



# LAND TO THE WEST OF HATFIELD

Environmental Statement – Chapter 10: Socio-economics

Arlington Business Parks GP Limited

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## 10 SOCIO-ECONOMICS

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### 10.1 INTRODUCTION

This chapter presents an assessment of the effects of the proposed development on land to the West of Hatfield on socio-economics over both the construction and operational phases. The assessment includes estimated effects of the proposed development on employment demand, business supply chains, and local socio-economic receptors such as the resident working age population of the Borough of Welwyn Hatfield.

Socio-economic effects may occur from direct interaction between the proposed development and receptors such as resident households and local businesses. For example, local working age people could benefit from construction phase job opportunities created during the building of the proposed development.

Socio-economic effects can also occur indirectly, for example if existing local businesses benefit by selling services to residents of the proposed development once it is built and occupied.

Many of the anticipated socio-economic effects would be experienced once the project is built (i.e. during the operational phase), but there would also be effects (such as job creation) during the construction phase.

### 10.2 METHODOLOGY

This section sets out the approach to the assessment and provides further details of the methodology used.

#### 10.2.1 Legislation and Planning Policy Guidance

##### 10.2.1.1 *Legislation*

There is no legislation relating to socio-economic assessment.

##### 10.2.1.2 *Project Appraisal Guidance*

There is limited guidance on the assessment of potential effects on socio-economics, but the following documents are referred to in the assessment of economic effects:

- the DCLG's Appraisal Guide (Department for Communities and Local Government, December 2016);
- the Green Book (HM Treasury, 2003, updated July 2011);
- the Homes and Community Agency (HCA, now Homes England) *Additionality Guide* (fourth edition, 2014); and
- the HCA's *Employment Density Guide* (third edition, 2015).

##### 10.2.1.3 *National Planning Policy Framework (NPPF)*

The NPPF sets the framework for planning policy in England, and states that the purpose of the planning system is to contribute to the achievement of sustainable development. The three stated dimensions to sustainable development – economic, social and environmental – include building a strong, responsive economy, identifying and coordinating development requirements including the provision of

infrastructure, supporting strong, vibrant and healthy communities by providing the supply of housing required to meet the needs of present and future generations, and by creating a high quality built environment with accessible local services that reflect the community's needs and support its health, social and cultural well-being.

#### *10.2.1.4 Planning Practice Guidance (PPG)*

Planning Practice Guidance is a web-based resource. The section on design provides advice on issues including a network of greenspaces (including parks) and public places, access and inclusion and cohesive and vibrant neighbourhoods. It also sets out what makes for a well-designed place, which includes ensuring the community has easy access to facilities such as shops, schools, clinics, workplaces, parks, play areas, pubs or cafés. This helps achieve multiple benefits from the use of land, and encourage a healthier environment, reducing the need for travel and helping greater social integration.

#### **10.2.2 Scoping Assessment**

No scoping assessment has taken place for the proposed development.

#### **10.2.3 Assessment Methodology**

##### *10.2.3.1 Overview*

The assessment considers the likely effect of the project on economic, employment and business conditions within the spatial area covered by the local planning authority (i.e. the Borough of Welwyn Hatfield). Assessment effects are considered in relation to the construction phase (temporary effects) and operational phase (long term effects), when the project would be occupied by businesses and residents.

There is no industry standard guidance for this type of assessment. However, there is a series of commonly used methodologies and recognised approaches to quantifying economic effects both during the construction of a development and following its completion that have been widely used in other major projects, and these have been adopted here.

In particular, the assessment:

- reviews socio-economic and recreation baseline conditions within the relevant study areas;
- assesses the likely scale, scope, permanence and significance of identified effects, taking account any proposed mitigation or enhancement measures that would help to reduce the severity of adverse effects or enhance the benefits of positive effects;
- recommends any further mitigation measures, where appropriate; and
- assesses cumulative effects of the scheme alongside with other proposed schemes.

Further details of the assessment methodology are provided below.

##### *10.2.3.2 Study area*

As stated above, the selected spatial area for the socio-economic assessment is the Borough of Welwyn Hatfield. This area has been selected because it is the spatial area within which the largest proportion of the potential effects on labour demand and supply conditions, as well as other potential impacts on the existing businesses (such as effects on levels of business turnover and associated economic output) would be expected to occur.

The socio-economic assessment provides estimates of the likely direct, indirect and induced effects of the proposed development within the study area in terms of construction phase investment, employment, additional Gross Value Added (GVA) and contribution to the local labour market.

The direct, indirect and induced effects referred to above are defined as follows:

- **Direct effects:** these are the employment and other economic outputs that are directly attributable to the delivery of the proposed development. These include any new jobs that would likely be created to manage and supervise the construction phase of the proposed development. It would also include any jobs expected to be created by employers occupying premises located within the proposed development.
- **Indirect effects:** these are the employment and other outputs that would be created in other companies and organisations that provide services to the proposed development (i.e. procurement and other supply chain effects); and
- **Induced effects:** these are the additional jobs and other economic outputs that would be created in the wider economy as a result of the spending of employee incomes and other ripple effects that occur as a result of direct and indirect effects of the proposed development.

Although the primary emphasis is on the estimation of direct, indirect and induced effects within the study area, it is also the case that some effects will be experienced beyond these boundaries. Any effects that benefit receptors located beyond the boundaries of the local authority are regarded as 'leakage' (as per the guidance found in the Homes and Communities Agency (HCA, now Homes England) *Additionality Guide* (2014), and these effects are also quantified in the assessment.

