.0	7.4
Wholesale	-8.8	-11.6	2.2	2.6
Retail	1.3	-10.7	2.6	2.6
Transport & storage (including postal)	4.1	-15.4	13.3	9.4
Accommodation & food services	20.0	14.3	17.8	15.7
Information & communications	30.4	8.4	23.1	16.3
Financial & insurance	7.0	-16.1	-1.9	-0.2
Property	0.1	-1.9	14.9	20.2
Professional, scientific & technical	22.1	7.4	16.7	24.2
Business administration & support services	-28.3	-3.1	11.7	20.6
Public administration & defense	-11.8	-21.9	-21.0	-18.9
Education	-2.5	-2.3	5.1	3.7
Health	5.6	-0.4	8.7	7.8
Arts, entertainment, recreation & other services	21.4	-1.7	3.7	1.2
Total	4.7	-4.8%	5.9	7.2

# Table 3-6 Recent Change in Job Numbers by Sector, 2010-2015 - Percentage

Source: ONS (2016); Business Register and Employment Survey, 2015 (Employees)

# 3.6 Travel to Work Areas and Commuting Patterns

3.6.1 Analysis of the Census 2011 commuting patterns shows that approximately 35.2% of Guildford's residents worked within Guildford, and 13.2% worked from home, whilst the remainder commuted out of the borough to work. The majority of those who commuted out of Guildford worked in Waverley, Woking or Rushmoor. This is shown below in Table 3 7.



#### Table 3-7 Place of Work of Guildford's Residents

	Number	Percentage
Guildford	24,820	35.2
Waverley	3,722	5.3
Westminster, City of London	3,207	4.5
Woking	3,093	4.4
Rushmoor	2,656	3.8

Source: ONS (2014); Census 2011.

3.6.2 Westminster and the City of London is the third highest destination for work of Guildford's residents. According to SHMA overall, 8,967 of Guildford's residents work in Greater London, equivalent to 16.2% of work flows<sup>25</sup> and 12.7% of all employment<sup>26</sup>, whereas only 4,077 (6.4%) of Greater London residents work in Guildford.

#### Table 3-8 Place of Residence of Guildford's Workforce

	Number	Percentage
Guildford	24,820	39.2
Waverley	7,730	12.2
Woking	4,626	7.3
Rushmoor	3,579	5.7
Surrey Heath	2,224	3.5

Source: ONS (2014); Annual Population Survey, 2011

3.6.3 In 2011, Guildford was a net importer of workers: 38,489 residents of other local authorities commuted to Guildford to work, while 30,458 residents of Guildford commuted elsewhere to work. Waverley and Woking, the two other local authorities within the Property Market Area (See Section 6.3), hosted 9.1% of all jobs held by Guildford's residents, and contributed 19.5% of Guildford's workforce.

# 3.7 Location Quotient

3.7.1 A location quotient measures the relative size of an industrial sector relative to the national economy, providing a sectoral analysis of Guildford's employment structure. A location quotient greater than 1.0 indicates that the rate of employment in that sector is above the national average, whereas a location quotient smaller than 1.0 indicates it is below the national average. A high location quotient (i.e. above 1.0) indicates some degree of specialisation, and the higher the location quotient the greater the specialisation. Industry sectors with high location quotients often indicate those sectors where the local economy has a comparative advantage and thus attract investment.

<sup>&</sup>lt;sup>25</sup>Source: GL Hearn (2014), West Surrey Strategic Housing Market Assessment, June 2014. This states ;of all jobs located within a UK Local Authority

<sup>&</sup>lt;sup>26</sup> Source: *Ibid:* This includes working on offshore installations, internationally, in no fixed place and home working



3.7.2 **Table 3-9** presents the location quotient for each broad industrial sector in Guildford relative to England. A locational quotient higher than 1.0 means that the sector is proportionately over-represented in the Guildford economy compared to the England wide average representation of that sector. The table also includes data on the percentage change in employment over the period from 2010 to 2015, the latest available data, and the relative share of employment of a sector. This helps to identify those sectors in which Guildford is relatively well represented, growing and of importance to the local economy in terms of jobs.

Sector	Location Quotient	Employment Change 2010-2015 (%)	Employment Share 2015 (%)
Professional, Scientific & Technical	1.51	22.1	13.3
Information & Communication	1.47	30.4	6.4
Motor Trades	1.44	12.5	2.6
Arts, Entertainment, Recreation & Other Services	1.40	21.4	6.3
Education	1.29	-2.5	11.6
Public Administration & Defence	1.26	-11.8	5.0
Wholesale	1.07	-8.8	4.4
Accommodation & Food Services	1.03	20.0	7.3
Construction	0.98	-7.3	4.5
Retail	0.98	1.3	9.6
Health	0.96	5.6	12.1
Financial & Insurance	0.94	7.0	3.3
Property	0.93	0.1	1.8
Manufacturing	0.56	-3.7	4.5
Mining, Quarrying & Utilities	0.55	49.7	0.6
Transport & Storage	0.49	4.1	2.3
Business Administration & Support Services	0.46	-28.3	4.1

#### Table 3-9 Guildford Location Quotients

Source: ONS (2016), Business Register and Employment Survey 2015.

Note: Grey shade indicate:

1) A locational quotient higher than 1.0 meaning that the sector in Guildford is proportionately well represented compared to the England wide average representation of that sector.

2) Employment growth in the sector during the period 2010 and 2015.

3) A comparatively important sector in the Guildford area supporting more than one tenth of all jobs in the borough.

\* Those sectors which have seen a large percentage change (such as water supply, sewerage, waste management and remediation activities) are likely to have a small employment base.

- 3.7.3 **Table 3-9** demonstrates that Guildford's employment is relatively well-concentrated on service and research industries which are likely to work out of office or similar premises. The Professional, Scientific & Technical and Information & Communication sectors account for slightly less than one fifth of total employment within the borough. Both sectors have also seen positive employment growth 2010 to 2015.
- 3.7.4 The analysis allows us to consider not only those sectors that are highly represented, but also provides an indication of those that are growing and have the potential to



support future growth of the Guildford economy. Key examples include the Arts, Entertainment & Recreation and Information & Communication sectors which, although traditionally represent a relatively small proportion of employment, have seen strong employment growth 2010 to 2015.

3.7.5 The Professional, Scientific & Technical sector also plays an important role in the local economy. It is one of the largest sectors by absolute employment (10,500 workplace employment) and has seen employment growth of 22.1% between 2010-2015. Further analysis of location quotients indicates that Guildford is well represented in activities including head offices and management consultancy activities, advertising and market research, scientific research and development and architectural and engineering activities. This analysis points towards a focus on office and research and development activities within the borough.

#### 3.8 Conclusions

- 3.8.1 In summary, the data suggests that Guildford's resident population has grown at a slower rate than that observed within the South East and England over the recent past. However, the outlook is for Guildford to experience continued population growth over the coming years, with an additional 22,000 residents over the plan period.
- 3.8.2 Guildford residents are comparatively highly-qualified and earn more than both the regional and national average. There remain pockets of deprivation in the borough however, with lower educational attainment and employment observed mainly in the Ash Wharf, Friary and St Nicholas, Stoke, Westborough and Worplesdon wards.
- 3.8.3 Analysis of employment by sector in the borough indicates that health, education, and professional, scientific and technical sectors represent approximately 37% of the total jobs within Guildford. Employment within the borough grew by approximately 4.9% between 2010 and 2015. Since 2010 the Information & Communications, Professional, Scientific & Technical and Arts, Entertainment & Recreation sectors have all experienced strong levels of growth; however employment within the Business Administration & Support Services sector has decreased. However, the Manufacturing and Transport & Storage have seen slight contractions between 2010 and 2015.
- 3.8.4 Guildford's employment is relatively well-concentrated on service and research industries which are likely to work out of office or similar premises. The Professional, Scientific & Technical and Information & Communications sectors account for slightly less than one fifth of total employment within the borough. Both sectors have also seen positive employment growth 2010 to 2015.



# 4 Assessment of Supply

### 4.1 Introduction

4.1.1 This section identifies the supply of employment land in Guildford borough and presents the quality characteristics of sites.

# 4.2 Identifying Employment Land

- 4.2.1 Employment land has been identified from:
  - The Guildford borough Employment Land Assessment (July 2013). This report identified strategic employment sites. A strategic site is defined as one which provides over 100 jobs and are greater than 0.25ha;
  - The Guildford Borough Strategic Housing Land Availability Assessment (June 2014 Update), which identified non-strategic employment land over 0.25ha; and
  - Analysis by the Council of business rates registry to identify sites with a lower size threshold of at least 500sqm of B-use class floorspace.

# 4.3 **Assessing the Qualitative Characteristics of Employment Sites**

- 4.3.1 Below we set out our method for determining the current and potential supply of employment land, and the findings of our supply assessment.
- 4.3.2 The survey methodology and criteria are based on factors and issues set out in the OPDM's Employment Land Review Guidance Note (2004)<sup>27</sup>, the NPPF (2012) and the PPG (2014). We have also included characteristics of land and premises that determine their suitability for office (B1), industrial (B2) and warehousing (B8) land uses. We assess each site's suitability for all criteria as, over the long-term planning period, there could be potential for change of use.
- 4.3.3 We have assessed the following supply criteria<sup>28</sup>:
  - Impact on Surrounding Amenity: This determines whether the location and nature of employment uses on each site have an impact on other surrounding land uses. This can include town centres and shopping centres, typically resulting from office premises in central areas, and residential/community uses, more typically as a result of industrial and warehousing activities;
  - Strategic Road Access: This criterion determines whether the site is directly accessible from, or is in close proximity to, the trunk road network. This is particularly relevant for industrial and warehousing uses;
  - Strategic Access to Public Transport: Proximity to public transport is an important characteristic for office employment. We consider public transport access in terms of the suitable range of services available across different forms of transport;

<sup>&</sup>lt;sup>27</sup> This guidance has been superseded but the level of detail it offers means it is still useful and relevant as a guidance document.

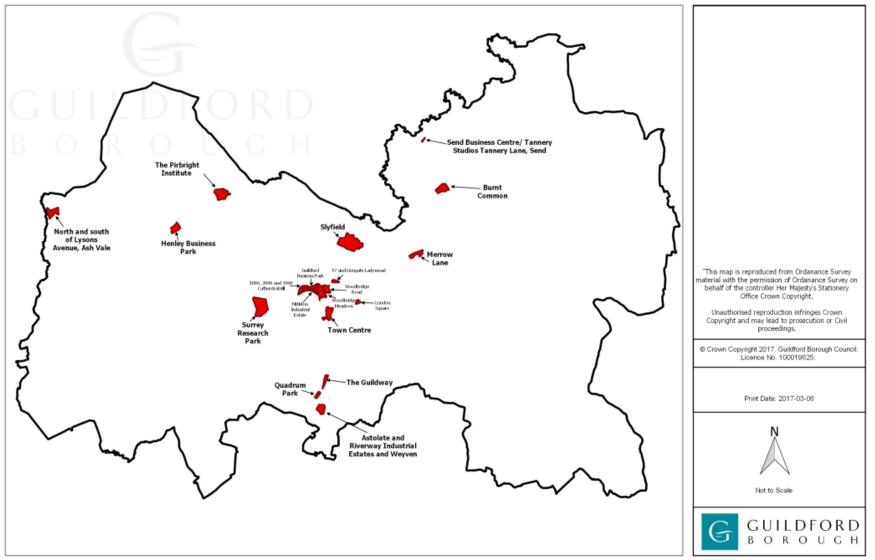
<sup>&</sup>lt;sup>28</sup> The Council is in the process of adapting its SHLAA methodology for future review periods, which will have a wider regard for employment uses and develop a collaborative approach to assessment as suggested through the NPPG.





- Servicing of Businesses: We determine whether there is designated and adequate space for the servicing of businesses at each site. The assessment looks for the presence of loading/unloading facilities either on-street or offroad, and/or loading bays. This criterion is typically associated with industrial and warehouse uses;
- **Parking Provision**: It is important that employment sites provide adequate parking spaces to accommodate the needs of businesses. This criterion is most important in areas with poor public transport accessibility, and is therefore particularly relevant to out-of-town employment sites;
- Access to Amenities & Facilities: Employment sites containing office uses in particular should ideally be located in close proximity or with good access to facilities and amenities that can serve the needs of employers and businesses, including shops, cafés/ food retailers and professional services. This criterion is judged in terms of both the location and the range of suitable retailers in relation to each site;
- Quality of Environment/Public Realm: The overall quality of each site is assessed, both in terms of the condition of the buildings and the quality of the general environment; and
- Vacant Floorspace: Although vacancy may be a consequence of various different factors, we nevertheless include this criterion as an indicative measure of each site's suitability.

# AECOM





Source: Guildford Borough Council (GBC) (2015)



#### 4.4 Assessment of Identified Sites

- 4.4.1 **Table 4-1** and **Table 4-2** list and summarise the assessment of all strategic and nonstrategic sites. Information on sites were gathered by the Council via site visits, inputs from the Council's planning and development control departments; and desk-based research by AECOM.
- 4.4.2 Strategic sites: In total 20 strategic employment sites covering over 172ha of land were identified. The location of each of these sites is shown in **Figure 4-1** and a summary of the site characteristics set out in **Table 4-1**.
- 4.4.3 Although most of the larger key sites are located within urban areas of the borough, the following sites are in more rural areas and in the Green Belt:
  - Henley Business Park, in Normandy Ward. This site currently provides 19,627sq m of predominantly B8 floorspace, although B1 and B2 uses are also present with permission for a further 6,100 sq m; and
  - Pirbright Institute, in Pirbright Ward. This site, formerly the Institute for Animal Health, will provide 50,000 sqm of mainly B1(b) floorspace when the 8,000 sqm BRF building is completed.
- 4.4.4 Non-strategic sites: An additional 24 non-strategic sites have been identified. They have a cumulative land area of 10ha.



### Table 4-1 Strategic Site List and Assessment

Site Name	Ward	Site Area (ha)	Floorspace (sqm)	Existing Employment Uses	Impact on Surrounding Amenity	Strategic Road Access	Access to Public Transport	Servicing of Businesses	-	Access to Amenities & Facilities	Quality of Environment / Public Realm	Vacant Floorspace (sqm)	Potential for Intensification / Additional Floorspace
Guildford Town Centre Employment Core	Friary and St Nicolas Holy Trinity	16.16	Unknown	B1	Residential/ Community Uses Town Centre Local Shopping Centre	Indirect	Very Good	Adequate	Adequate	Very Good	Very Good	9,555 (B1)	Yes
Surrey Research Park	Onslow	28.21	65,000	B1	None	Direct	Good	Adequate	Adequate	Poor	Very Good	307(B1a/b)	6,828 sq m on existing Research Park plus large extension
Slyfield Industrial Estate	Stoke	37.79	180,000	B1, B2, B8	None	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	7,415 (B2)	Yes
Cathedral Hill and Guildford Industrial Estate	Onslow	8.00	45,300	B2, B8	None	Direct	Poor	Adequate	Adequate	Very Poor	Very Good	956 and 2,333	Yes 1.05ha (B1)
Guildford Business Park	Onslow	5.5	29,000	B1	Town Centre	Direct	Poor	Adequate	Adequate	Very Poor	Very Good	1,670 (B1a)	Permission granted for 2,300sqm building 5
Midleton Industrial Estate	Onslow	2.53	13,870	B1, B2	Town Centre	Indirect	Poor	Adequate	Adequate	Very Poor	Very Good	858 (B1)	Yes 0.9ha
Merrow Lane	Merrow	7.46	31,960	B2, B8	Residential/ Community Uses	Indirect	Poor	Adequate	Adequate	Very Poor	Very Good	1,024 (B2)	Yes 0.2ha
Woodbridge Meadows Industrial Estate	Onslow	6.89	31,000	B1, B2	Town Centre	Indirect	Poor	Adequate	Adequate	Very Poor	Very Good	None	None Identified
Woodbridge Road	Onslow	5.37	11,250	B1, B8	Residential/ Community Uses	Indirect	Good	Adequate	Inadequate	Very Poor	Very Good	None	None Identified

