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Harlow Gilston Garden Town Employment Commission

Draft Report v3.0

January 2020

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Foreword

TBC by client to set out vision for Garden Town and context in respect of employment.

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Job Number:	19 03 02
Version Number:	Draft v3.0
Approved by:	Stuart Hardisty
Date:	30/1/20

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Executive Summary

Introduction

- i. Hardisty Jones Associates was appointed by the Harlow Gilston Garden Town (HGGT) Employment Workstream¹ to undertake research on the future employment role and function of the HGGT, with a particular focus on the implications for employment (B Use Class) sites and premises.
- ii. Existing policy and strategy sets out a range of underlying principles for HGGT. At the heart of the rationale for the HGGT is the ambition to strengthen and grow the Harlow economy, and to deliver the capacity to regenerate the town centre. The established principles are a key reference for this new research on the future economic and employment role and function of the Garden Town, in terms of both the nature and scale of ambition, and the development of a high level employment sites strategy.
- iii. The brief for this study set out four key objectives/questions:
 1. Based on existing economic data for the sub region and other work undertaken to date, provide an assessment of the opportunities for sustainable job generation across the HGGT in relation to the known housing trajectory growth of 23,000 minimum homes
 2. Which employment sectors/industries are likely to create the jobs growth?
 3. What is the appropriate quantum and type of employment/business accommodation required to accommodate the economic and employment growth?
 4. What is the employment land requirement to accommodate the economic and employment growth based upon the outcomes of questions 1, 2 and 3?
- iv. Following consideration of these four questions the requirement included a high level strategy for the allocated employment sites within the HGGT.

Headline Employment Growth Scenarios

- v. When interpreting analysis of future requirements it is vital to recognise the inherent uncertainty. The assessment of future employment growth scenarios draws together currently available evidence in order to take informed and considered views of what might reasonably happen, or need to happen.
- vi. The analysis of headline employment scenarios is predicated on planned residential growth at the HGGT of approximately 16,000 dwellings over the period 2011-33, with a minimum of 7,000 further dwellings post 2033.
- vii. Data from the 2011 Census shows that at the start of the analysis period Harlow had a broadly balanced labour market with around 40% in- and out-commuting, approximately 16,000 persons in each direction. Stakeholder consultation has identified that maintaining a balanced labour market is a desirable outcome for the HGGT, minimising the need to travel as far as possible and encouraging sustainable travel where possible.

¹ A number of workstreams have been set up to develop the concept of the HGGT. The Employment Workstream is tasked with considering the matters around economic development.

- viii. In considering the future scale of employment growth required to deliver a balanced labour market at the HGGT, this analysis has shown there will need to be 19,000 – 21,500 additional jobs over the current plan period 2011-33, with a further minimum of 8,500 – 9,000 post 2033.
- ix. This will require significant levels of growth, relative to historic and baseline forecasts to align to the population rising from around 80,000 in 2011 to 120,000 by 2033 and above 135,000 when the full complement of housing is delivered. In employment terms the HGGT will increase from some 40,000 jobs in 2011 to more than 60,000 jobs by 2033 and around 70,000 jobs when all 23,000 additional dwellings are occupied.
- x. To align to the employment land evidence base prepared to inform the Harlow, East Hertfordshire and Epping Forest District Local Plans a shortened analysis period of 2016-33 has been considered. After considering actual growth over the period 2011-16, minimum requirements of 15,000 additional jobs 2016-33 with a further 8,500 post 2033 were identified.
- xi. The review of policy and strategy, as well as stakeholder consultation has identified a number of clear opportunities which create the potential to achieve this step change in jobs growth at the HGGT. The current target sectors of advanced manufacturing; ICT and digital; life sciences; and medical technologies were confirmed as appropriate. However, it is recognised that opportunity alone is insufficient and success is not guaranteed. There is therefore a need for clear vision and strong leadership to deliver this economic transformation. The relocation of PHE to Harlow is a key opportunity and the benefits of this need to be maximised.