Construction phase job creation and investment are assessed using (1) estimates of expenditure on required infrastructure provided by the applicant and (2) estimated expenditure on buildings based on widely used industry averages. Construction jobs (in person-years of employment) are modelled based on estimated construction phase expenditure. The assessment addresses the potential effects of the proposed development on the labour market and supply chain within the study area, and economic output in terms of Gross Value Added (GVA).<sup>1</sup> The estimate for construction phase GVA is calculated using the latest regional estimates for the average yield of GVA per worker for the construction and civil engineering sector in England obtained from the Office of National Statistics (ONS).<sup>2</sup>

Information gathered from the baseline data review is used to develop a quantitative economic model which includes direct, indirect and induced effects of the proposed development. The chapter assesses the significance of the likely socio-economic effects of the project during the construction phase based on the magnitude of the impacts and the sensitivity of the receptor groups.

In terms of operational phase effects, quantitative economic modelling is undertaken based on information regarding likely creation of any permanent jobs provided by the applicant. As well as direct job creation (e.g. jobs occurring in businesses occupying premises provided as part of the proposed

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<sup>1</sup> Gross Value Added (GVA) is a measure of the contribution that a business, sector or local area makes to the national economy. GVA provides a monetary value for the amount of goods and services that have been produced, less the cost of all inputs and materials that are directly attributable to that production.

<sup>2</sup> Estimates are derived from two datasets comprising: Annual Business Survey estimates of regional GVA contributions by sector (2007SIC); and ONS quarterly regional estimates of Workforce Jobs by sector (2007SIC)

development), the assessment models indirect and induced job effects (i.e. supply chain jobs and multiplier effects).

The economic modelling also provides an estimate of the contribution of the proposed development to GVA through the additional spending power of the new residents who take up accommodation within the project. The chapter assesses the significance of the likely socio-economic effects of the project during the operational phase based on the magnitude of the impact and the sensitivity of the receptor groups.

### 10.2.3.3 Sensitivity criteria

There are no published standards that define receptor sensitivity relating to socio-economic assessment. In this assessment the sensitivity of each receptor or receptor group is based on a judgement of its importance or scale and the ability of the baseline to absorb or be influenced by the identified effects.

In assigning receptor sensitivity, consideration has been given to the following:

- the importance of the receptor;
- the availability of comparable alternatives or substitutes;
- the ease at which the resource could be replaced;
- the capacity of the resource to accommodate the identified impacts over a period of time; and
- the level of usage and nature of users.

Based upon professional judgement and experience on other large-scale projects, four levels of sensitivity are used in the assessment: High; Medium; Low; and Negligible. These are defined in the table below.

**Table 10.1 Socio-economic sensitivity criteria**

Sensitivity	Description
High	<p>The receptor:</p> <ul style="list-style-type: none"> <li>• Has little or no capacity to absorb change without fundamentally altering its present character; or</li> <li>• Is of high socio-economic value; or</li> <li>• Is of national or international importance; or</li> <li>• Is accorded priority in national policy; or</li> <li>• Has no alternatives with available capacity within its catchment area.</li> </ul>
Medium	<p>The receptor:</p> <ul style="list-style-type: none"> <li>• Has moderate capacity to absorb change without fundamentally altering its present character; or</li> <li>• Has a moderate socio-economic, recreational or tourism value; or</li> <li>• Is of regional importance; or</li> <li>• Is accorded priority in local policy; or</li> <li>• Has some alternatives with available capacity within its catchment area; or</li> <li>• Forms part of a cluster of low sensitivity receptors.</li> </ul>
Low	<p>The receptor:</p> <ul style="list-style-type: none"> <li>• Is tolerant of change without detriment to its character; or</li> <li>• Is of low socio-economic, recreational or tourism value; or</li> <li>• Is of local importance; or</li> <li>• Is accorded low priority in policy; or</li> <li>• Has a choice of alternatives with available capacity within its catchment area.</li> </ul>

Sensitivity	Description
Negligible	The receptor is resistant to change and is of low socio- economic or there is a wide choice of alternatives with available capacity within its catchment area.

In considering the sensitivity of a receptor for the purpose of socio-economic assessment, sensitivity is often subjective and different receptors will have differing sensitivities depending on matters such as the economic profile of the local area.

#### 10.2.3.4 Magnitude of Change (Impact)

There are no published standards that define thresholds of magnitude for socio-economic impacts. As an aid to clear and robust identification of significant effects, specific and targeted criteria for defining the magnitude of impacts have been developed for this assessment based on experience with similar types of housing or mixed-use development projects located elsewhere.

The following four levels of magnitude have been adopted using professional judgement: High; Medium; Low and Negligible. These impacts can be beneficial, adverse or neutral. Proposed criteria for each of these levels of magnitude for each receptor group are set out in the table below.

**Table 10.2 Magnitude of change (impact) criteria**

Receptor Group	High	Medium	Low	Negligible
<b>Business base (e.g. potential business suppliers to the project)</b>	An impact that would dominate over baseline local economic conditions.	An impact that would be expected to result in a moderate change to baseline local economic conditions.	An impact that would be expected to result in a perceptible difference from baseline local economic conditions.	An impact that would not be expected to result in a measurable variation from local baseline local economic conditions.
<b>Local Labour Market</b>	An impact that would dominate over baseline local labour market conditions and/or would affect a large proportion of the existing resident workforce.	An impact that would be expected to result in a moderate change to baseline local labour market conditions and/or would affect a moderate proportion of the existing resident workforce.	An impact that would be expected to result in a perceptible difference from baseline local labour market conditions and/or would affect a moderate proportion of the existing resident workforce.	An impact that would not be expected to result in a measurable variation from baseline local labour market conditions.

#### 10.2.3.5 Significance of effects

The level of effect of an impact on socio-economic receptors is assessed by combining the magnitude of the impact and the sensitivity of the receptor. The level of effects presented in the table below provides a guide to decision making with respect to the significance of anticipated effects

Sensitivity or Value of Resource or Receptor	Magnitude of Impact			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Negligible	Minor	Negligible	Negligible	Negligible

Where an effect is classified as **Major**, this is considered to represent a ‘significant effect’ in terms of the EIA Regulations.

Where an effect is classified as **Moderate**, this may be considered to represent a ‘significant effect’ but should always be subject to professional judgement and interpretation, particularly where the sensitivity or impact magnitude levels are not clear or are borderline between categories or the impact is intermittent.