# Guildford Borough Employment Land Needs Assessment 2017

Site Name	Ward	Site Area (ha)	Floorspace (sqm)	Existing Employment Uses	Impact on Surrounding Amenity	Strategic Road Access	Access to Public Transport	Servicing of Businesses	0	Access to Amenities & Facilities	Quality of	Vacant Floorspace (sqm)	Potential for Intensification / Additional Floorspace
The Guildway	Shalford	3.95	12,500	B1	Residential/ Community Uses	Direct	Poor	Adequate	Adequate	Very Poor	Very Good	488 (B1)	None Identified
Henley Business Park (Vokes)	Normandy	6.64	19,627	B1, B2, B8	None	Direct	Very Poor	Adequate	Adequate	Very Poor	Very Good	3,175	Permission for 6,100sqm
Lysons Avenue/ Station Road	Ash	9.77	32,000	B2, B8	Residential/ Community Uses	Indirect	Very good	Adequate	Adequate	Good	Poor	478	None Identified
Quandrum Park	Shalford	2.27	9,800	B2, B8	None	Direct	Very Poor	Adequate	Adequate	Very Poor	Very Good	466	None Identified
The Guildway	Shalford	3.95	12,500	B1	Residential/ Community Uses	Direct	Poor	Adequate	Adequate	Very Poor	Very Good	488 (B1)	None Identified
Henley Business Park (Vokes)	Normandy	6.64	19,627	B1, B2, B8	None	Direct	Very Poor	Adequate	Adequate	Very Poor	Very Good	3,175	Permission for 6,100sqm
The Pirbright Institute	Pirbright	18.9	41,800 plus 8,100 under construction (BRF)	B1b	Residential/ Community Uses	Direct	Poor	Adequate	Good	Very Poor	Very Good	None	Permission for approximately 24,000sqm net additional floorspace
Astolat, Peasmarsh and Riverway Industrial Estates	Shalford	8.02	18,730	B1, B2, B8	Residential/ Community Uses	Direct	Poor	Adequate	Adequate	Very Poor	Very Good	3,270 (B2/B8)	None Identified
London Square, Cross Lanes	Friary and St Nicolas	1.8	11,260	B1	Commercial, education	Indirect	Good	Adequate	Adequate	Good	Good	655	None Identified
57 and Liongate Ladymead	Friary and St Nicolas	2.1	15,665	B1	Commercial	Indirect	poor	Adequate	Adequate	Good	Good	None	None Identified

### Guildford Borough Employment Land Needs Assessment 2017

Site Name	Ward	Site Area (ha)	Floorspace (sqm)	Existing Employment Uses	Impact on Surrounding Amenity	Strategic Road Access	Access to Public Transport	Servicing of Businesses		Access to Amenities & Facilities	Quality of Environment / Public Realm	Vacant Floorspace (sqm)	Potential for Intensification / Additional Floorspace
Send Business Centre and Tannery Studios, Tannery Lane, Send	Send	1.48	7,800	B1	Residential	Indirect	Good	Adequate	Good	Good	Very Good	None	Yes
Total	-	172.84ha	526,962sqm plus 8,100sqm under construction	-	-	-	-	-	-	-	-	32,650sqm	2.15ha and 39,228sqm proposed

Source: GBC (2015) and AECOM (2014)

### Table 4-2 Non-Strategic Site List and Assessment

Site Name	Ward	Site Area (ha)	Existing Employment Uses	Approx Employment Floorspace (sqm)	Impact on Surrounding Amenity	Strategic Road Access	Access to Public Transport	Servicing of Businesses	-	Access to Amenities & Facilities	Quality of Environment/ Public Realm	Vacant Land/ Derelict Buildings	Potential for Intensification / Additional Floorspace
Buildings at Chertsey Street	Holy Trinity	1.00	B1	816	Residential/ Community Uses Town Centre	Indirect	Good	Inadequate	Inadequate	Very Good	Good	None	None Identified
Broadford Business Park	Shalford	1.5	B1, B2, B8	9,126	Residential/ Community Uses	Indirect	Poor	Adequate	Adequate	Very poor	Very good	None	None identified
2-3 Kernal Court, Walnut Tree Close	Friary and St Nicolas	0.55	B8	2,720	None	Indirect	Good	Adequate	Adequate	Poor	Good	None	None Identified
Pines Trading Estate	Worplesdon	1.66	B2, B8	7,250	Residential/ Community Uses	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	1,264sqm	None Identified
Ash Vehicle Centre, Ash Church Road, Ash	Ash South and Tongham	0.72	B2	986	Residential/ Community Uses	Direct	Very good	Adequate	Adequate	Very Poor	Good	Land at north of site	None Identified
Connaught House, Alexandra Terrace	Friary and St Nicolas	0.09	B1a	2,300	Town Centre	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	None	None Identified
31 Chertsey Street	Friary and St Nicolas	0.17	B1a	3,150	Town Centre	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	None	None Identified
1-7 Stoke Road	Friary and St Nicolas	0.3	B1a	3,420	Town Centre	Indirect	Poor	Adequate	Adequate	Very Poor	Very Good	None	None Identified
Hays House, Millmead	Friary and St Nicolas	0.32	B1a	1,800	Town Centre	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	None	None Identified

# Guildford Borough Employment Land Needs Assessment 2017

Site Name	Ward	Site Area (ha)	Existing Employment Uses	Approx Employment Floorspace (sqm)	Impact on Surrounding Amenity	Strategic Road Access	Access to Public Transport	Servicing of Businesses		Access to Amenities & Facilities	Quality of Environment/ Public Realm	Vacant Land/ Derelict Buildings	Potential for Intensification / Additional Floorspace
Gateway Guildford	Friary and St Nicolas	0.25	B1a	1,600	Town Centre	Indirect	Good	Adequate	Adequate	Very Poor	Very Good	None	None Identified
The Courtyard, Wisley	Lovelace	0.76	B1a	750	Church, residential	Indirect	Very poor	Poor	Adequate	Very Poor	Very Good	382sqm	None Identified
Stoke Mill, Woking Road, Guildford	Stoke	0.7	B1a	1,400	Residential	Direct	Poor	Adequate	Adequate	Poor	Very Good	None	None Identified
Grange Court, Tongham	Tongham	0.55	B1a	750	Church, residential	Indirect	Very poor	Poor	Adequate	Very Poor	Very Good	382sqm	None Identified
York House, 42 Chertsey Street	Holy Trinity	0.05	B1a	1,070	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	None Identified
Andrew House, College Road	Friary and St Nicolas	0.1	B1a	1,500	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	None Identified
College House,89 and 91 Woodbridge Road	Friary and St Nicolas	0.04	B1a	1,900	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	None Identified
Pembroke House, Mary Road	Friary and St Nicolas	0.25	B2/B8	1,600	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	Replace with 3,270 sqm B1
65 Woodbridge Road	Friary and St Nicolas	0.23	B1a	3,000	Town Centre	Indirect	Good	Adequate	Adequate	VeryGood	Very Good	301sqm	None Identified
Leys House, 86-88 Woodbridge Road	Friary and St Nicolas	0.09	B1a	1,762	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	None Identified
Eastgate Court, Guildford	Friary and St Nicolas	0.14	B1a	1,973	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	444sqm	None Identified

### Guildford Borough Employment Land Needs Assessment 2017

Site Name	Ward	Site Area (ha)	Existing Employment Uses	Approx Employment Floorspace (sqm)	Impact on Surrounding Amenity		Access to Public Transport	Businesses		Access to Amenities & Facilities	Quality of Environment/ Public Realm	Vacant Land/ Derelict Buildings	Potential for Intensification / Additional Floorspace
The Oriel, Sydenham Road	Friary and St Nicolas	0.06	B1a	1,200	Town Centre	Indirect	Poor	Adequate	Adequate	Very Good	Very Good	None	None Identified
City View Place, Sydenham	Friary and St Nicolas	0.02	B1a	682	Town Centre	Indirect	Poor	Adequate	Adequate	Very Good	Very Good	155sqm	None identified
Edgeborough House, Guildford	Friary and St Nicolas	0.18	B1a	1,100	Town Centre	Indirect	Good	Adequate	Adequate	Very Good	Very Good	None	None Identified
Astolat, Coniers Way	Burpham	0.29	B1a	1,300	Residential	Indirect	Poor	Adequate	Adequate	Good	Very Good	None	None Identified
Total	-	10.02ha	-	53,155sqm	-	-	-	-	-	-	-	2,928sqm	3,270sqm floorspace

Source: GBC (2015) and AECOM (2014)





### 4.5 **Pipeline: Planning Permissions and Prior Approvals**

#### Planning Permissions

- 4.5.1 Within the borough there are a number of sites or premises where planning permission for new development or a change of use has been granted but not yet started or where work has started but not completed.
- 4.5.2 **Table 4-3** gives a snapshot of the current total of B use class planning permissionsnot yet started or where work has started but not completed. It shows that were all of these permissions to be implemented, the net quantity of employment floorspace would increase by just over 33,600sqm, comprising 19,052sqm of office and R&D floorspace; 3,678sqm of light industry; and 10,877sqm of industrial/storage floorspace.

Use Class	Developments Commenced (net sqm)	Developments Yet to Commence (net sqm)	Total Permissions (net sqm)		
B1 (a,b)	23,802	-4,750	19,052		
B1 (c)	3,273	405	3,678		
B2/B8	11,282	-405	10,877		
Total	38,357	-4,750	33,607		

#### Table 4-3 Current Planning Permissions (as of December 2016)

Source: Guildford Borough Council (2017).

- 4.5.3 The key permissions which are yet to be completed for gains in B1a/b class floorspace include amongst other sites:
  - The Pirbright Laboratory for a new Biological Resources Facility (BRF) laboratory of 8,081 sq m (B1b) commenced;
    - Faraday Court, Surrey Research Park 5,875 sqm (B1b) building for a pathology has permission however this is unlikely to be built however this is unlikely to go ahead. The site is currently being marketed for around 2,800sq m;
    - Building 5 Guildford Business Park 2,664sqm (B1a); and
    - Henley Business Park 1,087sqm.
- 4.5.4 The key permissions for gains in B1c, B2 and B8 class floorspace which are yet to be completed include amongst other sites:
  - Henley Business Park (B1, B2 and B8) (11,282sqm); and
  - 3-5 Woodbridge Meadows (1,816sqm) (B8).

#### Prior Approvals

4.5.5 In addition to planning permissions set out in **Table 4-3** are losses of B1a -use class floorspace as a consequence of permitted development rights, subject to prior approval, allowing change of use from B1a offices to C3 residential use. In Guildford borough, between June 2013 and January 2017, if implemented the approved changes of use from B1a to C3 (residential) by prior approval would result in a loss of 16,242sqm of B1a floorspace from the borough.



#### 4.6 **Conclusions**

- 4.6.1 We have conducted qualitative site assessments of all strategic and non-strategic employment sites in Guildford. This assessment was carried out against site appraisal criteria in line with PPG guidance.
- 4.6.2 Two sets of sites were identified: 1) Strategic sites which each provide over 100 jobs and has greater than 0.25ha; 2) non-strategic sites capturing all other sites in the borough with a lower threshold of 0.25ha or 500 sqm floorspace. The list of these sites was drawn from existing publications and developed in consultation with the Council.
- 4.6.3 Strategic sites measure 172.84ha of land while non-strategic sites total 10.02ha. Together the strategic and non-strategic sites account for 182.86ha of employment land.
- 4.6.4 The quality characteristics assessment found Guildford's sites to be generally functioning well and fit for purpose.
- 4.6.5 Guildford's out-of-centre strategic employment sites are characterised by high quality units containing for B use class activities. Many of the significant employment sites, such as the Surrey Research Park and Slyfield Industrial Estate, benefit from proximity the strategic road network. Strategic employment sites located within the town centre have good access to public transport links, facilities and amenities. However, some of these sites are generally of lower quality and smaller in size than employment sites in out-of-centre locations. Town centre sites generally lack the capacity to accommodate larger occupiers.
- 4.6.6 Guildford's non-strategic employment sites are smaller than the out-of-centre strategic sites, with a greater tendency to be located among areas of residential and community use. Their size and location in proximity to some sensitive receptors could mean that their development potential is more limited than the strategic sites. Although non-strategic sites exhibit good quality environment and public realm characteristics there a number of these sites suffer from poor access to amenities and facilities. Many of the non-strategic employment sites are in proximity to the railway station and therefore benefit from good access to public transport.
- 4.6.7 There is some potential for the existing supply of employment space to change. This may be through the intensification of sites (which would increase the supply of employment floorspace) or a change in use class (which could cause the overall supply to fall) as a consequence of planning consents and permitted development.
- 4.6.8 The pipeline for employment floorspace defined by planning permissions yet to be completed and prior approvals suggests the potential for an additional 33,607sqm of B use class floorspace to come forward. This comprises a net loss of 4,750sqm of B1a use class floospace and a net gain of 38,357sqm in B1c, B2 or B8 use class space.



#### 5 **Property Market Analysis**

#### 5.1 Introduction

5.1.1 This section provides an overview of the Guildford borough's office/R&D and the industrial and storage property market. We will also outline the findings of the recent business survey<sup>30</sup> which provides a local perspective on demand for premises and identifies current supply constraint issues which could affect growth within the borough.

#### 5.2 The Property Market Area

- 5.2.1 Industrial and office property markets rarely correspond to local government administrative boundaries. Businesses searching for sites or premises will typically consider a number of similar locations spread across several local authorities. This area is termed the 'property market area' (PMA). The PMA will often have similar characteristics, such as the labour market structure, access to market areas and suppliers (including via public transport), rental values, appropriate size and grade of stock and will include the majority of commuting. The PPG recommends assessing the employment land needs of a given location within the context of a wider property market area, also referred to as the Functional Economic Market Area (FEMA) (see in particular paragraphs 030-032 of the guidance).
- In defining the PMA we have considered the Commercial Property Market Study 2014 5.2.2 completed for the Enterprise M3 LEP by the Land and Property Action Group in April 2013 (considered in Section 2 above), Enterprise M3 Commercial Property Market Study 2016, the Guildford and West Surrey SHMA<sup>31</sup>, consulted local property market agents<sup>32</sup> and labour market commuting patterns.
- 5.2.3 The Enterprise M3 LEP report suggests a PMA of the majority of Guildford borough, all of the local authority district of Woking and the central and eastern parts of Waverley borough. This area hosts similar sectors, has labour market characteristics in common, including participation rates, average earnings and gualifications, and has a stock of employment sites of a similar size, quality and price. The analysis of commuting patterns as described in Section 3.6 shows that Woking, Waverley and Guildford form a rational market area for analysis of employment land needs. Further, the West Surrey Functional Economic Market Area<sup>33</sup> study identified Guildford, Waverley and Woking as a suitable geographical area for determining local employment land needs.
- 5.2.4 On this basis we define the PMA as being Guildford, Woking and Waverley boroughs. This PMA also aligns with the Guildford and West Surrey SHMA, which defines a housing market area encompassing the whole of Woking district, Guildford, and Waverley boroughs. This definition is used in forecast demand for employment space in Section 6.

<sup>&</sup>lt;sup>30</sup> Economic Growth Management (2015) Guildford Economic Growth Plan: Findings from the Business Survey.

<sup>&</sup>lt;sup>31</sup> GL Hearn, Guildford and West Surrey SHMA, 2015 paragraph 1.6 defines the FEMA as Woking, Guildford and Waverley. <sup>32</sup> Agents contacted for views: LSH, Kingstons, Savills, Pewleys

<sup>&</sup>lt;sup>33</sup> Guildford Borough Council, Waverley Borough Council and Woking Borough Council, (2016); The West Surrey Functional Economic Market Area for Guildford, Waverley and Woking Borough Councils.





Figure 5-1 Guildford and Woking Market Area as Defined in Enterprise M3 Commercial Property Market Study

Source: Enterprise M3 LEP Commercial Property Market Study 2013

#### 5.3 Guildford Borough Office/R&D Market (B1 and B1b)

- 5.3.1 In July 2016, commercial property agents Lambert Smith Hampton (LSH) published the Thames Valley Office Market Report 2016<sup>34</sup>, which provides an overview of the local office markets for eleven key locations and updates the report published in August 2015<sup>35</sup>. It considers the B1a use class (offices) only. It analyses Guildford's office market, looking at demand, supply and new developments.
- 5.3.2 The report notes that Guildford's office market is split between Guildford town centre space, and out-of-centre. The existing town centre office stock, enjoys good access to public transport facilities and amenities, but is generally second-hand, floorplates are mostly small and supply is limited. In contrast, out-of-centre office floorspace, was found to be generally larger and of higher quality with dedicated parking. Out-of-centre office buildings are estimated to currently account for around two-thirds of total B1 office space within the borough but make up only 36% of the available stock at just 8,600sqm, the majority of which is in two buildings, Cathedral Hill and Aviva's Compton House. The out-of-centre supply includes the borough's primary business parks, including Surrey Research Park, which have larger floorplates and more modern buildings.
- 5.3.3 At the time the LSH report was written, no new-build supply of town centre grade-A space had come on to the market since 2010 and availability had fallen to its lowest

<sup>&</sup>lt;sup>34</sup> Thames Valley Office Market Report, Lambert Smith Hampton, August 2016

<sup>&</sup>lt;sup>35</sup> Thames Valley Office Market Report, Lambert Smith Hampton, August 2015, accessed August 2015 at http://www.lsh.co.uk/commercial-property-research/2015/08/thames-valley-office-market-report-2015



level in 10 years. The main additions or improvements to town-centre supply have come in the form of refurbishments such as a 2,800 sqm office building, 31 Chertsey Street. 473sqm of this was let to technology company Eagle Eye. LSH highlight that availability was at its lowest level on record at the end of 2015, at 5.1% or 17,000sqm but had risen to 24,000sqm by the end of Q1 2016.