Sector Mix of Growth

- xii. The West Essex and East Hertfordshire Assessment of Employment Needs (October 2017) has been used as a starting point for more detailed sectoral analysis.
- xiii. The Harlow District element of the 2017 Assessment of Employment Needs formed the first building block of sectoral analysis. This estimated approximately 8,500 additional jobs over the period 2016-33. This falls well below the 15,000 required jobs for this period.
- xiv. Apportioning part of the identified employment growth of East Hertfordshire and Epping Forest Districts, reflecting the apportionment of housing growth within these areas to the HGGT, could add a further 5,000 jobs.
- xv. Two further uplifts were identified that may deliver broad labour market balance at the HGGT. Firstly, an uplift to employment in the education sector, based on a bottom up review of future educational requirements set out in the HGGT Infrastructure Delivery Plan (2019). Secondly, a further boost to key target sectors over and above that included in the 2017 Assessment of Employment Needs. Making such uplifts retains consistency with the 2017 analysis, which noted a further 2,100 jobs required to balance the FEMA wide labour market but without clarity on where these could or should be located. This HGGT focused analysis suggests the vast majority of these should be targeted at the HGGT in order to support achievement of the balanced community ambitions.
- xvi. The largest growth sectors 2016-33, in jobs terms, are expected to be:
- Health & Care
 - Research & Development

- Public Administration²
- Education
- Business Services
- Professional Services
- Construction
- Accommodation and Food Services

- xvii. Post 2033 the education and health and care sectors are expected to continue to be significant employment growth drivers.
- xviii. This analysis shows that a significant level of employment growth at HGGT will arise within the core or foundational economy i.e. that part of the economy that makes a place function effectively. This includes health and care, education, construction, leisure and retail.
- xix. However, increasing the size of the tradeable economy will be essential in creating a vibrant economy and bringing wealth to the area, as well as sufficient employment to meet the needs of the growing workforce. Significant growth will come from the relocation of PHE. Further jobs growth in the tradeable economy will need to be secured, through maximising the benefits of the PHE relocation, the Business Innovation Centre at Harlow Science Park, and committed efforts to realise the opportunities presented by being within the UK Innovation Corridor including potential overspill from Cambridge and London.

Employment Sites and Premises Requirements

- xx. The assessment of future employment sites and premises requirements has been undertaken to be consistent with the 2017 Assessment of Employment Needs. Over the period 2016-33 a requirement for an additional 7-9ha of employment land has been identified. This is over and above the requirements as set out for Harlow in the 2017 study which has informed the Harlow Local Plan allocations. This comprises 1 – 3ha for B1a office uses, 2.5ha of B1b R&D uses and 3ha for B1c/B2/B8 industrial and warehouse uses. When aggregated with the Harlow requirements from the 2017 analysis this creates a total quantitative need for the HGGT over the period 2016-33 (aligned to the respective Local Plans) of 25 – 29ha.
- xxi. The period beyond 2033 has not yet been considered in other evidence, given that it extends beyond the Local Plan periods. Notwithstanding, appropriate consideration should be given to any sites anticipated to play a long-term role in the delivery of HGGT. Long term future requirements at the HGGT will comprise both net additional requirements and the need to facilitate further modernisation and replacement of existing stocks. Analysis based the net additional requirements arising from a minimum of 7,000 dwellings post 2033 plus replacement requirements to maintain a healthy commercial property stock over a 10-year period indicates a longer-term quantitative need for a further minimum of 3.5 – 9ha of land for office uses and 8ha for industrial and warehouse uses.
- xxii. In qualitative terms there are changing trends in the commercial employment property markets. There are likely to be further changes over the period to 2033 and beyond, as working practices change. This will require appropriate flexibility and a ‘plan, monitor, manage’ approach.

² Along with Research & Development this includes the uplift for PHE relocation.