The Level of Effects Matrix shown in the table above provides a guide to decision making but is not a substitute for professional judgment. Impacts and effects can be beneficial, neutral or adverse and these would be specified where applicable. It should be noted that significant effects need not be unacceptable or irreversible.

### 10.3 BASELINE CONDITIONS: ECONOMY AND LABOUR MARKET

This section sets out the baseline conditions for the economy and labour market that is relevant to the socio-economic assessment at the spatial level of the Borough of Welwyn Hatfield. Where relevant, benchmark data is also provided for the East of England region and for Great Britain. In most cases the data used is sourced from ONS datasets with data accessed via the NOMIS portal on 19<sup>th</sup> September 2018.<sup>3</sup>

#### 10.3.1 Resident and working age population

Estimates of population characteristics of local authorities in 2017 is available from the ONS Population Estimates data series. The most recent data for the Borough of Welwyn Hatfield indicate an overall resident population of about 122,300 persons, with an estimated 81,000 (66.2%) within the Working Age Population age range (16-64 years).<sup>4</sup> For comparison purposes, 61.3% of the population of the East of England is defined as working age, while for GB it is 62.9%. This suggests that the population of Welwyn Hatfield is slightly younger than for the benchmark areas.

#### 10.3.2 Labour market indicators

A commonly used measure of labour market performance is the economic activity rate. This is the proportion of the working age population that are either in employment or who are looking for and available to work.

<sup>3</sup> Exceptions are: (1) the data from the ONS Business Demography data series used to measure local entrepreneurship; and (2) data on commuting obtained from the 2011 Census.

<sup>4</sup> The ONS continue to use the 16-64 age range as their standard definition for working age persons.



Data from the ONS Annual Population Survey (for the quarter up to March 2018) indicates a high level of economic activity in Welwyn Hatfield, with 82.6% of working age people being economically active. This compares to 80.7% for the East of England and 78.4% for GB.

The employment rate also shows above-average levels of labour market activity locally. This data, also sourced from the ONS Annual Population Survey (for the quarter up to March 2018) indicates a local employment rate of 80.8%, compared to 77.6% for the East of England and 75.0% for GB.

A further useful indicator is the model-based estimate of unemployment published by the ONS. This indicator is based on the number of people who are without a job but who are looking for work, irrespective of their eligibility for unemployment-related benefits. The latest model-based estimate of unemployment for Welwyn Hatfield is 3.4% of those who are economically active, compared to 3.7% for the East of England region and 4.3% for GB.

All three labour market measures indicate a level of labour market activity that is significantly higher than average across the region and nationally. Furthermore, trend data suggests that the local labour market has persistently been subject to higher than average levels of activity.

Persistent high levels of economic activity can cause problems for employers as they can find it difficult to recruit the numbers of workers and the types of skills they need.

### 10.3.3 Business base

The most important source of job growth in the UK economy is demand driven by the private sector. Since 2010 over 100% of net job creation has been driven by the demand for workers by private sector employers (i.e. there has been a small net reduction in employment by public and third sector organisations over the same time period).

Since 2010 the number of business establishments in Welwyn Hatfield has grown by about 27%, representing a net gain of around 1,240 local business units. This compares to an average increase of 23% across the East of England and 22% across Great Britain as a whole.

This data suggests that Welwyn Hatfield is a successful business location, with new business units being formed by a combination of inward investment and local start-ups. However, businesses require access to a workforce to thrive and grow, so future labour supplies will be important in maintaining local business competitiveness.

### 10.3.4 Entrepreneurism

Data from the ONS business demography data series indicate that there were 840 new enterprise start-ups in Welwyn Hatfield in 2016, the most recent year for which data is currently available. The rate of start-ups in Welwyn Hatfield has increased by around 60% since 2010.

The usual method of benchmarking start-up data is to express the level of start-ups as a rate per 10,000 working age population. On this measure, Welwyn Hatfield had 105.0 starts per 10,000 working age population in 2016. This compared to 120.4 for the East of England and 101.4 for Great Britain.

### 10.3.5 Overall Employment

Jobs density is a measure used by the ONS to measure overall employment, covering both employees in employment and the self-employed.

According to the ONS job density data series, there were 89,000 jobs located in Welwyn Hatfield in 2016. This compares to a level of 73,000 in 2010, suggesting an increase since 2010 of 16,000 jobs. The rate of growth in Welwyn Hatfield is considerably higher than in benchmark areas: since 2010 the overall growth of employment locally has been 21.9% (implying annual growth of 3.4% p.a.). The equivalent overall growth rates for the East of England and GB over the same period are 13.3% and 12.3% respectively.

These data indicate a considerably stronger rate of job growth in Welwyn Hatfield compared to both regional and national benchmarks.

Another aspect revealed by the job density data series is the ratio of local jobs to the resident working age population of an area (i.e. those aged 16-64).

In Welwyn Hatfield, the latest (2016) figure for jobs density ratio is 1.11. This implies that there are 11% more jobs than there are working age residents. This compares to an average job density ratio of 0.83 for the East of England and 0.84 for GB as a whole. Moreover, the increase in the job density ratio in Welwyn Hatfield appears to have occurred at a faster rate than the equivalent rates for the region and nationally.

The overall conclusion that is drawn from the assessment of this data is that labour demand in Welwyn Hatfield has been growing strongly, and at a considerably faster rate than regional and national averages. Partly as a consequence, the local labour market exhibits higher than average levels of activity.

Longer term, there is a danger that tightening local labour market conditions mean that local employers (including businesses and public sector organisations) could experience increasing difficulties in recruiting or retaining workers.

#### 10.3.6 Employment by industry

It isn't possible to obtain detailed estimates of the breakdown of self-employment by sector at a local authority level. The analysis here is therefore confined to an assessment of the contribution to employees in employment by sector. The data on this comes from the annual Business Register and Employment Survey produced by ONS. The most recent data at the time of writing is for 2016.