- 5.3.4 The LSH report shows take up in 2015, remained above the 10-year average for the second successive year and was at its highest level since 2007. The stand-out letting was at the newly refurbished Building 3, Guildford Business Park where Philips Electronic took 3,200 sqm for a 10-year term at £26 per sqft. In the first quarter of 2016, prime headline rents increased to a record level of £34 per sqft rising over 7.4% from the previous year, driven by the low supply. By the end of 2016 they were expected to hit £35 per sqft.
- 5.3.5 There is one new scheme under construction 1 and 2 Station View. This is primarily a residential development of 177 units but also includes 1,535sqm of replacement office floorspace. It is expected to be completed in in early 2017. The other new scheme which may come forward is Walnut Tree Park, on Walnut Tree Close (3,380sqm across two buildings, replacing 11 old units). 2 London Square has just been refurbished and 4,055sqm is currently available. Work was due to start on building 3 at the end of 2016 and it will provide 2,800 sqm when completed.
- 5.3.6 The LSH report suggests that the suitability of the existing office stock for potential occupiers is also hindering the market. The commercial property market agents we consulted expressed a similar view, believing that there is unmet demand for town-centre space, whilst the supply of second-hand office space within out-of-centre office parks has only limited appeal to occupiers.
- 5.3.7 The Wadham and Isherwood newsletter valued grade B offices at £20/sqft however in May 2015 the last 1,000 sqm of 3,000 Cathedral Hill was let by them for just under £22/sqft. At the end of July a small Grade II Listed property (180 sqm) was let on a 10 year lease for just over £22/sqft) (WI website).

#### 5.4 Guildford Borough Industrial (B1c and B2) and Storage (B8) Market

- 5.4.1 In February 2013 commercial property agents Lambert Smith Hampton (LSH)<sup>37</sup> observed that the national take-up of industrial and logistical space fell by a quarter in 2012. The factors behind this fall were cited as being the dwindling supply of grade-A stock and good quality accommodation and uncertainties about the stability of the global economy.
- 5.4.2 The report found however that Guildford bucked this national trend with take-up of industrial/storage space up on the previous year. It also observed that owners of industrial and distributional stock were generally opting to refurbish ageing stock rather than redevelop. Guildford was found to have little grade-A stock available, though the report observed that grade-A industrial stock was increasingly difficult to find across the wider South East region, and so this was not a problem specific to Guildford.

<sup>&</sup>lt;sup>37</sup> Lambert Smith Hampton, Industrial and Logistics Market 2013

http://www.lsh.co.uk/commercial-property-research/2013/02/industrial-and-logistics-market-2013



- 5.4.3 More recently research by LSH found that the industrial and logistics sector nationwide - had had 'a record-breaking year..., as take-up reached new heights, investment activity hit previously unseen levels and speculative development returned in a meaningful way'. LSH also observed that '[t]he strong recovery in demand has put the supply of industrial stock under acute pressure and started to influence the nature of occupier activity: despite considerable demand, grade A take-up was actually the lowest on record last year.<sup>38</sup>
- 5.4.4 Data on availability provided by LSH suggests that Guildford will have benefited from this recovery with take-up of space increasing. LSH record an availability rate for industrial space in Guildford borough of 6.2% in 2014 down from 8.4% in 2012 and 7.4% in 2013.<sup>39</sup> In addition, vacancy rates were found to be low across the industrial employment sites in July 2015 at just 3.7%<sup>40</sup>, which supports the idea of a contracting level of vacancy across the Borough.
- 5.4.5 In Guildford, industrial/storage rents have remained stable in recent years. Between 2009 and 2014, average rents have been consistently between £7.50 to £8.00/sqft for second-hand space and £9.00 to £10.00/sqft for prime space. These rates are broadly in line with other accessible locations in the wider South East, such as Oxford and Reading.<sup>36</sup>
- 5.4.6 Consultation with property market experts suggested that the current supply of industrial and storage premises is not meeting existing demand. There is a lack of available sites and these sites tend not to deliver the quality and type of space occupiers need.
- 5.4.7 In addition, local property agents identified traffic congestion as an issue for Guildford's industrial and distributional property market. The Council has recently been awarded funding from the Enterprise M3 LEP to invest in transport improvements for the town centre, which should help to alleviate this issue.

#### 5.5 A Survey of Business Needs

- 5.5.1 The Guildford Business Survey was conducted during two phases in November 2014 and July 2015 and aimed to capture information from a representative sample of businesses across the Guildford borough. The purpose of the survey was to explore the issues existing businesses faced with regards to the current supply and demand for employment floorspace within the borough and to examine how future expansion, investment and relocation could be supported. The survey focussed on businesses engaged in activities typically accommodated within office, industrial, distribution or warehousing units.
- 5.5.2 Some of the key factors which businesses identified would make them consider leaving the Guildford area included a lack of suitable business accommodation, the costs of running a business within the borough and continued traffic congestion and accessibility issues. In particular, traffic congestion and accessibility issues were found to have a detrimental impact on business operations as a consequence of

<sup>&</sup>lt;sup>38</sup> http://www.lsh.co.uk/commercial-property-research/2015/03/record-year-for-industrial-sector

<sup>&</sup>lt;sup>39</sup> Lambert Smith Hampton data on industrial and logistics rental and availability provided to AECOM July 2015.

<sup>&</sup>lt;sup>40</sup> Based on data provided by GBC which indicates that there was c.13,600sqm of vacant industrial/warehousing floorspace as of July 2015.



increases to journey times with businesses saying this impacted on staff arriving on time, delays to deliveries and deadlines, trip times to business locations (such as Surrey Research Park) and access to strategic routes (such as the A3 and the A320).

- 5.5.3 With regards to levels of satisfaction with existing business premises the survey found that office occupiers were broadly satisfied with their premises with the exception of parking facilities and road access. Although as a whole, dissatisfaction with these factors was from a relatively small number of businesses. In comparison, industrial and warehousing occupiers were comparatively more satisfied with their premises than office occupiers, responding with a high level of satisfaction across all factors, although some occupiers did indicate that road access was again a key negative issue.
- 5.5.4 When asked about their relocation plans, approximately one third of businesses indicated that they were actively considering relocating. The key reasons for relocating were given as plans for expansion and traffic and accessibility problems as well as finding more suitable business accommodation. The majority of these businesses however were planning to relocate within Guildford, demonstrating the need for the borough to accommodate these growing businesses. Of particular note was the desire by businesses to relocate close to their existing location. The survey found that office occupiers preferred town centre locations or business parks close to the centre, whilst industrial occupiers stated a preference for locating in Slyfield or a similar mid-urban industrial estate location.
- 5.5.5 The business survey found that over half of the businesses they contacted were considering some form of expansion, with the majority of these firms having a strong expectation of growth and requirements for more space. Only a very small number of those businesses which stated plans for expansion indicated that they would be expanding their operations through intensification of existing space. These findings indicate the potential churn within the market and highlight the importance of frictional floorspace and land vacancy to accommodate change and support the increased growth from existing enterprises and those firms looking to move to the borough.

#### 5.6 **Conclusions**

- 5.6.1 Guildford's office/R&D market is relatively prosperous compared to the rest of the PMA, and the wider Thames Valley region. It has weathered the recession well, maintaining buoyant levels of demand and rental yields. However, a lack of new office development, residential applications coming forward on sites where office was previously proposed (including Station View and Guildford Plaza) and losing office sites to residential through prior approval is further accentuating the supply gap. If anything, there is a risk that a proportion of demand is going unmet at present, due to a shortage of the high-quality space in the right location desired by both office and industrial occupiers.
- 5.6.2 Relative to elsewhere in the PMA, Guildford's office/R&D market performs well. Property market specialists suggest its capacity to facilitate large occupiers puts it ahead of Waverley, whose more predominant office locations (Farnham and Godalming) are deemed to be secondary markets. Guildford's town centre is perceived to be a more attractive location than Woking, although Woking's extensive



rail links and accessibility to the M25 mean it is a good second choice for those occupiers unable to find space in Guildford.

- 5.6.3 Guildford's industrial/storage property market bucks the negative trend observed across the country as a whole, with take-up of existing buildings increasing in 2012 and rents remaining resilient. This is likely to relate to the growth of the warehousing and distribution sector noted in the previous chapter. However, limitations on how existing sites are used, along with congestion issues and a lack of high-quality stock, are all identified as constraints on demand.
- 5.6.4 The property agents consulted suggested that relative to the other two boroughs in the PMA, Woking's industrial/storage market suffers from many of the same issues as observed in Guildford. These include traffic issues and a lack of available land to provide large, high-quality units. Relative to Waverley however, which is more rural and has little capacity for larger occupiers, Guildford is considered to be a more suitable location.
- 5.6.5 Businesses within Guildford can also be seen to be broadly satisfied with current premises, although a significant number of those surveyed indicated a strong expectation of growth and a requirement for greater space for expansion. Further, approximately one third of businesses surveyed stated that they were actively considering relocation, the majority of whom intended on remaining in Guildford. This emphasises the importance of Guildford as a location for growth and highlights the importance of an adequate supply of employment land and premises to accommodate this.



## 6 Employment Land Demand Forecast

#### 6.1 Introduction

6.1.1 This section of the ELNA estimates the amount of additional B use class floorspace or land likely to be required in the borough between 2016 and 2034.

### 6.2 Methodology

- 6.2.1 One approach to forecasting employment land requirements is to use employment predictions based on macro-economic forecasts. Macro-economic forecasts provide a top down logic to forecasting based on national or regional economic growth and the redistribution of that growth across an area. Typically these forecasts place less or no emphasis on local economic circumstances.
- 6.2.2 An alternative approach is to project forward the local historic rate of change in B-use class floorspace. The downside to this approach is that it assumes the future rate of floorspace delivery will be the same as that of the past. For example, the manufacturing sector has declined rapidly over the last 20 years but it may not be inappropriate to assume that this rate of decline is likely to continue over the long term as the sector is likely to have a minimum size threshold to help support and service the economy.
- 6.2.3 To retain the strengths and overcome the weaknesses of these two approaches our forecasting method uses elements of macro-economic forecasts and historic trends. In summary our approach to estimating the future demand for B-use class floorspace is to:
  - Determine the suitable property market area (PMA) for Guildford borough for which to forecast demand for employment land
  - Review past trends in floorspace and employment
  - Review projections in office/R&D and industrial/storage employment and future floorspace demand projections
  - Based on past trends and future projections, forecast demand for employment floorspace and land across the PMA, apply sensitivity analysis
  - Produce a borough-wide floorspace forecast taking into account demand for land by users of industrial/storage land
  - Produce a final forecast floorspace for office/R&D and industrial/storage.
- 6.2.4 Though our forecasting is done using PMA data, we include Guildford specific data in the tables below for comparison purposes.
- 6.2.5 Note: Unlike the SHMA, which considers workplace employment across the whole of Guildford's economy, the ELNA focusses on B-use class employment only. This is because the primary purpose of the ELNA is to identify the future need for employment land, whereas the SHMA seeks to identify future employment numbers as part of the means of estimating future housing need.



#### 6.3 **Property Market Area**

- 6.3.1 As discussed in Section 5, following consultation with commercial agents and the existing evidence base including the Guildford and West Surrey SHMA, we define the PMA for office/R&D and industrial/storage uses as incorporating the following boroughs: Guildford, Woking, and Waverley.
- 6.3.2 Travel to work information discussed in Section 3.6 indicates a strong crossover in employment between these boroughs, with Woking and Waverley residents contributing 19.5% of jobs in Guildford and hosting 9.1% of the employment of Guildford's residents. In addition, as described in Section 5, this area hosts similar sectors and has labour market characteristics in common, including participation rates, average earnings and qualifications.
- 6.3.3 Data on trends in business floorspace and trends in historic employment and forecast employment is analysed for the PMA, reflecting the likelihood that businesses will search for premises across this area. The trends across the PMA for each of these factors then feeds into the overall employment land demand forecast for Guildford.

#### 6.4 **Past Trends in Floorspace**

- 6.4.1 The VOA records the amount of floorspace in an area for tax purposes (the assessment of business rates) by building type. VOA data is considered a reliable source of data between 1998 and 2012 the latest available date<sup>41</sup>. We use this data to analyse trends in floorspace across the PMA.
- 6.4.2 The historic employment floorspace trends across the PMA and Guildford borough over time are shown in **Table 6-1**.

Area	Business Type	2004 '000sqm	2012 '000sqm	Diff (%)	Compound Annual Growth Rate (CAGR %)
Quildfard	Office/ R&D	312	323	3.5	0.43
Guildford	Industrial/ storage	364	373	2.5	0.31
	Office/ R&D	678	720	6.2	0.75
РМА	Industrial/ storage	932	964	3.4	0.42

#### Table 6-1 Change in Industrial and Office Floorspace, 2004-2012

Source: AECOM; VOA 2012 (Figures may not sum due to rounding)

6.4.3 **Table 6-1** shows that the quantum of industrial floorspace in Guildford has risen by 0.31% per annum on average since 2004; a markedly slower rate than the PMA average of 0.42% per annum.

<sup>&</sup>lt;sup>41</sup> This is available at: http://www.voa.gov.uk/corporate/statisticalReleases/120517\_CRLFloorspace.html



- 6.4.4 In the same period, Guildford has added proportionately less office space than the wider PMA. Office floorspace in Guildford increased 0.43% per annum while across the PMA the equivalent figure is 0.75%. This is consistent with the market intelligence discussed in Section 4. Guildford has added little new employment space in recent years, with refurbishment of existing stock being the approach taken by owners.
- 6.4.5 The historical CAGR for industrial/storage and office/R&D trends for the PMA feed into the future floorspace demand forecast as shown in Section 6.7 below.

#### 6.5 **Past Trends in Employment**

- 6.5.1 Historic employment (full time equivalent) data is drawn from the Annual Business Inquiry (ABI) for years 2000 to 2008 and from the Business Register and Employment Survey (BRES) for years 2008 to 2012. Both sources use business-level surveys to estimate employment data and are compiled by the ONS. BRES estimates cover UK businesses registered for Value Added Tax (VAT) and/or Pay As You Earn (PAYE), and is regarded as the definitive source of official employee and employment statistics by industry. However, as some businesses operate below the VAT and/or PAYE thresholds, BRES represents an underestimate of the total level of employment in the workforce economy. However, it is deemed a suitable source for the purpose of identifying the historic trends in employment by use class.
- 6.5.2 Employment is categorised against Standard Industrial Classifications (SIC) not by use class. To estimate employment for B-use classes (office, industry and warehousing uses) we have identified those SIC activities that typically operate from B1, B2 and B8 use class premises. The linking of the SIC sectors to B-use classes draws upon our work for other boroughs, in which we have determined employment land use needs by relevant sector. Using this approach, we present our estimate of employment by B-use classes in **Table 6-2**.
- 6.5.3 The calculation suggests that industrial employment within Guildford borough has increased by an average rate of 1.31% per annum between 2004 and 2012: an increase broadly similar to the PMA average of 1.06% per annum. For office employment, Guildford has outperformed the wider PMA with office employment in Guildford rising by 2.4% per annum on average since 2004 compared to 0.9% per annum within the PMA since 2004 (**Table 6-2**).



Area	Business Type	2004	2012	Diff (%)	CAGR (%)
Guildford	Office/ R&D	17,331	20,945	20.9	2.40
Guilaiora	Industrial/ storage	9,832	10,912	11.3	1.31
PMA	Office/ R&D	52,538	56,400	7.4	0.89
r wa	Industrial/ storage	22,425	24,394	8.8	1.06

#### Table 6-2 Historic Employment: 2004-2012

Source: AECOM; ONS 2013<sup>42</sup>. Figures may not sum due to rounding.

- 6.5.4 **Table 6-2** shows that Guildford has seen far greater rate of office/R&D employment growth than across the wider PMA. The compound growth rate of employment growth (2.4%) is almost three times higher than the PMA equivalent (0.86%). Of the 3,862 net additional office/R&D jobs across the PMA, 3,614 (93.6%) are located in Guildford. Comparison with the evidence presented in **Table 6-1** indicates that the CAGR of office/R&D employment in Guildford is over 5.5 times larger than floorspace growth. Further, a continuation of the Guildford growth rates implies that the number of office/R&D jobs in the borough would double over the next 30 years. Evidence gathered through **Section 5** suggests that such a magnitude of growth is unlikely to occur across this timeframe.
- 6.5.5 This evidence suggests that the employment density of Guildford's office space has risen over this period. Employment density is defined as the average floorspace (in sqm) per FTE and can be used as a measure of the intensity of a buildings use. This is consistent with our findings from speaking with property market agents that there is pent-up demand for Grade A office space and some office occupiers are approaching a threshold beyond which expansion into larger premises becomes necessary. It is unlikely that employment densities can continue to rise at this rate across the plan period.
- 6.5.6 The historic CAGRs for employment change across the PMA, rather than Guildford, are therefore used to inform the future floorspace employment land demand forecast in **Section 6.7**.

#### 6.6 **Employment Forecasts**

6.6.1 Workplace employment projections are one of the inputs used to forecast demand for employment land across the plan period. Three independently derived projections of future workplace employment were used to forecast employment change over the period 2016-2034:

<sup>&</sup>lt;sup>42</sup> Note: The BRES data SIC codes are not identical to the ABI SIC codes so to ensure consistency the actual rate of change for each year between 2008 and 2011 in the BRES data was applied to the known ABI data from 2008 onwards.