- xxiii. Within the office market the primary changes are being driven by ensuring access to amenities for workers. This is driving office requirements to town and city centres with good public transport access and nearby leisure, retail and services. This has potential implications for future town centre redevelopment at HGGT. There is also a move to more flexible workspaces and tenures, with office space being viewed as a service rather than a commodity. This flexibility includes offices in non traditional settings, integrated with other uses such as hotels, cafes and retail centres. Whilst homeworking may be more prevalent, there is a continued desire to enable collaboration and interaction. Discussion with local agents has indicated that Harlow is not currently a primary office location and there will need to be a substantial change in perception for this to change. Most large requirements have arisen from relocations within the town. Future requirements are therefore expected to be predominantly for smaller flexible workspaces.
- xxiv. Within the industrial market the evidence suggests continued requirements for new stock to enable modern working practices and technology. The trend is also towards smaller unit sizes. The primary focus for HGGT is expected to be small units and grow on space. The current industrial market in Harlow is viewed as very strong with low void rates and evidence of new developments proving successful.
- xxv. Within the storage, distribution and logistics markets there is a separation between very large regional distribution centres and more localised final mile centres. There is also evidence of a move towards more intensive use of space including multi storey development to reduce land costs. The primary concern for HGGT is footloose logistics uses swallowing up all available supply which constrains growth in target sectors.

High Level Employment Sites Strategy

- xxvi. The assessment of requirements over the 2016-33 period estimated a need for a minimum of 25-29ha. This compares to identified supply within the three Local Plans of 27ha plus further opportunities in Harlow Town Centre and the redevelopment of an additional 1ha at Dorrington Farm. In purely quantitative terms this suggests that there is sufficient supply to meet minimum requirements to 2033. However, this is reliant on the vast majority of land coming forward and little or no additional capacity to meet requirements beyond 2033 identified at present.
- xxvii. Much of the allocated supply is designated for B1 uses. It is likely that this will need to include a range of B1b/c R&D and light industrial activities to align to the anticipated mix of requirements. It will also be important that the vast majority of identified allocations come forward within the plan period. This includes the majority of the 5ha at Gilston.
- xxviii. There have been high levels of activity on previously used employment sites, bringing forward new employment development. This was a critical element of the 2017 Assessment of Employment Needs for Harlow. Emerging development is broadly aligned to the anticipated mix of re-use activity within the earlier research. In order to meet the full requirement the redevelopment of Templefields will be important, this site has been subject to less activity to date.
- xxix. The high-level sites strategy has been devised to support and deliver the wider strategic principles of the HGGT, in particular facilitating the economic revitalisation of Harlow and maximising the potential of its key development sites and regeneration opportunities, including the Enterprise Zone. These larger sites will be important in accommodating the bulk of employment development. The strategy recognises the centrality of the sustainable travel aims and this has been a key influencing document.