The table below set out the latest (2016) data for employees by industry. The table also provides statistics on the proportion of overall employees in employment by industry and provides comparable data for the East of England region and for GB.

The data indicates that above-average contributions to employment are made by sectors including Wholesale and retail trade, Information and communication services and Other services. On the other hand, sectors such as Manufacturing and Financial services are significantly under-represented in Welwyn Hatfield compared to national and regional averages.

**Table 10.3: Employees in employment, Welwyn Hatfield, 2016**

Sector	Employees	% of total	East of England % of total	GB % of total
Agriculture, forestry and fishing	10	0.0%	0.7%	1.0%
Mining and quarrying	0	0.0%	0.2%	0.1%
Manufacturing	3,750	4.7%	8.1%	7.9%
Electricity & gas	0	0.0%	0.4%	0.2%
Water supply & waste management	1,375	1.7%	0.7%	0.7%
Construction	4,250	5.3%	4.6%	5.5%
Wholesale and retail trade	19,500	24.4%	15.2%	16.7%
Transportation and storage	3,500	4.4%	4.8%	5.1%
Accommodation and food services	3,250	4.1%	7.4%	6.5%
Information and communications	4,000	5.0%	4.2%	3.9%
Financial services	600	0.8%	3.5%	2.4%
Property services	700	0.9%	1.6%	1.4%
Professional services	7,000	8.8%	8.6%	8.6%
Business support services	7,500	9.4%	8.9%	11.2%
Public administration and defence	3,000	3.8%	4.3%	3.4%
Education	7,500	9.4%	8.9%	9.0%
Human health and social work activities	9,500	11.9%	13.2%	11.7%
Arts, entertainment and recreation	1,000	1.3%	2.5%	2.7%
Other service activities	3,750	4.7%	2.0%	2.0%
<b>Total</b>	<b>80,000</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ONS BRES survey, 2016

### 10.3.7 Commuting patterns

The best source of detailed information on commuting patterns remains the 2011 Census of Population. The 2011 census revealed that there is substantial net in-commuting to Welwyn Hatfield from other areas. In particular, while just under 23,000 local residents commute out of the Borough to work, the number of people residing in other areas who travel in to the Brough for work is just over 38,500. Thus, there is net in-commuting of around 15,500 workers.

Given the substantial growth in employment in Welwyn Hatfield since 2011, the net commuting situation is likely to have increased (i.e. it is likely that the number of in-commuters has grown significantly). This conclusion is also in line with the job density ratio trend revealed by the ONS Job Density data series since 2010, which shows a substantial increase in the number of jobs in the Borough compared to the resident working age population.

The main sources of workers travelling in to the Borough for work are the neighbouring districts of:

- St Albans (12% of in-commuters)
- North Hertfordshire (10%)
- Stevenage (10%)
- East Hertfordshire (9%)
- Central Bedfordshire (6%).

The quantification of commuting patterns using 2011 Census data is of use in estimating the level of leakage that is likely to occur during the construction and operational phases of the project. Leakage in this context is the proportion of expected jobs that could be filled by non-residents of Welwyn Hatfield

Borough. Based on 2011 Census data, around 65% of existing jobs in Welwyn Hatfield are being filled by non-local residents (i.e. residents of surrounding local authority areas who commute into Welwyn Hatfield for work).

### 10.3.8 Earnings

Data on earnings at a local authority level is available from the ONS via the Annual Survey of Hours and Earnings. The data is available both on a workplace basis and a residence basis.

In terms of workplace-based earnings – and focusing on the earnings of full-time workers whose jobs are located in Welwyn Hatfield – those workers earn, on average, 16.4% more than the regional average, and 15.0% more than the national (GB) average.

In terms of residence-based earnings, people who live in Welwyn Hatfield and work full time earn, on average, 5.0% more than the regional average and 9.2% more than the national average.

### 10.3.9 Future labour demand and supply conditions

It is also relevant to consider the potential future direction and strength of demand for workers as well as the potential change to the size of the working age population residing in the area.

- Predictions of the potential future supply of working age residents are available via Government's 2016-based population projections.
- Predictions of the potential future level of demand for workers (i.e. growth of the number of jobs) are available from the East of England Forecasting Model managed on behalf of the local authorities in the East of England region by Cambridgeshire Insight.

Here, the focus is on the expected future conditions in year 2032, as this is the end of the period covered by the Local Plan that was submitted for Examination in 2017.

The 2016-based population projections produced by the ONS indicate that the working age population of Welwyn Hatfield is expected to grow by just under 7,600 persons between 2018 and 2032, which would be an increase of 9.3%.

If 2016 is taken as the starting point the anticipated increase in working age population is nearly 9,100 persons, which would be growth of 11.3% over the 2016 position.

According to the most up-to-date version of the East of England Forecasting Model (2017), the expected increase in overall levels of employment (i.e. jobs located in Welwyn Hatfield) between 2018 and 2032 amounts to 10,950 jobs. If the starting point is taken as 2016, the anticipated increase according to the EEFM is 12,850 jobs.

On this basis, there appears to be a significant anticipated excess of job growth compared to working age population growth in Welwyn Hatfield over the next 15 or so years.

Without an increase in working age population various scenarios are possible, none of which are beneficial for the local economy or other considerations:

- There may need to be a further significant increase in net in-commuting into the area from other districts. However, this assumes that there are sufficient numbers of available undeployed workers from neighbouring areas.

- The principal challenge for Welwyn Hatfield is that levels of activity in the local labour market are already very high compared to benchmark areas. This suggests that there is comparatively little existing spare capacity in place in the local labour market.
- If supplies of available areas are insufficient, labour shortages could arise with increasingly frequency. In particular, employers could find it increasingly difficult to recruit, with the possibility that investment decisions are delayed or postponed. In extremis, employers may find it more viable to relocate activities elsewhere.