- Cambridge Econometrics Employment Projections, 2016 (Cambridge Econometrics);
- UK Local Market Forecasts, 2016 (Experian); and
- Local Authority District Forecasting Model, 2016 (Oxford Economics).
- 6.6.2 Each dataset is supplemented by a technical report, which presents information on the approach used to project workplace employment. These technical reports are provided at Appendix 1.
- 6.6.3 While each provider applies a different method to project future workplace employment, from a review of these technical reports, and based on our professional experience, we believe that these forecasts are robust and suitable for projecting change over the long term in Guildford.
- 6.6.4 Assuming that these three datasets are robust and present a fair representation of the employment change over the long term, future workplace employment will fall somewhere within the range of the estimates provided by the three forecasts. We therefore take the average (mean) of all three forecasts to represent future employment growth<sup>43</sup>. The extrapolated forecasts for office/R&D and industrial/storage employment derived from the data are given in **Table 6-3**.

Area	Business Type	Cambridge Econometrics (CAGR, %)	Experian (CAGR, %)	Oxford Economics (CAGR, %)	Average (mean) of all three datasets (CAGR, %) <sup>44</sup>
Quildfand	Office/ R&D	0.64%	0.71%	0.69%	0.68%
Guildford	Industrial/ storage	0.33%	0.68%	0.29%	0.43%
	Office/ R&D	0.60%	0.58%	0.79%	0.66%
PMA	Industrial/ storage	0.30%	0.35%	0.26%	0.30%

#### Table 6-3 Employment Forecasts CAGRs, 2016-2034

Source: Cambridge Econometrics (2016), Experian (2016), Oxford Economics (2016), AECOM calculations (2017).

6.6.5 **Table 6-3** shows that across the plan period both office/R&D and industrial/storage employment is forecast to grow across both Guildford borough and the PMA, although at lower rates than have been observed historically (**Table 6-2**).

<sup>&</sup>lt;sup>43</sup> The average is a more suitable estimate than the mid-point the range of results as it is assumed that there is no bias within any of the data providers' estimates (i.e. no approach is considered to systematically over/underproject employment). This ensures that each projection is equally weighted, rather than placing a bias upon the largest and smallest results. <sup>44</sup> This is the average (mean) of the CAGRs of sectors associated with office/R&D and industrial/storage activities

<sup>&</sup>lt;sup>44</sup> This is the average (mean) of the CAGRs of sectors associated with office/R&D and industrial/storage activities respectively.



6.6.6 In order to estimate the net additional jobs associated with the growth rates presented in **Table 6-3** above, we must estimate the existing level of employment. As stated above (paragraph 6.5.1), BRES data may underestimate of office/R&D and industrial/storage. The ONS Workforce Jobs series provides an estimate of overall workplace employment at a regional level. Through comparing these two series<sup>45</sup>, we estimate that in 2015 (the latest available data) there were 24,300 office/R&D and 7,900 industrial/storage jobs in Guildford. Applying the PMA growth rates presented above, this implies 3,100 net additional office/R&D jobs and 400 net additional industrial/storage jobs across the period 2016 to 2034.

#### 6.7 **Future Floorspace Demand Projections**

- 6.7.1 To create a projection of employment land requirements, we look at how floorspace and employment rates have changed over the recent past, and assume a continuation of their changing dynamics over the forecast period. We use future employment as the known variable and floorspace as the unknown. We look at these variables across the property market area – the PMA – because this is best representative of the dynamics of the wider property market which acts upon Guildford.
- 6.7.2 The ratio between historic floorspace and employment CAGRs is applied to the future employment variable to estimate future floorspace demand. For instance, if employment has historically grown faster than floorspace (i.e. density has increased), we would expect future employment to grow faster than future floorspace.
- 6.7.3 The results of this process are shown in **Table 6-4**. Since historic employment growth exceeded floorspace growth for both office/R&D (0.89% vs 0.75%) and industrial/storage uses (1.06% vs 0.42%), in each case the floorspace forecast is lower than future employment projections.
- 6.7.4 Office/R&D employment within the PMA is expected to grow slower over the forecast period than it has over the recent past. A negative adjustment (i.e. less than one) is applied to the office floorspace forecast reducing the CAGR from 0.69% to 0.55%<sup>46</sup>. The adjustment applied to take account of the industrial employment forecast has the effect of reducing the floorspace growth forecast for the PMA.

<sup>&</sup>lt;sup>45</sup> Through inflating the Guildford BRES estimates by the share of employment associated with non-VAT/PAYE businesses across the South East, and estimating the B use class share of this series.

<sup>&</sup>lt;sup>46</sup> Average annual floorspace demand is calculated by multiplying the future employment growth rate to the adjustment term, the ratio between historic floorspace and growth rates. For office/R&D, the adjustment term is 0.84 (0.75% divided by 0.89%), while for industrial/storage it is 0.40 (0.42% divided by 1.06%).

Business Type	Historic Floorspace (CAGR)	Historic Employment (CAGR)	Future Employment (CAGR)	Adjustment term	Average annual floorspace demand
	2004-2012	2004-2012	2016-2034		
Office/ R&D	+0.75%	+0.89%	+0.66%	0.84	+0.55%
Industrial/ storage	+0.42%	+1.06%	+0.30%	0.40	+0.12%

#### Table 6-4 PMA Floorspace Growth Forecast CAGR

Source: AECOM calculations (2017). Figures may not sum due to rounding.

#### 6.8 **Demand Forecast and Sensitivity Analysis**

- 6.8.1 There are a number of challenges in accurately forecasting economic trends over the long term. All forecasts are inherently uncertain, and the future performance of an economic variable can be influenced by many unknown factors that cannot be exhaustively captured within any forecast of the future. The impact of such unknowns increases with the timeframe of any forecast.
- 6.8.2 We present below (paragraph 6.8.3) a number of factors specific to the local area may cause the growth of future floorspace in Guildford to deviate away from the PMA-wide CAGR presented in **Table 6-4**.
- 6.8.3 The following trends are observed concerning Guildford's office property market:
  - There is evidence of strong performance in Guildford's office property market. As identified in Section 5.6, the high take-up of well-located and high-quality space is indicative of buoyant levels of demand in the area. It is perceived as an attractive location, especially the town centre, and like Woking has greater capacity to facilitate larger occupiers than Waverley. Market intelligence gathered through consultation with local property market agents indicates that demand for office space in Guildford is expected to perform relatively well compared to elsewhere in the PMA. However, commercial agents tend to provide a short-term view of demand. Infrastructure initiatives, including planned investments in transport infrastructure funded by the Enterprise M3 LEP, will have the effect of enhancing the attraction of the wider area to potential office occupiers. It is unclear whether Guildford will capture a disproportionately large share of the PMA's office property market over the planning period to 2034.
  - Employment densities: As observed in Section 6.5, Guildford's office/R&D market has historically seen a greater rate of employment growth (2.4% CAGR) but a lower rate of floorspace growth (0.4%) than across the PMA. This apparent increase in the employment density of Guildford's office space is potentially indicative of a capacity issue, where employers take on employees within the same premises they occupy, rather than moving to larger offices. Relatively high land values and office rents compared to rest of



the PMA may also play a role in increasing employment densities in the borough.

- Comparing ONS BRES employment estimates with VOA floorspace figures indicates that the employment density for office/R&D uses has increased from 18sqm per office employee in 2004 to 15.4sqm per employee in 2012 in Guildford (based on information contained within Table 6-1 and Table 6-2). By comparison, there was a slight increase in the density of office/R&D employment across the PMA from 12.9sqm per employee in 2004 to 12.8sqm per employee in 2012. According to this comparison, Guildford has a lower density than elsewhere in the PMA (potentially a reflection of the large proportion of R&D activities in the borough relative to elsewhere in the PMA). While it is not possible for employment densities in Guildford to continue rising indefinitely it is unclear whether a move away from this historic trend will occur during the plan period to 2034.
- Guildford's industrial and storage property market: The industrial and storage property market also benefits from the area's strong local economy. The high levels of take-up for premises, coupled with resilient rents, indicate a strong desire to be located in the area. With better Strategic Road Network (SRN) access than Waverley, and Woking suffering from restricted availability of high quality sites, market intelligence suggests that demand for Guildford's industrial and warehousing land out-performs the rest of the PMA. This comparative advantage is captured within historic data, and does not justify an adjustment to the floorspace growth rate.
- 6.8.4 To reflect the challenges in accurately forecasting economic trends over the long term and capture the potential effects of local factors as listed above, some of which may have the potential to influence demand, we apply a factor of +/- 10% to our central CAGR demand forecast to provide a forecast range. This provides three growth scenarios as presented in **Table 6-5**.

	Adjusted CAGR <sup>47</sup>					
	Office/R&D	Industrial/Storage				
Central Case minus 10%	0.50%	0.11%				
Central Case	0.55%	0.12%				
Central Case plus 10%	0.61%	0.13%				

Table 6-5 Guildford Demand Forecast with Local Factors and Sensitivity

Source: AECOM (2016).

#### 6.9 **Guildford Borough Floorspace Forecast**

6.9.1 To forecast employment floorspace in Guildford borough 2016 to 2034 we apply the PMA forecast CAGRs (from **Table 6-5**) to the current floorspace stock.

<sup>&</sup>lt;sup>47</sup> CAGRs are given to two decimal places, since the differences are too small to see at one decimal place.



- 6.9.2 To do this we first estimate the current floorspace for office/R&D and industrial/storage use classes. The latest available floorspace data from the VOA is 2012 (the latest published data available). Data provided by the Council on the net change in B use class floorspace 2012 to 2016<sup>48</sup> suggests that the floorspace of office/R&D floorspace and industrial/storage floorspace has decreased from its 2012 level. We estimate that the current stock in Guildford for office/R&D is 325,200sgm and industrial/storage is 371,500sqm.
- 6.9.3 The net growth in demand for office and industrial floorspace over the period 2016 to 2034, derived by applying the CAGRs to the stock of floorspace, is set out in **Table** 6-6. The table shows that the requirement for additional employment floorspace in Guildford by 2034 is estimated to be between 30,400sqm and 37,500sqm for office space, and 7,400sqm to 9,000sqm for industrial space<sup>49</sup>.

	Additional Net Floorspace Requirements at 2034 ('000sqm)			
	Low (Central Case -10%)	Med (Central Case)	High (Central Case +10%)	
Office/R&D	30.4	33.9	37.5	
Industrial/Storage	7.4	8.2	9.0	
Total	37.8	42.1	46.5	

#### Table 6-6 Guildford Borough Office and Industrial Floorspace Forecast

Source: VOA: AECOM (2017).

#### 6.10 Taking into Account Other Users of Land for Industry/Storage

- 6.10.1 Waste management and recycling facilities tend to occupy land suitable for industrial/storage uses. If there is a requirement for additional such facilities over the planning period, it could affect the quantum of industrial land available for B2 and B8 uses. The Surrey Waste Plan 2008 Policy WD4 safeguards existing industrial and warehouse sites for waste use, but does not safeguard offices or R&D sites. We therefore consider whether any additional facilities are required to support the population of Guildford. The Surrey Waste Plan<sup>50</sup> does not state a waste apportionment figure for each borough. The Surrey Waste Plan is currently being reviewed. A new waste plan is needed in order to be able to meet new challenges that have arisen since the plan was adopted. The new plan will be known as the 'Surrey Waste Local Plan' (SWLP), will cover the period from 2018 to 2033 and it is hoped it will be adopted in late 2018. We do not therefore factor in any additional future requirement for land within the area.
- 6.10.2 Similarly, we assume that the land requirement for other non-industrial and infrastructure uses that have industrial character and occupy land of an industrial

<sup>&</sup>lt;sup>48</sup> The figure for office and industrial floorspace has been derived from the latest VOA data (March 31<sup>st</sup> 2012) plus the net change in completions between 1<sup>st</sup> April 2012 and 30<sup>th</sup> November 2016 for these use classes as provided by the Council. <sup>49</sup> This reflects a minor decrease in overall employment densities across both office/R&D and industrial/storage

uses across the plan period when considered in conjunction with existing and net additional workplace employment (detailed in paragraph 6.6.6) and the current floorspace stock (presented in paragraph 6.9.2). <sup>50</sup> Surrey Waste Plan 2008, Surrey County Council, May 2008



nature, such as transport uses, will not result in a net impact on employment land through the local plan period.

#### 6.11 The Forecast for Industrial/Storage Land 2016 to 2034

- 6.11.1 The PPG recommends that future employment floorspace should be converted to employment land requirement using plot ratios. A plot ratio is a measure of the density of development on a site and a ratio of gross floor area to the plot area. We use the 2004 ODPM guidance plot ratios as the most reliable national figures.
- 6.11.2 The ODPM Employment Land Reviews Guidance Note<sup>51</sup> suggests a suitable plot ratio of 1:0.35 to 1:0.45 (land to premises, over one storey) for manufacturing and 1:0.40 to 1:0.60 (land to premises, over one storey) for warehouse uses. Applying a ratio of the average of the median of these two ranges (0.45), we calculate that the additional demand for industrial floorspace is the equivalent of 1.6ha, 1.8ha or 2ha (low, central-case and high scenarios respectively), while the stock of industrial land is estimated as 82.5ha<sup>52</sup>.
- 6.11.3 The demand forecasts set out in **Table 6-7** takes into account existing vacancy rates, identified using CoStar data as approximately 2.4%<sup>53</sup>, and the need to retain an appropriate level (5%) of vacant or derelict land while sites are prepared for new occupiers. Termed 'frictional vacancy', this represents the optimum level of surplus capacity in the market at a given time to allow for an efficient churn of occupancy. The rate of 5% is an industry standard and suitable for Guildford borough.

<sup>&</sup>lt;sup>51</sup>Office of the Deputy Prime Minister (ODPM), (2004); Employment Land Reviews: Guidance Note.

<sup>&</sup>lt;sup>52</sup> The supply assessment in Section 4 identified a measurement of employment land across the borough. However, due to the presence of office/R&D and non-B use class activities within industrial-type areas (such as waste management, utilities and land for transport), we are unable to estimate accurately the stock of industrial/storage land in Guildford using this figure. To ensure consistency between the measurements of stock and additional land demand, we have applied the same plot ratio (0.45) to the known stock of industrial/storage floorspace to provide an estimate for industrial/storage land in the borough (371,400sqm / 0.45 = 82,5333sqm or 82.5ha).

<sup>&</sup>lt;sup>53</sup> CoStar (2017).



Additional elements of demand for industrial/storage land		Medium	High
		(hectares)	
A. Supply of occupied industrial land (2016)		80.5	
B. Current vacant industrial land (2.4%)		2.0	
C. Total industrial land (2016)		82.5	
D. Land demand to 2034 (at 45% plot ratio)	1.6	1.8	2.0
E. Additional demand for utilities, transport and waste management 2016-2034		0.0	
F. Optimum frictional vacant land at 2034 (5% of A+D+E)	4.1	4.1	4.1
G. Excess vacant land: optimal levels of frictional land minus existing vacant industrial land (F-B)		2.1	2.1
H. Gross requirement for industrial land 2016-2034 (C+D+E+G)	86.2	86.4	86.6
I. Net requirement for industrial land 2016-2034 (H-C)	3.7	3.9	4.1

#### Table 6-7 Industrial/Storage Employment Land Requirement (2016-2034)

Source: CoStar (2017), AECOM (2017). Note: figures may not sum due to rounding.

- 6.11.4 The implication of this analysis is that, over the forecast period, there is expected to be a deficit of industrial/storage land in the region of between 3.7ha and 4.1ha, depending on the demand scenario. The central case that 3.9ha will be required between 2016 and 2034, or 0.2ha per annum. Assuming a plot ratio of 0.45, this equates to an additional requirement ranging from 16,600sqm to 18,500sqm, with a central case of 17,600sqm net additional floorspace across the plan period.
- 6.11.5 A proportion of the net requirement for industrial/storage land may be met by forthcoming developments that have already received planning permission. The development pipeline as it currently stands suggests that, if all industrial/storage developments with planning permission were to be built, they would provide approximately 10,900sqm of industrial/storage floorspace, equating to approximately 3ha of land (between 73-81% of the net additional requirement over the plan period). However, there is a possibility that some developments may not come forward at all, or be developed in different quantities by use class than has been consented, for example if amendments to the planning applications are made.

#### 6.12 The Forecast for Office/R&D Floorspace 2016 to 2034

- 6.12.1 **Table 6-8** presents the additional (net) demand for office/R&D floorspace in Guildford borough taking account existing vacant and frictional floorspace requirements.
- 6.12.2 Because of the mix of densities of office developed across Guildford borough, and the fact that offices are increasingly expected to be offered as part of mixed-use development, office space is initially represented in terms of floorspace (per sqm) below. This takes account of existing vacancy rates, identified by CoStar as



approximately 6.5%, and a frictional vacancy rate  $(8\%)^{54}$ , the optimum level of surplus capacity in the market at any given time to allow an efficient churn of occupancy.

Demand for office floorspace	Low	Medium	High
Demand for once hoorspace	(sqm)		
A. Supply of occupied office floorspace (2016)		304,100	
B. Current vacant office floorspace (6.5%)		21,100	
C. Floorspace demand to 2034	30,400	33,900	37,500
D. Optimum frictional vacancy at 2034 (8% of A+C)	26,800	27,000	27,300
E. Surplus/deficit of vacant floorspace in 2034 (D-B)	5,700	5,900	6,200
F. Gross requirement for office floorspace 2016-2034			
(A+C+E)	340,200	343,900	347,800
G. Net requirement for office floorspace 2016-2034 (F-A)	36,100	39,800	43,700

#### Table 6-8 Office/R&D Floorspace Requirement (2016-2034)

Source: AECOM (2017). Figures may not sum due to rounding.

- 6.12.3 The implication of this analysis is that, over the forecast period, there is expected to be a requirement for an additional 36,100sqm to 43,700sqm of floorspace for office/R&D, depending on the demand scenario. The central case that 39,800sqm will be required between 2016 and 2034, or 2,200sqm per annum.
- 6.12.4 Due to the mix of densities of office development within town centre locations, it is not meaningful to translate floorspace into land requirements. Consultation with property market experts has indicated that there is increasing demand for town centre locations. However, as a broad estimate we assume that up to 70% of additional demand could come forward in out-of-centre locations, as a continuation of the current distribution of office stock in the borough. To translate the net floorspace demand figures for office into land requirements the 2004 ODPM Employment Land Review Guidance Note<sup>55</sup> suggests a plot ratio range of 0.25 to 0.4 for 'Business Park' locations (considered to be the likely form of provision in out-of-centre locations). Applying the median of this plot ratio range (0.325) to the floorspace requirement we estimate that between 7.8ha to 9.4ha of out-of-centre land. However, it is worth noting that property agents tend to provide a short-term view of demand, which may be different to the longer term, and that the distribution of office/R&D activity between town centre and out-of-centre locations is also subject to other factors such as the availability of sites.
- 6.12.5 The development pipeline as it currently stands suggests that, if all office/R&D developments with planning permission and prior approval were to be built out there would be an increase in office/R&D floorspace provision of approximately 19,000sqm, equating to between 43-53% of the net additional requirement over the plan period. However, there is a possibility that some pipeline developments may not

<sup>&</sup>lt;sup>54</sup> Para 3.7 of the GLA Land for Industry and Transport Supplementary Planning Guidance (SPG) (2012).

<sup>&</sup>lt;sup>55</sup> Office of the Deputy Prime Minister, (2004); Employment Land Reviews: Guidance Note



come forward at all, or be developed in different quantities by use class than has been consented, for example if amendments to the planning applications are made.

#### 6.13 Summary

6.13.1 Table 6-9 below outlines the floorspace and land requirements for office/R&D and industrial/storage respectively, as calculated in Sections 6.9 and 6.12 above.

	Additional Net Demand at 2034		
	Low	Medium	High
Office/R&D Floorspace (sqm)	36,100	39,800	43,700
Industrial Land (ha)	3.7	3.9	4.1

#### Table 6-9 Summary of Office Floorspace and Industrial Land Requirements

Source: AECOM (2017). Figures may not sum due to rounding.

#### 6.14 **Conclusions**

- 6.14.1 We have carried out an assessment of demand for office/R&D floorspace and industrial/storage land within Guildford borough for the period 2016 to 2034. Our demand forecast considers the past relationship between workplace employment and floorspace, applying this dynamic relationship to employment projections to understand the likely additional demand for office/R&D and industrial/storage space in Guildford borough over the plan period to 2034. This assessment draws upon market information that may not capture forces that are not reflected in existing trends, such as the expansion of universities and public sector organisations.
- 6.14.2 Our demand forecast shows that there is projected to be an increase in demand for industrial/storage land of between 3.7ha and 4.1ha in the period 2016 to 2034. The central case predicts net demand for industrial land to be approximately 5ha over the period, equivalent to an additional 0.2ha per annum.
- 6.14.3 There is approximately 325,200sqm of gross office/R&D (B1a/b) floorspace in Guildford, of which approximately 6.5% is vacant. Our forecasting exercise estimates positive additional demand for office/R&D floorspace of between 36,100sqm to 43,700sqm up to 2034. The central case predicts net demand for office floorspace to be approximately 44,400sqm over the period, equivalent to an additional 2,200sqm per annum. Consultation with property market experts indicates that approximately 70% of additional demand will come forward within out-of-centre locations, although this short term perspective may not reflect the distribution of demand over the plan period.
- 6.14.4 Our analysis shows that a large proportion of the net additional land requirement for industrial/storage could be met through the permissions which have been consented but which have yet to be implemented. For office/R&D space, the pipeline suggest there could be contraction in B1a/b use classes as a consequence of change of uses mainly through prior approvals. There is a possibility that some pipeline developments may not come forward at all, or be developed in different quantities by use class than has been consented, but we would recommended the Council monitor the development pipeline as this could affect the long term planning for employment land provision.



## 7 Conclusions and Summary

#### 7.1 Introduction

7.1.1 This section sets out conclusions for the ELNA building upon findings from the previous sections of the report.

### 7.2 Key Findings

- 7.2.1 The assessment of supply found that there were 20 strategic employment sites within the borough accounting for approximately 172ha of employment land. In addition to these strategic sites a further 24 were identified accounting for a further 10ha of B Use Class employment land. Together the strategic and non-strategic employment sites within the borough account for approximately 182ha of employment land.
- 7.2.2 Guildford's strategic employment land is typically characterised by town centre and out-of-centre employment locations with much of the borough's office floorspace contained within the town centre. However, there are significant employment sites such as Surrey Research Park and Slyfield Industrial Estate which are important employment locations. Furthermore Guildford's non-strategic employment sites tend to be located in out-of-centre locations in proximity to residential and community uses.
- 7.2.3 The pipeline for employment floorspace defined by planning permissions under construction or yet to be implemented, and prior approvals suggests the potential for an additional 33,500sqm of B use class floorspace to come forward. This figure comprises a net gain of 19,000sqm of B1a/b and 14,500sqm of B1c, B2 or B8 use class floorspace respectively. Key permissions include approximately 7,700sqm of B1b floorspace coming forwards within Surrey Research Park, 11,700sqm of B1b of floorspace at the Pirbright Laboratory and 11,300sqm of B2/B8 floorspace within Henley Business Park.
- 7.2.4 Over the period to 2034, we estimate that an additional 3.7ha to 4.1ha of industrial/storage land and 36,100sqm to 43,700sqm of town centre office/R&D floorspace will be required in order to accommodate demand for employment space within the borough. The medium scenario estimate is equivalent to a requirement of 0.2ha of industrial/storage land and 2,200sqm of office/R&D floorspace per annum.
- 7.2.5 Demand for employment land within Guildford could be higher than these and land floorspace forecasts. Employment within the borough has the potential to grow more quickly than currently anticipated, while demand for additional space on the part of businesses already located within the borough could be higher given the extent to which employment densities have risen in recent years.
- 7.2.6 Consultation with commercial property market agents also suggested that there is suppressed demand for office premises within Guildford borough, particularly in the town centre locations. In their view demand is not being met by the existing provision of sites and the size of those sites cannot fully meet type of space occupiers need. In addition, some of the sites currently allocated for employment uses have a number of restrictions relating to building alterations, which can deter potential occupiers. An implication of this is that Guildford could miss out on attracting new businesses and could struggle to retain existing businesses.



- 7.2.7 Consultation with property market agents and research also suggests that currently around 70% of office demand is met in out-of-centre locations and 30% in Town Centres. However, the analysis indicates that in the future, needs could increasingly be met in town centre locations, subject to availability of appropriate sites, as they present more sustainable locations and there is evidence of demand for town centre office locations from potential occupiers.
- 7.2.8 A comparison between the supply and demand assessment therefore points towards a requirement for additional employment land within the borough and the retention of existing sites. The current supply position points towards a requirement for new, large high quality office/R&D and industrial and warehousing stock to accommodate the growth anticipated to arise within the borough. The demand assessment indicates that the majority of demand will arise from out-of-centre office/R&D floorspace requirements, much of which will have to be met through the provision of new employment sites as well as the intensification of employment land at existing locations.

### 7.3 Next Steps

- 7.3.1 The assessment of how existing sites could meet the future demand for employment land over the plan period, taking in to account both scale and quality characteristics, will be the focus of further work by the Council. In combination with this ELNA that further work will inform the development of strategic planning policy and protection of suitable employment land to meet demand for land for B-use class activities over the plan period.
- 7.3.2 In developing their thinking the Council should consider the following pointers:
  - To help ensure there is sufficient capacity to meet projected demand for employment land in Guildford to 2034 the Council should be guided by the central case for the future employment floorspace/land requirements presented in this ELNA (3.9ha of industrial/storage land and 39,800sqm of office/R&D floorspace).
  - In the context of a net additional demand for employment land / floorspace the Council should act to identify, retain and intensify those existing employment sites that are suitable and will help to meet the identified need. This could be through a criteria-based policy. It is anticipated that strategic sites should be retained and, where suitable supported for further provision, given their relative importance over non-strategic sites in providing employment land in the borough.
  - Where sites are available the Council could seek to encourage office/R&D development in town centres. The town centre is a more sustainable location and there is evidence of demand from potential occupiers which currently do not necessarily have town centre offices that match their needs. The lack of supply of office/R&D premises in town centres is exacerbated by the loss of offices to residential from the prior approval permitted development regime.
  - It will be important for the Council to support its growth sectors and sectors which deliver significant value added, such as the R&D knowledge-based cluster around Surrey Research Park and University. There is some evidence



of a lack affordable start up and incubator units in the borough for example. Supporting growth sectors will help contribute to the borough's economic prosperity.

- The Council should monitor changes to the stock of employment land and floorspace arising through planning permissions and prior approvals to ensure that sufficient land is available for economic growth over the planned period. It is important that appropriate and sufficient monitoring mechanisms are embedded within the plan making process in order to record the change in employment land available for economic growth. The aim of the monitoring of employment land is to ensure that overall an approximate quantum of appropriate employment land supply is retained in the borough to meet the level of projected demand indicated in this study.
- The PPG states that the ELNA should be updated every five years or so. In the periods between assessments the Council should regularly review how much employment land has been lost. The Annual Monitoring Report (AMR) is likely to be the most appropriate framework for this monitoring and review exercise.



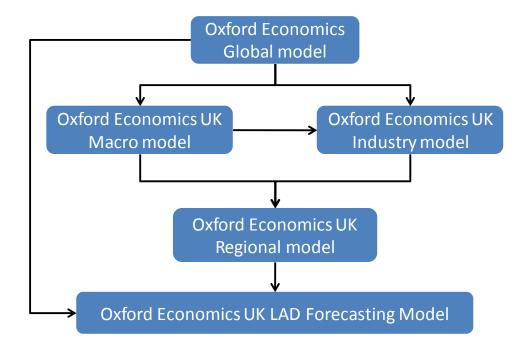
Guildford Borough Employment Land Needs Assessment 2017

# Appendix 1 – Employment Data Providers' Technical Papers



# Local Authority District Forecasting Model

Oxford Economics Local Authority District Forecasting Model sits within the Oxford suite of forecasting models. This structure ensures that global and national factors (such as developments in the Eurozone and UK Government fiscal policy) have an appropriate impact on the forecasts at a local authority level. This empirical framework (or set of 'controls') is critical in ensuring that the forecasts are much more than just an extrapolation of historical trends. Rather, the trends in our global, national and sectoral forecasts have an impact on the local area forecasts. In the current economic climate this means most, if not all, local areas will face challenges in the short-term, irrespective of how they have performed over the past 15 years.



#### Figure 1.1: Hierarchal structure of Oxford Economics' suite of models

Our local forecasting model depends essentially upon three factors:

- National/regional outlooks all the forecasting models we operate are fully consistent with the broader global and national forecasts which are updated on a monthly basis.
- Historical trends in an area (which implicitly factor in supply side factors impinging on demand), augmented where appropriate by local knowledge and understanding of patterns of economic development built up over decades of expertise, and
- Fundamental economic relationships which interlink the various elements of the outlook.

The main internal relationships between variables are summarised in Figure 1.2. Each variable is related to others within the models. Key variables are also related to variables in the other Oxford Economics models.

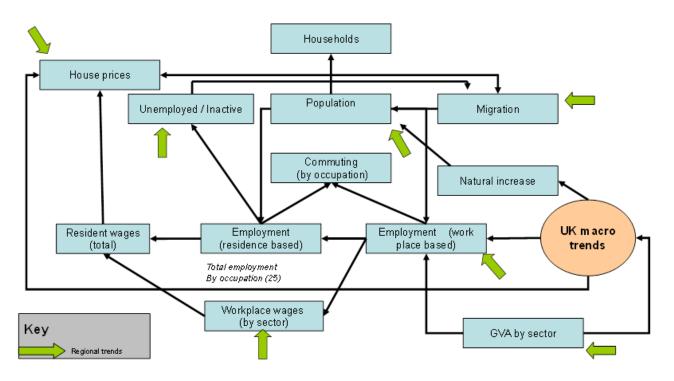


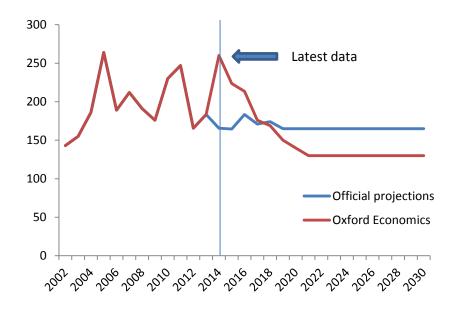
Figure 1.2: Main Relationships

The forecasts are produced within a fully-integrated system, which makes assumptions about migration, commuting and activity rates when producing employment and population forecasts.

#### Data and assumptions

#### Population

Oxford Economics produce their own forecasts of population which are economically driven and thus differ from the official population projections. Official births and deaths projections from the 2012-based population projections are used but we have our own view on UK migration. The chart below sets out the Oxford migration forecast for the UK compared with the 2012-based population projection. Oxford Economics expect UK net migration to average 130,000 per annum compared to 165,000 in the official projections. The latest data suggests that UK net migration has increased to over 260,000 in 2014 which is already considerably above the official projections (166,000)



Oxford Economics population forecasts are derived from an economically driven model whereas official projections are trend based and do not consider how demand in the economy (and the likely impact on employment rates) affects migration.

At the local level, migration is linked to the employment rate forecast. If the employment rate within an area is falling too fast, migration reacts as the model assumes that people would not be attracted into this area to live, given that the employment prospects are weak. This ensures that the relationship between the labour market outlook and the demographic forecast is sensible. This series is scaled to be consistent with the migration forecast for the region from the UK Regional Model.

The total population forecast is then constructed using the forecast of migration and the natural increase assumptions. Natural increase for local areas is forecast based upon recent trends in both the historical data and the official projections.

#### Working age population

Working age population data is also collected from the Mid-Year estimates (MYE) for each area up to 2014. It is defined at all people aged 16 to 64.

The share of working age to total population is forecast using both trends in the official projections and trends in the South East forecast from our UK Regional Model. This is applied to the total population forecast and scaled to be consistent with the working age population for South East.

#### **Employees in employment**

There are two key sources for the employee jobs data – ONS Workforce Jobs (WFJ) and the Business Register and Employment Survey (BRES):

- The WFJ series is reported on a quarterly basis, providing estimates of employee jobs by sector (based on the 2007 Standard Industrial Classification SIC 2007) for the UK and its constituent government office regions, over the period 1981 Q3 to 2015 Q1.
- The BRES is an employment survey which has replaced the Annual Business Inquiry (ABI). Similar to WFJ, BRES data is based upon SIC 2007, but it is only published for the years 2008-13. Prior to this, ABI and Annual Employment Survey (AES) data is available for employee jobs data, however this is based on an older industrial classification (SIC 2003). Data is available at local authority level and more detailed sector definitions. It is worth noting that the BRES is first and foremost a survey and is therefore subject to volatility, particularly when the level of detail becomes more refined. The survey is collected in September of each year and not seasonally adjusted.

There are a number of steps in constructing regional employee jobs, due to changes in sectoral classifications across the various sources, and restrictions on data availability over particular periods of time. Initially, we take employee jobs data for each sector directly from the BRES over the years 2009-13, which reflects recent methodological changes to the BRES in accounting for working proprietors. This relates to September figures and is based upon SIC 2007 sectors. In 2008, levels of employee jobs are constructed by extrapolating back the trend in the old BRES. Data from the ABI and AES is used to construct the data back to 1991.

This constructed local dataset is then scaled to be consistent with the UK employee jobs series from WFJ, by applying an adjustment factor to all sectors which converts the data to annual average values (seasonally adjusted). This is measured on a workplace basis.

The starting point in producing employment forecasts is the determination of workplace-based employees in employment in each of broad 19 SIC2007 based sectors consistent with the South East and UK outlooks. At local authority level some of the sectors are driven predominantly by population estimates, others by total employment in the area and the reminder relative to the regional performance (largely exporting sectors). All sectors are also influenced by past trends in the local area. Taken in totality, employment is cross referenced with a number of variables (including population, relative performance across similar areas, historical cyclical performance and known policy) for checking and validation purposes. Where necessary, manual adjustments are made to the projected trends to reflect this

validation process. The methods of sectoral projection are as follows, each of which are forecast based upon recent trends:

- Agriculture share of the South East
- Mining and quarrying share of the South East
- Manufacturing share of the South East
- Electricity, gas, & steam share of the South East
- Water supply; sewerage, waste management share of the South East
- Construction location quotient based upon total employment
- Wholesale and retail trade location quotient based upon consumer spending
- Transportation and storage location quotient based upon consumer spending
- Accommodation and food service activities location quotient based upon consumer spending
- Information and communication share of the South East
- Financial and insurance activities share of the South East
- Real estate activities location quotient based upon total employment
- Professional, scientific and technical activities location quotient based upon total employment
- Administrative and support service activities location quotient based upon total employment
- Public administration and defence location quotient based upon population
- Education location quotient based upon population
- Human health and social work activities location quotient based upon population
- Arts, entertainment and recreation location quotient based upon consumer spending
- Other service activities location quotient based upon consumer spending

#### Self-employment

Self-employment data for the South East is taken from Workforce jobs (19 sector detail). The data is broken down into detailed sectors using both employee trends and the UK data for self-employment by 2 digit SIC2007 sector. Data for the local authorities is Census based (and scaled to the South East self-employed jobs estimates) and is broken down using the employees in employment sectoral structure. The sectors are forecast using the growth in the sectoral employees in employment data and the estimates are scaled to the regional estimate of self-employment by sector.