Given these challenges, major residential developments such as that proposed for Hatfield Green would be expected to play an important future role in providing new sources of local resident workers to alleviate existing and potential future labour shortages.

## 10.4 ASSESSMENT OF EFFECTS

There is no industry standard guidance for this type of assessment. The assessment undertaken here is based on experience on similar projects and is focused on both expected construction phase and operational phase effects.

Effects associated with the construction phase of the proposed development are considered temporary and short-to-medium term in duration.

Effects associated with the operational phase of the proposed development are considered long-term effects.

### 10.4.1 Relevant project information

Relevant information on the scale, specification and timing of the proposed scheme is provided in Chapters 1 and 3 of the Environmental Statement and are not repeated here.

In addition, the applicant has provided commercially confidential estimates of the potential financial investment required to provide the infrastructure that would be required for the scheme. Estimates of likely infrastructure development costs – together with estimates of likely costs of constructing the proposed housing and other buildings, such as the Village Centre and primary school – has facilitated the estimation of potential construction phase employment and associated GVA contributions. These estimates have been produced using standard assumptions that are described in more detail in the sub-sections that follow.

Similarly, information on the scale of the school and commercial floorspace has been used to develop estimates of the gross permanent employment generating potential of the scheme, based on standard assumptions obtained from the widely used HCA (now Homes England) *Employment Density* guidance note (2015 edition). Specific details of the assumptions used are set out in the sub-sections that follow.

The assessment considers the potential economic contributions of the proposed scheme, both on a gross and a net basis. Any estimation of net additional impacts needs to define a spatial impact area for the assessment, and here the assessment is undertaken at the spatial level of the local planning authority, i.e. Welwyn Hatfield Borough Council.

## 10.4.2 Construction Phase Effects

### 10.4.2.1 Gross Construction Phase Effects

Although construction phase impacts are by their very nature temporary, for large-scale schemes such as the proposed development these construction phase effects can be both sizeable and extend over a period of several years. In this case, the construction period is expected to extend over a 7-year period (i.e. 2020/21 through to 2026/27).

To understand the potential construction phase impacts that may arise from the proposed development, information on expected infrastructure development costs has been supplied by the applicant. In addition, estimates of the likely construction expenditure associated with the development of housing, the school and Village Centre and other buildings have been developed based on standard assumptions regarding per unit construction costs for each type of building to be included within the proposed scheme.

This process has resulted in an estimate of relevant expenditure expected during the construction phase for the proposed scheme amounting to approximately £261 million (in 2018 prices).

To convert the estimated construction phase expenditure into estimates of temporary construction phase employment, assumptions have been developed based on:

- construction expenditure benchmarks obtained from the BCIS quarterly report series;
- construction phase employment benchmarks developed by the Construction Skills network and UK Contractors Association, using a 2018 price base; and
- the latest (2016) regional employment data for the construction and civil engineering sectors, obtained from the Office for National Statistics (ONS) Business Register and Employment Survey (BRES) (published in September 2017).

Based on this information, the assumptions used in the assessment are as follows:

- one person-year of construction phase job will be supported for every £316,000 of expenditure on developing infrastructure and larger buildings, such as the Village Centre and the school; and
- one person-year of construction phase job will be supported for every £118,000 of expenditure on housing.

Based on the cost information provided by the developer and the assumptions set out above, the estimates for the gross economic effects produced during the construction phase amount to the following:

- 3,438 person-years of direct employment benefiting the construction, civil engineering and allied sectors; plus
- additional GVA accruing to the construction and civil engineering sectors amounting to £101 million (in terms of 2018 prices).

### 10.4.2.2 Net Construction Phase Effects

The estimated result of 3,438 person-years of construction phase employment (and £101 million of GVA) is presented on a gross basis. It is also necessary to estimate the net additional effects at the spatial level of Welwyn Hatfield Borough.

The calculation of net additional construction phase impacts is based on estimating the additionality of the development (i.e. the conversion of gross impact estimates into net impact estimates) covering the additionality factors described below:

1. **Leakage:** is the proportion of project outcomes that benefit individuals or organisations located beyond the relevant area of impact (in this case, beyond the boundaries of Welwyn Hatfield Borough). Leakage is generally higher at a local level, although it also varies by the nature of development type.
2. **Displacement:** is an estimate of the economic activity hosted by the development that would be diverted from other businesses in the relevant spatial area for the assessment (i.e. Welwyn Hatfield Borough). For construction activities displacement rates are usually considered to be very low, because of the temporary, 'one-off' nature of the activities. In the case of the proposed development the amount of displacement expected during the construction phase is zero; and
3. **Multipliers:** composite employment multipliers measure the employment benefits created through the indirect and induced effects of subsequent rounds of direct expenditure in the economy.

The inclusion and quantification of each of these additionality factors is based on the advice found in the HCA (now Homes England) *Additionality Guide* (fourth edition, 2014).

The specific assumptions used in the assessment of construction phase net effects are as follows:

- **Leakage:** 65.4%. That is, of employment created in Welwyn Hatfield, 65.4% of jobs are assumed to be filled by non-local residents, i.e. people who travel into the Borough. This assumption is based on commuting patterns revealed by the 2011 Census.
- **Displacement:** 0%. Displacement is assumed to be zero due to the temporary nature of the activity and that it is considered unlikely that other large-scale local construction projects are expected to be undertaken that could divert local labour resources from the project while it is being constructed.
- **Multipliers:** 0.21. That is, for every 100 jobs created locally during the construction phase, an additional 21 jobs are estimated to be supported via supply chain activity and the local spending of incomes by the construction workforce. This is a standard assumption used in assessments of projects of this type and scale, and is based on a ready reckoner obtained from the current (2014) edition of the HCA (now Homes England) *Additionality Guide*, which is a widely used reference for assumptions of this type for development projects throughout England.

Based on these assumptions, the expected net additional effects of the scheme during the construction phase at the spatial level of Welwyn Hatfield are summarised in the table below. Overall, in net terms the construction phase is expected to support 1,440 person-years of construction-phase employment for residents of Welwyn Hatfield Borough, and to generate net additional GVA worth £42.4 million for the local economy during the period of construction.