### Total employment (jobs)

Total employment includes employees in employment, the self-employed and Her Majesty's Forces. This is measured on a workplace basis. No specific forecasting for this measure is required - it is calculated from the forecasted elements discussed above.

Note that this estimate is a jobs and not people measure (i.e. one person can have more than one job and would be counted more than once in this indicator).

#### **Total employment (people)**

People based employment is calculated in a similar way to full-time equivalents except an adjustment factor is then applied to ensure consistency with the Census results. This is measured on a workplace basis. No specific forecasting for this measure is required; it is calculated from the forecasted elements discussed above. One person can have more than one job, but working people would only be counted once in this indicator.

### Unemployment

Claimant count unemployment data is taken from ONS, via NOMIS. Annual average values are calculated from the monthly data. The latest data available is May 2015.

Unemployment (claimant count) is projected based on regional trends and a measure of overall labour market tightness (relative employment rate) in the local area. It is not at present directly affected by migration though they do impact indirectly through the employment rate (which has working age population as its denominator).

Unemployment rate is defined as claimant count unemployment as a percentage of the working age population. No specific forecasting of this measure is required.

#### **Resident employment**

This is a measure of the number of people living in an area who are in work. Resident employment data is taken from the Annual Population Survey. The latest year of available data is 2014. Given that this data is survey based and tends to be very volatile, data is 'smoothed' by taking a 3 year average.

Residence employment is based on a commuting matrix taken from the 2011 Census. This matrix tells us where employed residents of an area work. Using this information each available job (see workplace employment people based above) is allocated to a resident of a given authority. This method assumes the proportions of commuting do not change over time.

Employment rate is defined as residence employment as a percentage of the population aged 16 plus. No specific forecasting of this measure is required.

### Net commuting

Net commuting is the sum of people based employment less resident employment. No specific forecasting for this measure is required - it is calculated from the forecasted elements discussed above.

### **Gross Value Added**

GVA forecasts are available for detailed sectors for the South East region from our UK Regional Model. For areas within the region, data on total GVA is available at NUTS 3 level. This includes counties and former Metropolitan counties. Our forecasts at local authority level are obtained firstly by calculating an 'expected' GVA in each area. This is calculated by multiplying the South East region's GVA per employee in each sector by workplace

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employment in each sector within each local authority area. An adjustment factor based upon relative earnings is also applied as areas with higher wages should produce higher levels of GVA. Expected GVA is then scaled to add the GVA at NUTS 3 level and the South East sectoral forecasts from the UK Regional Model.

## SOXFORD ECONOMICS

# **Data Guide**

UK Regional Planning Service March 2014



Our main subscription website: http://economics.experian.co.uk/

Our latest views: http://www.experian.co.uk/economics/latest-views-weekly-topic-of-focus.html



## 3 Methodology

## 3.1 UK Methodology

The approach for the regional planning service is one that takes the UK variables as exogenous, imposed from the monthly UK forecast.

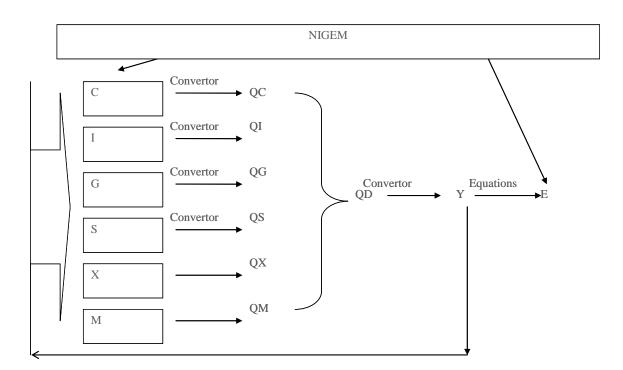
To produce the UK forecast we use a heavily customised version of the National Institute of Social & Economic Research's (NISER) model called NIGEM to provide our core macroeconomic forecast.

NIGEM is a general equilibrium model of the UK and World economy which forecasts, amongst other things, aggregate output, expenditure, income and employment based on the UK National Accounts published by the Office of National Statistics.

To split this core forecast out into industries and sub-sectors we have a Sectoral Model which expands on the forecasts from the core NIGEM model.

We disaggregate total consumption (C), investment (I), government spending (G), stocks (S), exports (X) and imports (M) from the NIGEM to a finer level of detail providing a highly detailed model of demand (Q) for industry output in the UK economy. Using convertors derived from the ONS Supply and Use Tables, we convert this demand into output by SIC category (Y) and constrain to forecast total output from NIGEM. This Input-Output based model is iterative and captures intra-industry demand.

The industry output forecast is used together with wage forecasts to forecast employment by sector (E).



## 3.2 Regional methodology

### 3.2.1 History

All economic history used in the RPS is derived from official statistics published by the UK's Office for National Statistics (ONS). Our approach is to use existing statistics in the form they are published to the greatest extent possible. However, this is subject to the following exceptions:

- where there is a lag between an update of aggregate data and the corresponding disaggregation, the disaggregate data is constrained to match the latest aggregates;
- where ONS data is not published at quarterly frequency (for instance it is only annual data), we use a consistent methodology (described below) to construct quarterly data;
- where ONS data is not published at the geography required or in the detail required, we use a consistent methodology to add the necessary data ensuring that it constraints to published data at a higher level of geography or detail;
- on occasion, where ONS data is internally inconsistent we apply techniques to remove these inconsistencies.

The most timely and reliable data at the regional level is the workforce jobs series, published on a quarterly frequency by the ONS. Employee jobs, self-employed jobs and government trainees are published at the level of the SIC 2007 Section providing us with 22 sectors.<sup>1</sup> In order to disaggregate this Section-level data to 2-digit sectors from which we can construct the Experian 38 sectors we use official survey data:

- In the case of employee jobs, we use the Annual Business Inquiry (ABI) and Business Register & Employment Survey (BRES). These are annual surveys which are not updated after being published – further the methodology has changed over the lifetime of these surveys. We apply a principled set of rules to derive consistent employee job shares within the Sections from the surveys.
- The March 2014 RPS uses the 2013 BRES, which provides data up to 2012. A new BRES will
  be published at the end of 2014 and will provide data up to 2013. Pre-2010 we have made a
  working-owners adjustment, based on an overlapping year only published by NOMIS in
  February 2013, in line with their recommended techniques for dealing with discontinuities.
- In the case of self-employed jobs, we use data from the Labour Force Survey (LFS).

Workforce jobs is the sum of employee jobs, self-employed jobs, government trainees and Her Majesty's Forces (who are assigned at the sector level to Public Administration and Defence.)

To estimate full-time equivalent employment (FTE), we use data on hours worked in each sector and region derived from the Annual Survey of Hours and Earnings (ASHE). ASHE is also used to derive wage data for each region and sector.<sup>2</sup> We also use, for this purpose, compensation of employee data from the regional accounts.

GVA measured on the income basis is published in the regional accounts at an annual frequency in current prices. Total GVA lags the latest complete year by 12 months while the industry detail lags by a further year. (i.e. the regional accounts published in December 2013 contained GVA by region up to and including 2012 with industry detail up to and including 2011). With the exception of manufacturing,

<sup>&</sup>lt;sup>1</sup> The ONS has ceased publishing official 2-digit employee jobs data for the regions. The approach we have taken is consistent with the approach recommended by the ONS to derive 2-digit estimates.

<sup>&</sup>lt;sup>2</sup> We do not routinely publish sector level wage forecasts; however, it is available on request.

the industry detail is only at the section level. Beginning with the December 2013 Regional Accounts (which were first incorporated in the March 2014 RPS), manufacturing GVA is available at the subsection level. To construct the Chain Volume Measure data we require we follow these steps:

- the data is disaggregated and made quarterly using workforce jobs data;
- the data is deflated at the industry level using the UK deflators for the industries;
- the data is aggregated to produce a regional total this implicitly creates a regional deflator by taking into account the different weightings of industries within a region.

Beginning with the December 2013 Regional Accounts, the ONS has published experimental alternate GVA accounts on the production basis; these accounts include an estimate of CVM GVA for the regions. We have not incorporated these data for the reasons given in the FAQs (Appendix C.)

Income is published in the regional accounts on an annual basis with a full breakdown of income sources and deductions. Income sources are:

- compensation of employees : wages and salaries *plus* employers social contributions
- self-employment income
- Net Property Income : made up of property income received *less* income paid
- transfers from the State (i.e. benefits)
- other Transfers

Income deductions are:

- taxes
- social contributions
- transfers to others

The sum of income sources *less* income deductions constitutes disposable income. To convert this annual data to quarterly jobs we use (depending on the component) employee jobs, self-employee jobs or the UK quarterly pattern. We constrain these quarterly series to the official UK published data. Real disposable income is obtained by deflating disposable income by the consumer price deflator.

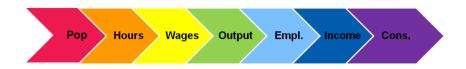
Household spending is derived by sharing out UK nominal expenditure using regional shares of expenditure reported in the Living Costs and Food Survey by type of expenditure. Nominal regional spending is deflated by published UK deflators and then aggregated to produce a regional total. This again implicitly creates a regional cost of living measure which we also publish.

Population projections are obtained from the ONS (2010 projections) and spliced onto the 2010 midyear-estimates, constrained to the latest GAD projections. We have explained above our policy on the introduction of newer population data (see Section 2). The working-age definition incorporates all announced future changes in the state pension age (for example the different sliding retirement age for men and women).

### 3.2.2 Forecast

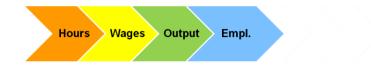
The regional model is solved sequentially. Each variable in the sequence is dependent only on variables earlier in the sequence and not variables later in the sequence. The sequence is divided into sections.

The first is the core, which produces totals for each region for each variable:



Population projections are a key driver in the forecast. These help determine hours worked in a region, which feed into output, compensation, employment in all its forms, income and finally spending. In each case we forecast shares of the corresponding UK variable for each region and then share out the UK variable to the region.

The second sequence is the detailed, which produces forecasts for each industry:



In each case, we forecast shares of the region within the UK industry. We then share out the UK industry data subject to the constraint of the total that has already been determined and the UK total.

## 3.3 Local methodology

### 3.3.1 History

As at the regional level, all local economic history used in the RPS is derived from official statistics published by the ONS. Our approach to using this data is identical to that given above at 3.2.1. However, data at the local level is more likely to be incomplete<sup>1</sup> or inconsistent<sup>2</sup> than is the case at the regional level. For this reason, there is greater call for the application of techniques to construct missing data and to remove inconsistencies than is the case at the regional level.

In all cases, local area data in a particular region is constrained to match the regional total for the same variable. This has two particular advantages:

- Local data is made consistent with regional data of the same vintage.
- Where local data has been estimated or constructed, the regional data ensure that the estimates together are consistent with more reliable data.

The ONS do not publish a workforce jobs series at the local level. Accordingly, we construct workforce jobs series for each local area using BRES/ABI in the same way that BRES is used at the regional level to disaggregate section estimates. The BRES share for a particular industry of a local area in its parent

<sup>&</sup>lt;sup>1</sup> For some local areas, publication of certain data by the ONS is restricted because to do so would effectively disclose individual responses to ONS data-collection surveys (e.g. if there are only one or two firms in a certain industry in a particular locality.)

<sup>&</sup>lt;sup>2</sup> In some cases, sample sizes in ONS data-collection surveys at the local level are very small. This leads to data of comparatively poor quality and relatively high volatility.

region is used to disaggregate the regional workforce jobs series for that industry. As BRES is a survey, the figures over time for a particular local area industry combination can be volatile<sup>1</sup>. Further, certain years' results may be withheld to prevent disclosure of confidential data. Accordingly, to obtain sensible data it is necessary for us to smooth out this volatility and to interpolate over the gaps.

At the local level, the most timely and comprehensive data are ILO data for residence and workplacebased employment and unemployment data on both the ILO<sup>2</sup> and claimant count basis. These data is obtained directly from NOMIS.

Regional accounts data is provided at sub-regional level for both GVA and income as it is at the regional level. The same methods are used at the local level as at the regional level to process these data. However, sub-regional data is only published for NUTS2 and NUTS3. Since not all local authorities constitute a NUTS3, it is necessary to disaggregate these data to local level. Further, the data provided at NUTS3 are less comprehensive than those provided at NUTS2<sup>3</sup>. We make use of this NUTS2 data by constraining our disaggregated NUTS3 estimates to their parent NUTS2. We then disaggregate these constrained NUTS3 data to local data<sup>3</sup>.

In the case of GVA, the data provided at NUTS2 is at the section level with sub-sectional data for manufacturing. For NUTS3, several sections are aggregated. In particular, there is less detail in the service sectors. Disaggregation (of industrial data and from NUTS3 to local data) takes place using workforce jobs data at the industry level.

In the case of Income, the data provided at NUTS2 has the same level of detail as at the regional level. For NUTS3, only primary and secondary income estimates are provided. NUTS2 data is disaggregated to NUTS3 using employee jobs (in the case of compensation of employees), self-employed jobs (in the case of self-employment income), unemployment (in the case of government benefits) and the regional split (in any other case.) These estimates are then constrained for each local to the primary and secondary income estimates provided. Disaggregation from NUTS3 to local level takes place using employee jobs, self-employed jobs, unemployment or population.

No estimates of household spending are provided at the local level. Household spending is, therefore, derived by using the share of local disposable income in regional disposable income.

### 3.3.2 Forecast

The local authority model is run separately for the local authorities in each region and takes the regional forecast as given. Accordingly, as with local history, local forecasts are constrained to the regional forecasts of the parent region.

Our local model is based on the resolution of demand and supply for labour and takes into account commuting between local areas within a region and across the regional boundary. The properties of the model are these:

- When unemployment is low, labour supply growth is the key determinant of growth.
- When unemployment is high, growth in demand for labour is the key determinant of growth.
- As unemployment decreases,
  - Labour supply growth becomes relatively more important
  - Growth in demand for labour becomes relatively less important
- An area's workplace employment growth depends on labour supply not only in the area but also •

<sup>&</sup>lt;sup>1</sup> The volatility represents sampling variability rather than actual volatility in the population data.

<sup>&</sup>lt;sup>2</sup> In line with ONS guidelines, we use the official model-based estimates of local unemployment that are more accurate than survey data which suffers from volatility.

NUTS2 is provided at the same level of detail as NUTS1 (i.e. regional) level.

labour supply growth in other local areas in the region from which it has historically drawn inward commuters.

- $\circ~$  Its historic share of incoming workers across the regional boundary.
- An area's residence based employment growth depends on demand for labour not only in the area but also
  - Growth in demand for labour in other local areas in the region to which it has historically supplied commuters.
  - $\circ\;$  Its historic share of outgoing workers commuting across the regional boundary.
- Workplace based employment drives GVA growth.
- Residence based employment drives Income and, accordingly, spending growth.

The starting point is an estimate of labour force growth in a local area. Growth in the labour force is determined primarily by growth in the working age population. However, the econometric equation linking labour force and working age population takes into account trends in the participation rate for each local area.

In parallel, demand for labour is estimated. This is done at the industry level by linking job growth<sup>1</sup> in a local area to growth in the same industry at the regional level and then constraining demand for jobs by industry to demand for jobs for the same industry at the regional level. The effect of this is:

- Demand for jobs at the local level is fastest in those industries which are performing best at the regional level.
- Total demand for jobs at the local level depends on its industrial structure. Those local areas which have a more than proportionate share of the best performing industries will perform best overall.

The supply and demand for labour is then resolved in the following way:

- Total demand<sup>2</sup> for jobs for each local area is converted into demand for workers according to the historic ratio between jobs and workers into that local area.
- The inflow and outflow of workers across the regional boundary is shared out between local areas according to their historic commuting patterns leading to an adjustment in
  - The remaining demand for labour for a local area (inflow)
  - The remaining available labour for a local area (*outflow*)
- Workplace demands for workers are converted into residence-based demands according to historic commuting patterns.
  - If unemployment is sufficiently high, these demands are satisfied out of the growth in the labour supply and the pool of available (unemployed) workers.
  - If unemployment is sufficiently low, these demands can only be satisfied out of the growth in the labour supply.
  - If unemployment is above its lower bound but not too high, a proportion of demands are satisfied out of the pool of available workers and the rest are satisfied out of the growth in the labour supply.
  - The model makes short-term adjustments in the labour supply in response to demand conditions to reflect the economic reality that
    - When demand is high, the participation rate rises as potential workers are drawn into the labour force by the relatively buoyant conditions;
    - When demand is low, the participation rate declines as disillusioned workers leave the labour force because of the poor job market conditions;
  - The unemployment rate, accordingly, behaves as expected.

Separately for employee jobs, self-employee jobs, government trainee jobs and Her Majesty's Forces.

<sup>&</sup>lt;sup>2</sup> i.e. all industries and job types aggregated.

• The satisfied residence supply for labour is converted back into workplace demands and workplace based employment is calculated for each local area. This is then converted back into jobs and used to produce final workforce jobs estimates for each local area.

The consequence of this is that:

- Local areas with high demand may not see all of that demand satisfied if there is insufficient available labour supply to meet those needs. Jobs growth will, accordingly, be slower.
- Local areas with high labour supply may not see higher growth in residence employment if there is insufficient demand for labour to use it up.

GVA growth is then forecast based on growth in workplace-based employment according to equations which link GVA growth to workplace-based employment. Income is forecast by component based on residence based employment (in the case of compensation for employees or self-employment), unemployment (in the case of benefits) and population in any other case. Spending depends on income by component.

## 4 Key changes since December 2013 RPS

## 4.1 UK forecast

The December RPS forecast was consistent with the October UK macro. Between the two UK forecasts, there were few historical revisions to the following indicators:

**GDP** has been revised back to 2012 and it is now slightly stronger, the main contribution came from **consumption** data which has been also revised up. We have therefore upgraded our forecast for 2013 slightly. The labour market has continued to create jobs and the unemployment rate is now expected to dip below 6.3% in 2015, triggering a rise in the Bank of England base interest rate.

There have been some revisions to our long-term profiles for GVA in certain industries, notably an upgrade to Wood & Paper and downgrades to Pharmaceuticals, Machinery & Equipment and Other Private Services.

ONS has revised estimates of **workforce jobs** back to 1981. There have been substantial downward revisions to estimates from 2012 and smaller revisions to earlier time periods back to 1981. These revisions have been caused by benchmarking to the latest estimates from the annual Business Register and Employment Survey (BRES), updating seasonal factors and taking on board late information. **Public sector employment** has also been revised back to the start of the time series in 1999. These revisions take account of late information, updates to seasonal factors, and re-referencing of survey estimates.

ONS has also revised estimates of **Average Weekly Earnings** back to the start of the time series in 2000 resulting from the annual review of the seasonal adjustment process.

UK	2012	2013	2014	2015	2016-2023	2024-2031
GDP growth	0.3%	1.9%	2.6%	2.5%	2.5%	2.4%
GDF glowin	(0.1%)	(1.4%)	(2.1%)	(2.1%)	(2.4%)	(2.4%)
Workforce Jobs	0.9%	1.3%	1.4%	1.0%	0.7%	0.7%
growth	(1.9%)	(1.3%)	(1.2%)	(0.9%)	(0.7%)	(0.7%)
Unemployment rate	7.9%	7.6%	6.8%	6.3%	5.2%	4.0%
onemployment rate	(7.9%)	(7.7%)	(7.4%)	(6.9%)	(5.9%)	(4.7%)
Real Income growth	2.3%	-0.1%	2.0%	1.9%	2.3%	2.5%
Real income growin	(1.5%)	(-0.1%)	(1.1%)	(1.6%)	(2.2%)	(2.4%)
Spending Volumes	1.2%	2.4%	2.7%	2.6%	2.4%	2.3%
growth	(1.5%)	(1.8%)	(1.9%)	(2.0%)	(2.4%)	(2.3%)
House price growth	1.7%	4.2%	7.6%	6.6%	3.5%	3.6%
riouse price growin	(1.7%)	(3.5%)	(5.1%)	(4.8%)	(3.6%)	(3.5%)

March RPS forecast. Previous forecast (Winter 2013) in brackets.

GDP growth came in at 0.7% q-on-q in the final quarter of 2013, in line with our expectations based on a continuation of very positive anecdotal evidence and official data in recent months. This rise took the increase in the year to 2013q4 to a healthy 2.8%.

Employment is responding positively to output trends. Almost 450,000 net new jobs have been added over the past year and the unemployment rate has fallen from 8.3% at end-2011 to 7.2%. Average weekly earnings including bonuses rose by 1.4% compared with a year earlier.

The marked improvement in the economic outlook will mean that interest rates will need to rise earlier than the Bank's initial forward guidance date of 2016. We assume that mid-2015 will see the beginning of an upward phase in the rate cycle.

The UK economic recovery seems firmly entrenched as the flow of strong data that has emerged over the past year continues to outweigh weaknesses and defy the headwinds that seemed likely to constrain expansion. Buoyant services, manufacturing and construction If weakness in the eurozone economy persists for much longer than expected in the base case, UK exports will remain constrained with net trade becoming a serious drag on growth in the next few years.

## 4.2 Regional Forecast

Given revisions at the UK level to which our regional data is constrained, the only changes to the history can be traced back to the following new data:

- New regional accounts
- More detailed manufacturing split at regional level published for the first time by ONS
- Regional Workforce Jobs 2013q3.

We have not yet included the revised population mid-year estimates or new population projections as discussed in section 2.

March RPS forecast:

Regional forecast 2016-31 ave. growth	SW	SE	GL	ET	EM	WM	NW	NE	YH	SC	WA	NI
GDP	2.3%	2.7%	2.9%	2.5%	2.3%	2.1%	2.2%	2.0%	2.2%	2.2%	2.1%	2.0%
Workforce Jobs	0.7%	0.9%	1.0%	0.8%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.5%	0.6%
Unemployment rate	3.4%	3.2%	6.3%	3.6%	4.9%	6.7%	4.3%	6.6%	4.5%	4.4%	4.5%	4.1%
Real Income	2.4%	2.6%	2.7%	2.6%	2.3%	2.0%	2.1%	2.1%	2.0%	2.0%	2.0%	2.0%
Spending Volumes	2.1%	2.6%	3.0%	2.5%	2.2%	2.1%	2.1%	1.9%	2.0%	2.0%	1.9%	2.0%
House price	3.7%	4.1%	4.7%	4.0%	3.2%	3.1%	3.1%	2.3%	3.0%	3.2%	2.9%	2.6%

## 4.3 Local Forecast

In addition to a constraint imposed by new UK and regional history, the local authority history has changed in the current RPS round. Please see Section 3.3 for more detailed information.

## 5 A note from the ONS on volatility

A change in methodology behind Office for National Statistics (ONS) employment surveys has produced widespread volatility in the historical data, particularly from 2010.

The following is an explanation directly from the ONS:

"A fundamental redevelopment of Workforce Jobs sources, classifications, methods and systems was recently undertaken and is explained clearly in the article 'Revisions to Workforce Jobs' (Barford 2010). One of the key changes highlighted in this article was the replacement of a matched-pairs estimator with a point-in-time ratio estimator, ONS's standard method. This change was aimed at removing the bias caused by the matched-pairs method. A matched-pairs method tends to underestimate change over time, as it excludes the births and deaths of businesses in the sample. In essence, only those businesses sampled in two consecutive periods are used to produce estimates of change. This bias used to cause large revisions when the short-term employment surveys series were benchmarked retrospectively to Business Register Employment Survey (BRES) estimates. BRES is an annual survey which selects a larger sample and also uses a point-in-time ratio estimator. The point-in-time estimator includes all sampled businesses in each and every period, which reduces the bias over-time. The trade-off is an increase in volatility caused by the inclusion of the rotated part of the sample for small and medium sized businesses. Sample rotation spreads the administrative burden; ensuring businesses are selected for a limited number of periods.

Unfortunately, the volatility of regional estimates at an industry level has been far greater than anyone anticipated and in general has been met unfavourably by users, particularly those that are interested in regional data. There are a number of instances, for example, whereby businesses have been 'rotated in' to a particular region and served to distort the level of jobs for a particular industry, usually for a period of 5 quarters, which is the time a rotated business remains in the sample of the STES."

Regional employment is the most timely and only source of quarterly data at this level of geography and is used to derive the quarterly profile of other variables in our regional models. Therefore this volatility is reflected in output as well as employment.

# Appendix A....Glossary of terms

## Glossary of terms

Gross Domestic Product (GDP) Total work done in an economy in a period measured in one of three ways:

- Output Measure: Output of all goods and services less inputs
- Income Measure: Income earned by all parts of the economy
- Demand Measure: Demand for goods and services comprised of
  - $\circ$   $\;$  Expenditure by Households, NPISH and Government  $\;$
  - Investment (Gross Fixed Capital Formation) by business and Government
  - o Changes in Inventories and Acquisitions less disposals of valuables
  - Exports less imports

GDP is measured in market prices: this means that the prices used to convert output of goods and services into money include taxes and subsidies by the government. Distributors' margins are credited to the industry producing the goods and services not to the distribution industry.

**Gross Value Added (GVA)** GVA is identical to GDP except that it is measured in basic prices. These prices do not include taxes and subsidies imposed by the government. Distributors' margins are credited to the distribution industry. GVA for an industry is described by either of the following identities:

- GVA is identical to output of the industry less inputs of the industry
- GVA is identical to the sum of
  - Compensation of Employees in the industry
  - o Gross Operating Surplus (i.e. profit) earned by capital in the industry

When looking at GVA for an industry, it is important to realise that it only includes the output of that industry (i.e. the value added by that industry.) For example retailing GVA only includes the value added by retailers (e.g. customer service etc).

GVA in the RPS is measured by the place where the work is done (workplace based) and not where the worker resides.

**Current Price / Chain Volume Measure** Data where the unit of measurement is money are available either in Current Price (or Nominal) terms or CVM (or Real) terms. The distinction is important because the buying power of money changes over time. For current price data, no adjustment is made for this fact. CVM data adjusts all figures in a time series to be consistent with the buying power of money in a given year (the reference year). Current Price data, thus, measures values while CVM data measures volumes. For example, Current Price GDP is the money value of production in a given period while CVM GDP is the amount of production. For years before the reference year, CVM data is not additive (thus the sum of GVA for all sectors will not equal total GVA.) In all other years, CVM data is additive.

Productivity A measure of efficiency calculated by estimating output per unit of input

Workforce Jobs A count of the total number of jobs in the UK, a region or industry. It is comprised of

- Employee Jobs: The number of jobs where the occupant is an employee.
- Self-employee Jobs: The number of jobs where the occupant is self-employed
- Government-Sponsored Trainees: The number of jobs where the occupant is on a government training scheme.
- Her Majesty's Forces: The number of jobs in the armed forces (part of Public Administration & Defence).

Workforce jobs and all its components count jobs and not people. This means that where a person has two or more jobs they are counted once for each job that they have. This can be contrasted with the ILO employment measures. Another consequence of counting jobs is that Workforce Jobs is based on the place of work not the residence of the worker

Full Time Equivalent Employment: Our definition is based on total hours worked and is as follows:

FTE = (HOURS) divided by (37.8\*13)

Here a constant yard-stick of full-time employment for all industries, regions and industry-region based on thirteen working weeks in a quarter at 37.8 hours a week. 37.8 hours is the average hours worked by a full-time worker in the UK between 1990 and 2009.

**LFS/ILO Employment** The International Labour Organisation (ILO) provides an international standard method of measuring employment. In the UK this is implemented by means of a survey known as the Labour Force Survey (LFS) or Annual Population Survey (APS). This measure is based on the place of residence of the employee. It is a people count based on the main job that a person has. Employment comprises:

- Employees: People whose main job is as an employee.
- Self-employed: People whose main job is as a self-employed person.
- Government-Sponsored Trainees: People whose main job is on a government training scheme.
- Unpaid Family Workers: People whose main job is as an unpaid worker in a business owned by their own family.

**ILO Unemployment** The International Labour Organisation (ILO) definition of unemployment covers people who are: out of work, want a job, have actively sought work in the previous four weeks and are available to start work within the next fortnight; or out of work and have accepted a job that they are waiting to start in the next fortnight

Labour Force / Economically Active The sum of ILO Unemployment and ILO Employment. That is all people who are in work or who are looking for a work. A person who is in the labour force is said to be Economically Active.

**Economically Inactive** A person who is not economically active. The principle categories are retirees, students, children, long-term sick or disabled, homemakers and carers.

**Claimant Count Unemployment** Measures the number of people who are claiming Jobseekers' Allowance. This is always less than ILO Unemployment because not everyone who is ILO unemployed is eligible to claim JSA and not all who are eligible claim. One particular case that is important is people whose partners work more than 16 hours a week; they cannot claim JSA but may be ILO unemployed.

**Extra Regio** In addition to the 9 English regions and the nations of Scotland, Wales and Northern Ireland, the UK's economic boundary includes the continental shelf and UK government operations abroad (i.e. embassies and HMF abroad). The ONS does not assign income or GVA attributable to these sources to any region or nation. Therefore, the sum of regional Income or GVA does not equal the UK. This also impacts on two industries Extraction & Mining and Public Administration & Defence.

Working Age Population Population above the age of 15 but below the current retirement age for their gender.

**Retirement Age Population** At present this includes males over 65 and females over 60, although this will change post 2010 as new female and male retirement ages are gradually phased in. Our forecasts take account of this proposed change in retirement legislation

Household Consumer Spending The accounts relate to consumption expenditure by UK resident households, either in the UK or the rest of the world. Spending by non-residents in the UK is excluded from the total

Household consumption includes goods and services received by households as income in kind, in lieu of cash, imputed rent for the provision of owner-occupied housing services and consumption of own production

For national accounting purposes, households are individuals or groups of people sharing living accommodation

Household Disposable Income Household disposable income is the total payment to households (from wages, interest, property income and dividends) less taxes, social security, council payments and interest

**Cost of living index** Regional consumer spending deflator. Gives an indication of how the value of consumer spending has grown in comparison to the volume.

#### NUTS (Nomenclature des Unités Territoriales Statistiques – Nomeclature of Territorial Units for Statistics) A

European Union standard for classifying the subdivisions of member states. In the case of the UK, the English regions and the three nations are classified as NUTS1. The next level – NUTS2 – typically consists of aggregations of local authorities in the same region. The level below that, NUTS3 consists either of single local authorities or a small aggregation of local authorities in the same NUTS2. In Scotland, some local authorities are divided between NUTS3. NUTS4 and NUTS5 also exist but are not used in the RPS.

# **Appendix B...Sector definitions**

## Sector definitions

Agriculture, Forestry & Fishing       01 Crop and animal production, hunting and related service activities       Agriculture, Forestry & Fishing         02 Forestry and logging       03 Fishing and aquaculture       Extraction & Mining       06 Extraction of crude petroleum and natural gas       Extraction & Mining       06 Extraction of crude petroleum and natural gas       Extraction & Mining       Manufacture         04 Of Mining of metal ores       08 Other mining and quarrying       Manufacture of sod products       Manufacturing         11 Manufacture of lobacco products       10 Manufacture of lobacco products       Manufacture       Manufacture         12 Manufacture of lobacco products       13 Manufacture of leather and related products       Manufacture       Manufacture         Wood & Paper       16 Manufacture of paper and paper products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials       Manufacture         Printing and Reproduction       19 Printing and reproduction of recorded media       Manufacture of coke and refined petroleum products         Chemicals       20 Manufacture of chemicals and chemical products       21 Manufacture of basic pharmaceutical products         Pharmaceuticals       21 Manufacture of obasic pharmaceutical products       21 Manufacture of basic metals         Chemicals       21 Manufacture of other non-metallic mineral products       21 Manufacture of basic metals         Munufacture of oth	Experian 38-sector	SIC-2007 division	Falls within Experian 12-sector
03 Fishing and aquaculture         Extraction & Mining       06 Extraction of crude petroleum and natural gas       Extraction & Mining gas         05 Mining of coal and lignite       07 Mining of coal and lignite       07 Mining of metal ores         08 Other mining and quarrying       09 Mining support service activities       Manufacturing         Food, Drink & Tobacco       10 Manufacture of food products       Manufacturing         11 Manufacture of boeverages       12 Manufacture of tobacco products       Manufacturing         15 Manufacture of texilies       15 Manufacture of exerties       Wood & Paper         16 Manufacture of wearing apparel       15 Manufacture of products of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials       17 Manufacture of oppare and paper products         Printing and Reproduction       18 Printing and reproduction of recorded media       18 Printing and reproducts         Fuel Refining       19 Manufacture of basic pharmaceutical products       20 Manufacture of basic pharmaceutical preparations         Rubber, Plastic and Other       22 Manufacture of rubber and plastic       21 Manufacture of articles and chemical products         Products       23 Manufacture of obasic metals       25 Manufacture of fabricate metal products, except machinery and equipment         Computer & Electronic       26 Manufacture of computer, electronic and       25 Manufacture of fabr		· · · · · ·	Agriculture, Forestry & Fishing
Extraction & Mining       06 Extraction of crude petroleum and natural gas       Extraction & Mining gas         05 Mining of coal and lignite       07 Mining of coal and lignite       07 Mining of metal ores         08 Other mining and quarrying       09 Mining support service activities       Manufacture of 10 Manufacture of food products       Manufacturing         Food, Drink & Tobacco       10 Manufacture of tood products       Manufacturing       Manufacture of tobacco products         Textiles & Clothing       13 Manufacture of textiles       Manufacture of textiles       Manufacture of textiles         14 Manufacture of wearing apparel       15 Manufacture of wearing apparel       Manufacture of articles of straw and plating materials         Wood & Paper       16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plating materials         17 Manufacture of paper and paper products         Printing and Reproduction       18 Printing and reproduction of recorded media media         Fuel Refining       19 Manufacture of coke and refined petroleum products         Chemicals       20 Manufacture of basic pharmaceutical products         Pharmaceuticals       21 Manufacture of rubber and plastic preparations         Rubber, Plastic and Other       22 Manufacture of other non-metallic mineral products         Products       23 Manufacture of other non-metallic mineral products		02 Forestry and logging	
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	27 Manufacture of electrical equipment	
Machinery & Equipment	28 Manufacture of machinery and equipment	
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Machinery & Equipment	29 Manufacture of motor vehicles, trailers	
	and semi-trailers	
	30 Manufacture of other transport equipment	
Other Manufacturing	31 Manufacture of furniture	
	32 Other manufacturing	
	33 Repair and installation of machinery and	
	equipment	
Utilities	35 Electricity, gas, steam and air conditioning	Utilities
	supply	
	36 Water collection, treatment and supply	
	37 Sewerage	
	38 Waste collection, treatment and disposal	
	activities; materials recovery	
	39 Remediation activities and other waste	
	management services. This division includes	
	the provision of remediation services, i.e. the	
	cleanup of contaminated buildings and sites,	
	soil, surface or ground water.	
Construction of Buildings	41 Construction of buildings	Construction
Civil Engineering	42 Civil engineering	
Specialised Construction	43 Specialised construction activities	
Activities		
Wholesale	45 Wholesale and retail trade and repair of	Wholesale & Retail
	motor vehicles and motorcycles	
	46 Wholesale trade, except of motor vehicles	
	and motorcycles	
Retail	47 Retail trade, except of motor vehicles and	
	motorcycles	
Land Transport, Storage &	49 Land transport and transport via pipelines	Transport & Storage
Post		
	52 Warehousing and support activities for	
	transportation	
	53 Postal and courier activities	
Air & Water Transport	50 Water transport	
	51 Air transport	
Accommodation & Food	55 Accommodation	Accommodation, Food Services
Services		& Recreation
	56 Food and beverage service activities	
Recreation	90 Creative, arts and entertainment activities	
	91 Libraries, archives, museums and other	
	cultural activities	
	92 Gambling and betting activities	
	93 Sports activities and amusement and	