**Table 10.4 Estimated Construction Phase Effects**

Indicator	Gross	Net
Employment (person-years)	3,438	1,440
Gross Value Added (£millions, 2018 prices)	£101.4 million	£42.4 million

It is understood that the period of construction is expected to extend over 7 years (i.e. from 2021/21 through to 2026/27). On this basis there would be an average of:

- 491 person-years of gross construction phase employment per annum; and
- 206 person-years of net local construction phase employment per annum during the construction period.

#### *10.4.2.3 Significance of effects*

During the construction phase, employment generated by the proposed development would create an average of 491 person-years of gross additional local construction phase employment per annum.

The current level of construction sector employment in Welwyn Hatfield includes 4,250 employee jobs. There is no ONS data for local self-employment in the construction sector, but nationally self-employment accounts for approximately 15% of sector employment. Assuming this national estimate also applies to Welwyn Hatfield, the overall number of construction jobs located in Welwyn Hatfield is likely to be approximately 4,900.

On this basis, the increment of 491 gross construction jobs annually stimulated by the development would represent approximately 10% of average annual demand for construction sector workers in Welwyn Hatfield.

The magnitude of impact of the construction phase activity on the local construction industry and construction workforce is assessed to be High.

The sensitivity of the local construction industry and construction workforce as a receptor is judged to be Medium.

The assessment of the level of impact is assessed by combining the magnitude of the impact and the sensitivity of the receptor. Based on the table set out earlier in this chapter, the magnitude of impact is assessed to be Major (and positive). Based on the criteria introduced earlier in this Chapter, when an effect is classified as Major, this is considered to represent a significant effect.

Therefore, the expected effect on the development on the local Construction sector as a receptor is assessed to be **Significant** (and positive).

### 10.4.3 Permanent effects

#### *10.4.3.1 Gross permanent effects*

Direct permanent employment (and associated GVA) would be supported by the development in the following element of the scheme:

- Commercial floorspace (retail and offices) located in the Village Centre
- Employment in the primary school
- Employment in the Extra Care Facility.

Estimates of levels of permanent employment in the commercial floorspace are based on:



- Information supplied by the developer on the proposed area of commercial floorspace (local retail and offices) proposed for the Village Centre.
- Average employment densities for the relevant uses, based on standard densities as set out in the current (2015) edition of the HCA (now Homes England) *Employment Density* guide.

The floor area for the proposed Village Centre was supplied by the applicant on a gross external area (GEA) basis. This was then converted to a Net Internal Area (NIA) basis using an average GIA:NIA ratio of 95%.

The assessment is predicated upon the following assumptions:

- Local retail (A1) on the ground floor of the Village Centre: 950 sqm NIA
- Offices (B1a) on the upper floor of the Village Centre: 475 sqm NIA.

The assumptions used to convert NIA floorspace to full time equivalent jobs are:

- A1:1 FTE job per 17.5 sqm NIA
- B1a: 1 FTE job per 15.0 sqm NIA.

The next element to consider is the 2-form entry primary school. Based on research undertaken for a large number of previous assessments of this type, it is assumed that 38 FTE jobs will be required to operate the school.

The estimated number of FTE jobs required to staff the Extra Care facility is also based research undertaken for previous assessments. The number of jobs expected to be required to operate the proposed facility here is estimated to be 12.

The overall estimates for gross permanent employment that are obtained when the various assumptions are applied to the specification of the proposed development are set out in the table below:

**Table 10.5 Estimated Gross Operational Phase Effects**

Element	Gross FTE jobs
Retail (A1) floorspace	54
Offices (B1a) floorspace	32
Primary school	38
Extra care facility	12
<b>Total</b>	<b>136</b>

The overall expected number of gross permanent jobs is 136, with approximately 63% of these contributed by the A1 and B1a floorspace component of the scheme located in the Village Centre.

The annual Gross Value Added that is associated with this level of employment has been calculated using regional datasets produced by the Office for National Statistics (ONS). In particular, ONS estimates for regional GVA by sector (derived from the Annual Business Survey) and regional estimates for workforce jobs by sector (from the Workforce Jobs data series) have been used to derive regional estimates for the amount of GVA per worker associated with each sector relevant to the proposed scheme.

The overall amount of annual GVA expected to be generated by the economic activities taking place within the scheme boundary once the development is built and fully occupied amounts to £4.70 million per annum in terms of 2016 prices.

#### 10.4.3.2 Net permanent effects

The next step is to convert the gross employment impact estimates into net impact estimates using assumptions for the additionality factors (leakage, displacement, multipliers) in a similar way as was undertaken for the construction phase effects in a previous sub-section of this chapter.

Except for leakage (which is based on commuting patterns revealed by the 2011 census), the assumptions used for the additionality factors are based on guidance found in the HCA (now Homes England) *Additionality Guide* and vary by sector. The specific assumptions for each factor are set out in the table below:

**Table 10.6 Estimated Gross Operational Phase Effects**

Activity	Leakage	Displacement	Multipliers
Retail	65.4%	75%	0.21
Offices	65.4%	25%	0.29
Primary school	65.4%	25%	0.29
Extra care facility	65.4%	25%	0.38

The table below sets out the results of the assessment of net employment impacts at the spatial level of Welwyn Hatfield Borough.

**Table 10.7 Estimated Gross Operational Phase Effects**

Element	Gross FTE jobs
Gross employment total	136
Leakage (total)	89
Displacement (total)	21
<b>Total net employment excluding multipliers</b>	<b>26</b>
Multipliers (total)	7
<b>Total including multipliers</b>	<b>33</b>

The overall expected number of gross permanent jobs is 136. However, when displacement and leakage are factored in, this gross total reduces to 26 jobs. In addition, an extra 7 local jobs would be expected to be created at the spatial level of Welwyn Hatfield Borough. The overall net number of FTE jobs expected to be created locally is therefore 33.

Linked to the creation of net employment is the potential for additional economic output (Gross Value added) associated with this employment. As previously stated, the annual GVA associated with the estimated gross employment amounts to £4.70 million per annum (2016 prices) once the scheme is fully built and occupied.

However, when additionality factors are applied, the residual total is expected to amount to £1.12 million per annum in net terms at the spatial level of Welwyn Hatfield Borough.

#### 10.4.3.3 *Significance of effects*

During the operational phase, employment generated by the proposed development would create an average of 136 FTE gross additional jobs locally.

The current size of the local employment base (employees plus the self-employed) in Welwyn Hatfield amounts to about 89,000 jobs.

The increment of 136 net additional permanent jobs stimulated by the development would represent approximately 0.15% of average annual demand for labour in Welwyn Hatfield.

The magnitude of impact of operational phase activity on the local labour market is assessed to be Negligible.

The sensitivity of the local employer base and workforce as a receptor is judged to be Medium.

The assessment of the level of impact is assessed by combining the magnitude of the impact and the sensitivity of the receptor. Based on the table set out earlier in this chapter, the magnitude of impact is assessed to be Negligible. Based on the criteria introduced earlier in this Chapter, when an effect is classified as Negligible, this is considered to represent an insignificant effect.

Therefore, the expected effect of the development during the operational phase on the demand for labour by local employers is assessed to be **Insignificant** (but positive).

#### 10.4.4 Labour supply effects

A further relevant consideration is the potential contribution to the local labour supply expected from the residential population accommodated by the scheme. There are two aspects to this:

- the quantum of working age and economically active residents housed by the scheme; and
- the likely qualifications profile of these residents.

The potential working age population housed by the scheme is estimated by using assumptions about the likely number of working age adults accommodated by each dwelling constructed and occupied.

The specification of the development does not at this stage provide details on the number of units of different sizes that may be built. As a working assumption, and based on experience with similar schemes elsewhere, the number of dwellings of different sizes are assumed to be as follows:

- 1-bedroom dwelling: 165 (15% of the total)
- 2-bedroom dwelling: 330 (30%)
- 3- or 4-bedroom dwelling: 605 (55%)
- Total: 1,100.

It is further assumed that average adult occupancy of the 1-bedroom dwellings is apartments is 1.5 adults. It is also assumed that the average adult occupancy of the 2-bed and 3-bed apartments is 1.8 and 1.9 adults respectively.

It is also assumed that 90% of the dwellings are occupied by adults of working age.

The assumed economic activity rate of working age adults is taken as the current Borough average, which is 82.6%.

Based on all these assumptions, the expected adult, working age and economically active population accommodated by the scheme are set out in the table below.

**Table 10.8: Employees in employment, 2016**

Dwelling type	Number	Adult residents	Working age residents	Economically active residents
1 bedroom	165	248	223	184
2 bedrooms	330	594	535	442
3 or more bedrooms	605	1,150	1,035	855
<b>Total</b>	<b>1,100</b>	<b>1,991</b>	<b>1,792</b>	<b>1,480</b>

Overall, 1,991 adult residents are expected to be accommodated, of whom 1,792 are expected to be of working age and 1,480 are expected to be economically active.

The skills profile of the existing resident population of the Borough of Welwyn Hatfield is revealed by the ONS Annual Population Survey (2017). Additional assumptions have also been deployed to estimate the potential breakdown of the future skills supply likely to be offered by the additional economically active residents accommodated by the development. The results of the assessment are set out in the table below.

Overall, a total of 650 economically active residents are expected to be qualified to degree level or equivalent or higher, equivalent to 44.0% of the total. A further 16.3% are expected to hold intermediate or other qualifications.

**Table 10.9 Qualifications of economically active residents**

Qualification level	Proportion (%) of total	Number of active residents
NVQ4 and over	650	44.0%
NVQ 3	241	16.3%
NVQ 2	278	18.8%
NVQ1	162	10.9%
Other qualifications	88	5.9%
No qualifications	62	4.2%
<b>Total</b>	<b>1,480</b>	<b>100.0%</b>

#### 10.4.4.1 Significance of effects

During the operational phase, the number of economically active residents housed by the proposed development is estimated to amount to 1,480 once the proposed development is fully built and occupied.

The current size of the local economically active workforce amounts to approximately 67,000.

The increment of 1,480 economically active residents housed by the development would represent approximately 2.2% of existing labour supply from residents of Welwyn Hatfield.

The magnitude of impact of operational phase activity on the local labour market is assessed to be High.

The sensitivity of the local employer base and workforce as a receptor is judged to be Medium.

The assessment of the level of impact is assessed by combining the magnitude of the impact and the sensitivity of the receptor. Based on the table set out earlier in this chapter, the magnitude of impact is

assessed to be Major. Based on the criteria introduced earlier in this Chapter, when an effect is classified as Major, this is considered to represent a significant effect (and positive).

Therefore, the expected effect on the development on the future potential supply of workers available to be recruited by local employers is assessed to be **Significant** (and positive).

#### 10.4.5 Household expenditure effects

Another benefit to consider is the aggregate household expenditure that would be expected to be associated with the residential population housed by the proposed development.

The scale of this benefit can be estimated by combining data concerning the expected number and size of households expected to be accommodated by the development with ONS data covering average household expenditure of different types and sizes in the East of England region.

The ONS average household expenditure estimates are sourced from the annual Family Spending Survey series which estimates household expenditure of various types (i.e. different household sizes, compositions and adult ages) at a regional level across the UK.

The table below sets out the estimates for the number of households expected to be accommodated by the proposed scheme with varying numbers of adult age worker (i.e. a working age person who is employed). The table also sets out estimates of average household disposable expenditure associated with each number of workers (including those with no working adults, such as those containing adults who are retired or are economically inactive for other reasons, such as looking after children or being in full time education).