	recreation activities	
Media Activities	58 Publishing activities	
	59 Motion picture, video and television	
	programme production, sound recording and	
	music publishing activities	
	60 Programming and broadcasting activities	
Telecoms	61 Telecommunications	
Computing & Information	62 Computer programming, consultancy and	Information & communication
Services	related activities	
	63 Information service activities	
Finance	64 Financial service activities, except	Finance & Insurance
	insurance and pension funding	
	66 Activities auxiliary to financial services	
	and insurance activities	
Insurance & Pensions	65 Insurance, reinsurance and pension	
	funding, except compulsory social security	
Real Estate	68 Real estate activities	Professional & Other Private Services
Professional Services	69 Legal and accounting activities	
	70 Activities of head offices; management	
	consultancy activities	
	71 Architectural and engineering activities;	
	technical testing and analysis	
	72 Scientific research and development	
	73 Advertising and market research	
	74 Other professional, scientific and technical	
	activities	
	75 Veterinary activities	
Administrative & Supportive Service Activities	77 Rental and leasing activities	
	78 Employment activities	
	79 Travel agency, tour operator and other	
	reservation service and related activities	
	80 Security and investigation activities	
	81 Services to buildings and landscape	
	activities	
	82 Office administrative, office support and	
	other business support activities	
Other Private Services	94 Activities of membership organisations	
	95 Repair of computers and personal and	
	household goods	
	96 Other personal service activities	
	97 Activities of households as employers of	
	domestic personnel	
	98 Undifferentiated goods- and services-	
	producing activities of private households for	

	own use	
Public Administration &	84 Public administration and defence;	Public Services
Defence	compulsory social security	
	99 Activities of extraterritorial organisations	
	and bodies	
Education	85 Education	
Health	86 Human health activities	
Residential Care & Social	87 Residential care activities	
Work		
	88 Social work activities without	
	accommodation	

# Appendix C...FAQ's

- Why does Experian's history for variable x differ from another source / raw survey data?
  - There are several possible reasons.
  - The first is a vintage mismatch. The ONS frequently revises its economic data in order to take account of new information or improved methodology. The date at which Experian has taken data for the current RPS is given in the body of this guide. Another source may have used earlier or later data.
  - The second relates to data processing. As explained in the body of this guide, it is sometimes necessary at the regional level and (particularly) at the local level to process or construct data. Our approach to doing this is explained in the body of this guide. We apply consistent methodologies to process the data. Other sources may carry this out in different ways. When compared against the raw source, our data may differ because, for example:
    - It has been constrained to other sources.
    - It has been converted into CVM data or quarterly data.
    - It has been made consistent with other data or a later vintage of data.
  - The third relates to raw survey data. Raw survey data is often volatile and does not take into account information outside the survey. Official statistics and our data are constructed from the raw survey data to take into account volatility, sampling issues and all available data sources.
  - Why does Experian's job history differ from the ABI or BRES?
    - The ABI/BRES are surveys taken from a particular year; they are not updated.
    - $\circ~$  ABI/BRES is a source for ONS' workforce jobs but it is not the only source.
    - Experian's workforce job history is designed to be consistent with the latest available ONS workforce jobs estimates (which may represent additional data or improved methodology.)
    - Raw survey is often incomplete and suffers from sampling variability, which does not represent true volatility in the underlying population data. This must be removed to ensure high quality data.
- How often are data updated?
  - We always use the latest available data at the cut-off date for history.
  - New GVA data is available from the ONS
    - At the UK Level, three times a quarter.
    - At the Regional and Local level, annually (normally in December.)
  - o New Expenditure data is available from the ONS at the UK level twice a quarter.
  - o New LFS Employment data is available from the ONS once a quarter.
  - New Workforce Jobs data is available from the ONS once a quarter.
  - New BRES is published once a year (normally in December.)
  - New Income data is available from the ONS
    - At the UK level, once a quarter.
    - At the Regional and Local level, once a year (normally in April.)
  - Population projections are published once every two years.
  - New mid-year population estimates are published annually.
  - New LCFS is published annually.
- How do revisions to historical data affect your history and forecasts?
  - o As explained above, we always take into account the latest historical data.
  - The monthly UK macro forecast is updated after each ONS revision of GDP for a quarter.
  - The RPS is based on a particular UK macro forecast and includes the latest available regional and local data.
  - Forecasts are updated to be consistent with the latest historical data. While this will typically only affect the short-to-medium term, there are times when the long-run is necessarily affected. This will usually be when there has been a substantial revision to history.
- How are past growth trends captured in the forecasts?
  - All our models are econometric models.
  - An econometric model is a model estimated on historical data.

- The coefficients (i.e. interactions) in the model embed historical relationships between variables and historical growth rates in a variable.
- Where we believe that the forecast relationships may differ from history, we make appropriate adjustments to the forecast. This may be the case, for example, where an area has been substantially redeveloped in recent years.
- How are industry/regional/local developments and policies reflected in forecasts?
  - If these developments and policies are reflected in model inputs (for example population) or in history then they will be automatically captured by the model.
  - $\circ~$  In any other case, we are able to make appropriate adjustments to take these into account.
  - At the industry level, we taken into account announced developments in that industry which are large enough to affect the growth in the industry at the national, regional or local level (as the case may be).
  - At the regional and local, we taken into account announced developments or policies which are large enough to affect growth at the regional or local level. The local model, in particular, has the facility to take into account the impact of additional population or jobs in a particular area.
  - It is important to realise that many developments or policies may not be sufficiently large enough to affect growth rates or may be implicitly included in the forecast from a higher level of aggregation.
- How does population relate to the employment forecasts?
  - $_{\odot}$  This is discussed in detail in the methodology section above for the regions and the locals.
  - o It is important to remember that employment is forecast on both a residence and workplace basis.
  - Residence based employment depends on local population (labour supply) growth but also on demand for work throughout the region and across the regional boundary.
  - Workplace based employment depends on labour supply throughout the region and across the regional boundary.
- What is working age?
  - $\circ~$  The definition of working age used based on the state pension age.
  - As the state pension age for men and women changes in line with announced policy, the working age population will change to take this into account.
  - $\circ$  The key changes to the state pension age that have been announced are:
    - A gradual equality in state pension age for men and women.
    - A gradual rise in state pension age for both men and women to 67 (and 68 after the forecast horizon.)
- What is the participation rate / economic activity rate?
  - The participation rate or economic activity rate is the proportion of the working age population who are either employed or seeking employment (i.e. unemployed.)
  - The participation rate is an endogenous variable in all our models. It is not a fixed assumption.
- What assumptions have been made regarding commuting in the local model?
  - Commuting in the local model is based on estimates given by the ONS.
  - These are based on the Annual Population Survey.
  - Commuting assumptions are fixed over the forecast.
  - However, the outcome for commuting may differ from the assumption because (for example) there is insufficient demand or supply for labour to provide as many workers across a particular commuting relationship.
- How is Full-Time Equivalent employment derived?
  - $\circ~$  This is based on the total hours worked (please see the glossary.)
  - $\circ~$  The relationship between FTEs and hours is fixed by definition.
  - In different industries, the hours worked per job will differ.
  - Historical data for this is taken from ASHE (please see the body of the guide.)
  - The forecast takes into account changing trends in hours per job. This will necessarily alter the relationship between Full-Time Equivalent employment and jobs.
  - How does the weighting of different factors change over the forecast period?
    - $\circ$   $\;$  There is no fixed rule about the changes in this time.
    - The coefficients of the econometric equations are fixed over time
    - o However, at the local level population growth becomes more important as unemployment decreases.

## Appendix D...About us



#### Our economic forecasting expertise

Experian's team of 18 economists is a leading provider of global, national, regional and local economic forecasts and analysis to the commercial and public sectors. Our foresight helps organisations predict the future of their markets, identify new business opportunities, quantify risk and make informed decisions.

Experian's economics team is part of a 140-strong analytics division, which provides an understanding of consumers, markets and economies in the UK and around the world, past, present and future. As part of the Experian group, the analytics division has access to a wealth of research data and innovative software solutions. Its statisticians, econometricians, sociologists, geographers, market researchers and economists carry out extensive research into the underlying drivers of social, economic and market change.

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#### Experian

Experian is a global leader in providing information, analytical and marketing services to organisations and consumers to help manage the risk and reward of commercial and financial decisions.

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For consumers, Experian delivers critical information that enables them to make financial and purchasing decisions with greater control and confidence.

Clients include organisations from financial services, retail and catalogue, telecommunications, utilities, media, insurance, automotive, leisure, e-commerce, manufacturing, property and government sectors.

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# Cambridge Econometrics Employment Projections

## Methodology and data sources

Cambridge Econometrics (CE) have maintained and developed a highly disaggregated database of employment data by industry (12 broad sectors or a more detailed 45 sectors<sup>1</sup>) from 1981 for all unitary authorities and local authority districts in Great Britain.

CE's projections are baseline economic projections based on historical growth in the local area relative to the region or UK (depending on which area it has the strongest relationship with), on an industry-by-industry basis. They assume that those relationships continue into the future. Thus, if an industry in the local area outperformed the industry in the region (or UK) as a whole in the past, then it will be assumed to do so in the future. Similarly, if it underperformed the region (or UK) in the past then it will be assumed to underperform the region (or UK) in the future.

They further assume that economic growth in the local area is not constrained by supplyside factors, such as population and the supply of labour. Therefore, no explicit assumptions for population, activity rates and unemployment rates are made in the projections. They assume that there will be enough labour (either locally or through commuting) with the right skills to fill the jobs. If, in reality, the labour supply is not there to meet projected growth in employment, growth could be slower.

The measure of employment is workplace based jobs, which include full-time, part-time and self-employed. The data on employees in employment by industry, which distinguish full-time and part-time as well as gender for the local area, are taken from the Business Register and Employment Survey (BRES) and the earlier Annual Business Inquiry (ABI). The agricultural employment data also include agricultural labour force data from the Department for Environment, Food & Rural Affairs (DEFRA). Estimates of self-employment are taken from the Annual Population Survey (APS) from 2004 onwards. For earlier years estimates are generated under the assumption that the ratios of self-employed to employees at local level, by industry and gender, are the same as those at the corresponding regional level. The figures are made consistent with more recently-published estimates of jobs at a regional level (quarterly workforce jobs, June figures) published by ONS, which include people in the armed forces but do not include people on government training schemes.

<sup>&</sup>lt;sup>1</sup> See appendix for the definitions of CE's detailed and broad sectors in terms of the 2007 Standard Industrial Classification.

# Appendix

### Table A.1: Definitions of CE's 45 industries in terms of the 2007 Standard Industrial Classification (SIC2007)

<ol> <li>Agriculture , forestry &amp; fishing</li> <li>Mining &amp; quarrying</li> <li>Food, drink &amp; tobacco</li> <li>Textiles etc</li> <li>Wood &amp; paper</li> <li>Printing &amp; recording</li> <li>Coke &amp; petroleum</li> <li>Chemicals</li> <li>Pharmaceuticals</li> <li>Non-metallic mineral products</li> <li>Metals &amp; metal products</li> <li>Electronics</li> <li>Electrical equipment</li> <li>Machinery</li> <li>Motor vehicles</li> <li>Other transport equipment</li> <li>Other manufacturing &amp; repair</li> <li>Electricity &amp; gas</li> <li>Water, sewerage &amp; waste</li> <li>Construction</li> </ol>	01-03 05-09 10-12 13-15 16-17 18 19 20 21 22-23 24-25 26
<ul> <li>2 Mining &amp; quarrying</li> <li>3 Food, drink &amp; tobacco</li> <li>4 Textiles etc</li> <li>5 Wood &amp; paper</li> <li>6 Printing &amp; recording</li> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	05-09 10-12 13-15 16-17 18 19 20 21 22-23 24-25 26
<ul> <li>3 Food, drink &amp; tobacco</li> <li>4 Textiles etc</li> <li>5 Wood &amp; paper</li> <li>6 Printing &amp; recording</li> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	10-12 13-15 16-17 18 19 20 21 22-23 24-25 26
<ul> <li>4 Textiles etc</li> <li>5 Wood &amp; paper</li> <li>6 Printing &amp; recording</li> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	13-15 16-17 18 19 20 21 22-23 24-25 26
<ul> <li>5 Wood &amp; paper</li> <li>6 Printing &amp; recording</li> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	16-17 18 19 20 21 22-23 24-25 26
<ul> <li>6 Printing &amp; recording</li> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	18 19 20 21 22-23 24-25 26
<ul> <li>7 Coke &amp; petroleum</li> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	19 20 21 22-23 24-25 26
<ul> <li>8 Chemicals</li> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	20 21 22-23 24-25 26
<ul> <li>9 Pharmaceuticals</li> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	21 22-23 24-25 26
<ul> <li>10 Non-metallic mineral products</li> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	22-23 24-25 26
<ul> <li>11 Metals &amp; metal products</li> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	24-25 26
<ul> <li>12 Electronics</li> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	26
<ul> <li>13 Electrical equipment</li> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	-
<ul> <li>14 Machinery</li> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	27
<ul> <li>15 Motor vehicles</li> <li>16 Other transport equipment</li> <li>17 Other manufacturing &amp; repair</li> <li>18 Electricity &amp; gas</li> <li>19 Water, sewerage &amp; waste</li> </ul>	28
16 Other transport equipment 17 Other manufacturing & repair 18 Electricity & gas 19 Water, sewerage & waste	29
<ul><li>17 Other manufacturing &amp; repair</li><li>18 Electricity &amp; gas</li><li>19 Water, sewerage &amp; waste</li></ul>	30
18 Electricity & gas 19 Water, sewerage & waste	31-33
19 Water, sewerage & waste	35
_	36-39
	41-43
21 Motor vehicles trade	45
22 Wholesale trade	46
23 Retail trade	47
24 Land transport	49
25 Water transport	50
26 Air transport	51
27 Warehousing & postal	52-53
28 Accommodation	55
29 Food & beverage services	56
30 Media	58-60
31 IT services	61-63
32 Financial & insurance	64-66
33 Real estate	68
34 Legal & accounting	69
35 Head offices & management consultancies	70
36 Architectural & engineering services	71
37 Other professional services	72-75
38 Business support services	77-82
39 Public Administration & Defence	84
40 Education	85
41 Health	86
42 Residential & social	87-88
43 Arts	90-91
44 Recreational services	92-93
45 Other services	

Ind	ustry	CE45	SIC2007
1	Agriculture, forestry & fishing	1	01-03
2	Mining & quarrying	2	01-03
3	Manufacturing	- 3-17	10-33
4	Electricity, gas & water	18-19	35-39
5	Construction	20	41-43
6	Distribution	21-23	45-47
7	Transport & storage	24-27	49-53
8	Accommodation & food services	28-29	55-56
9	Information & communications	30-31	58-63
10	Financial & business services	32-38	64-82
11	Government services	39-42	84-88
12	Other services	43-45	90-96

Table A.2: Definitions of CE's broad sectors in terms of CE's 45 industries and SIC2007