**Table 10.10 Aggregate household expenditure (2017 prices)**

Number of workers in household	Number	Average annual disposable income per household (£)	Aggregate annual disposable income (£m)
1 worker	448	21,002	£9.40m
2 or more workers	626	27,189	£17.02m
No workers	26	16,581	£0.44m
<b>Total</b>	<b>1,100</b>		<b>£26.86m</b>

Given the number of units, average occupancy and expected average levels of household expenditure, it is expected that the aggregate level of gross household expenditure associated with the development would be £26.86 million per annum (2017 prices).

Based on the estimated total levels of household expenditure and an additional set of assumptions about the average level of expenditure required to support a job in the area, it is possible to estimate the direct and indirect/induced employment consequences of this additional expenditure on the local economy. The results of this estimation are as set out in the table below:

The expected aggregate level of annual household expenditure is expected to be sufficient to support 193 gross jobs, and when indirect effects are also included the total rises to 234 jobs. However, when additionality factors are taken into account (i.e. displacement and leakage), the expected level of net employment supported is equivalent to a total of 82 jobs at the spatial level of Welwyn Hatfield Borough.

**Table 10.11 Estimated local employment supported by household spending**

Indicator	Welwyn Hatfield
Direct employment supported	193
Total gross employment supported	234
Local employment supported	82

However, it should be noted that these employment estimates cannot be simply added to the job totals previously estimated for the commercial floorspace (retail, offices, etc.). This is because of the danger of double-counting, as some of the jobs:

- in the commercial floorspace may be supported by resident household expenditure; and
- some of the jobs in the commercial floorspace jobs may be filled by residents of the scheme.

#### 10.4.5.1 Significance of effects

During the operational phase, employment generated by the proposed development would create an average of 234 gross jobs locally (including indirect effects).

The current size of the local employment base (employees plus the self-employed) in Welwyn Hatfield amounts to about 89,000 jobs.

The increment of 234 gross additional permanent jobs stimulated by the development would represent approximately 0.3% of average annual demand for labour in Welwyn Hatfield.

The magnitude of impact of operational phase activity on the local labour demand via additional household expenditure is assessed to be Low (and positive).

The sensitivity of the local employer base and workforce as a receptor is judged to be Medium.

The assessment of the level of impact is assessed by combining the magnitude of the impact and the sensitivity of the receptor. Based on the table set out earlier in this chapter, the magnitude of impact is assessed to be Minor (and positive).

Based on the criteria introduced earlier in this Chapter, when an effect is classified as Minor, this is considered to represent an insignificant effect.

Therefore, the expected effect on the development on local employment via household expenditure effects is assessed to be **Insignificant**.

#### 10.4.6 Cumulative Effects

In relation to economic effects, cumulative effects depend on the extent to which the supply chain and labour market within the Borough have the capacity to meet demand from a number of similar types of development projects in addition to the proposed development that is the subject of this impact assessment.

If similar projects are identified, then an assessment is made as to whether it is considered likely that the cumulative effect indicates either:

- a loss of benefit as a result of cumulative projects (for example, if the scale of cumulative development indicates that the local supply chain would struggle to meet demand from a range of development projects simultaneously); or
- an enhancement of opportunity which would help to develop expertise and capacity in the market (for example, if the scale of development is sufficiently large or sustained to attract new entrants into the local supply chain).

However, in the case of the current application, an assessment of the potential pipeline of other consented residential and mixed-use developments plus a search for other potential projects that may be under development has revealed no local projects that could result in effects of either of the types discussed above. That is, there are no identified projects that are judged to potentially result in the quantified project-specific effects for the development of the Land to the West of Hatfield being reduced or enhanced compared to the estimates presented earlier in this chapter.

The conclusion with respect to cumulative impacts, therefore, is that there is no alteration to the project-specific results presented earlier, and that the assessment of the significance of the expected project-specific effects is unaltered.

## 10.5 MITIGATION

### 10.5.1 Construction Phase

No significant adverse effects are expected during the construction phase, and no additional mitigation is required.

### 10.5.2 Operational Phase

No significant adverse effects are expected during the operational phase, and no additional mitigation is required.

## 10.6 RESIDUAL EFFECTS

As there are no expected adverse residual effects there is no requirement for additional mitigation.

## 10.7 SUMMARY OF EFFECTS

During the construction phase, the proposed development would be expected to create 1,440 net additional person-years of local construction phase employment and £42.4 million of GVA in the local economy (i.e. at the spatial level of Welwyn Hatfield) over a 7-year construction period.

This effect is assessed to be Significant (and positive).

During the operational phase, the proposed development would be expected to create 136 gross FTE permanent jobs at the spatial level of Borough of Welwyn Hatfield.

This effect is assessed to be Insignificant (but positive).

In addition, during the operational phase, the expected aggregate level of increased annual household expenditure arising from the 1,100 new homes proposed by the development is expected to be sufficient to support 234 gross jobs in total, of which 82 would be expected to accrue to residents of the Borough

of Welwyn Hatfield. However, it is inadvisable to add these numbers to the employment assessment, as the commercial floorspace may be supported by resident household expenditure; and some of the jobs in the commercial floorspace jobs may be filled by residents of the scheme.

This effect is assessed to be Insignificant (but positive).

Furthermore, during the operational phase the proposed development would be expected to contribute an additional 1,480 economically active adult residents to the local supply of labour.

This effect is assessed to be Significant (and positive).

## 10.8 CONCLUSIONS

The proposed development would lead to beneficial effects on employment and the generation of additional economic output for the local economy of the Borough of Welwyn Hatfield. Moreover, the scale of two types of positive effects are assessed to be Significant:

- The demand for workers and stimulus to the local construction sector during the construction phase is assessed to be Significant (and positive); and
- The contribution of the scheme to the future supply of labour for the economy of Welwyn Hatfield is also assessed to be Significant (and positive).

There are not expected to be any significant adverse socio-economic effects from the proposed scheme.

## 10.9 REFERENCES

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