- xxx. The strategy for employment allocations at the new Garden Communities has been developed to ensure they are able to be 'economically vibrant in their own right' as well as providing a range of local services and workspace to enable sustainable travel aims. This reflects the important placemaking role of providing employment premises within the new Garden Communities, as well as contributing to the wider needs of HGGT.
- xxxi. The Harlow Business Park, Harlow Science Park and East Road allocations within the Harlow Local Plan should be progressed as anticipated. Harlow Science Park should continue to be protected as a premium site aligned to the economic ambitions around the target sectors. Early thought should be given to where further Science Park related development might be located in the long term given limitations on expansion to the current site. Harlow Business Park should be developed in keeping with its surroundings with potential for a mix of B1a, b and c uses. East Road has a permitted/constructed scheme which is almost fully taken up. The larger employment sites at Harlow should be used to accommodate larger occupiers and users which may not be appropriate within the new Garden Communities.
- xxxii. Within the new Garden Communities there are two employment allocations. The 1ha (+1ha) allocation at Dorrington Farm within the Latton Priory Garden Community should provide a minimum of 15,000sqm of B Use Class floorspace including a mix of B1 uses comprising both office and light industrial/workshop space.
- xxxiii. A significant proportion of the 5ha allocation at Gilston for B1, B2 and B8 uses will be required within the current plan period. A minimum of 20,000sqm of B Use Class floorspace should therefore be delivered by 2033, with the ambition for a total of 34,000sqm at completion. Consultation has identified opportunities linked to proximity to key transport infrastructure such as the A414 and Harlow Town rail station. This should be a focus for the majority of employment provision, with the remainder provided within other village centres. This will include industrial premises, workshops and grow on space for SMEs (both office and industrial).
- xxxiv. New Garden Communities should include integrated mixed-use centres which feature employment uses, including facilities such as workhubs or serviced offices. These should be in close proximity to local amenities (retail and leisure) and with good public transport access. This can serve local micro businesses and SMEs as well as homeworkers. These are unlikely to be large scale and should not compete with Harlow town centre.
- xxxv. Harlow Town Centre has been identified in the Harlow Local Plan as having potential for office development. This will be examined through development of an Area Action Plan. Based on trends in the office market, integration of office development within the town centre should be a key ambition in order to deliver vibrancy and provide an offer aligned to the needs of modern occupiers.
- xxxvi. There is concern that footloose logistics development could crowd out higher value industrial uses and hamper efforts to achieve the economic ambitions for the HGGT, particularly given the proximity of HGGT to both the M11 and M25 providing strong attraction for such users. The allocation of new employment sites at Harlow for B1 uses is therefore helpful in protecting these sites. However, there is a need to strategically plan long term for large scale footloose logistics uses across a wide geography given their role as critical economic infrastructure for the modern economy. Without alternative appropriate long term locations for such uses pressure will remain on sites in and around the HGGT which is a clear risk to the ambitions for transformation. This

should be explored with stakeholders with a wider geographic focus such as the LEPs and UK Innovation Corridor.

Wider Issues

- xxxvii. Through the course of undertaking this research a number of wider issues relevant to the economic future of the HGGT have been highlighted. These are not specific to employment sites and premises but they should be recognised by stakeholders.
- xxxviii. Firstly, the scale of employment growth that is required to deliver a balanced labour market is well ahead of historic levels of growth. Whilst there are opportunities and drivers with the potential to enable this level of growth to be achieved there is a recognition that there is a need to be proactive in securing it. There is therefore a need for a long term economic vision and committed leadership to drive a high profile economic growth agenda. If the economic development focus is merely in the background there is a clear risk that growth will be predominantly residential led with an increasing dormitory status for the HGGT which will not meet sustainable travel targets. Through new funding routes including the Future High Streets Fund and Town Deal, the latter of which has led to the establishment of a Town Growth Board, there is already a strengthening of the leadership offering. This requirement for a step change in growth is also consistent with the Harlow Economic Development Strategy and underpinning ambitions of the HGGT.
- xxxix. Secondly, delivering a high quality housing mix and town centre regeneration have been identified as critical to enabling the economic ambition to be achieved. The challenges surrounding town centre regeneration in particular are recognised. There are strong interrelationships between housing, town centre regeneration and high value employment growth which creates a 'chicken and egg' dilemma. For this reason a very pro-active public sector led approach has been suggested.
- xl. Thirdly, it is a key ambition of the HGGT that existing residents of Harlow are able to participate in the benefits of economic growth and development. This analysis has identified that employment growth is likely to be spread across a range of sectors within the foundational and tradeable economy. However, this analysis has not considered the skills needs arising from the indicated employment growth. This will need to be a key part of the economic strategy of the HGGT, recognising the rapidly changing skills requirements within sectors.
- xli. Finally, the relocation of PHE is a major boost to the economic transformation of the area. The potential to drive further growth as a result of this is as yet unproven and unquantified but has been recognised as an opportunity. Over time, the establishment of a critical mass of highly skilled workers at PHE has the potential to create significant spin-out activity and PHE could become an anchor of a public health related cluster. The activity related to maximising the local benefits of this relocation to HGGT and the wider area will likely need leadership and coordination from outside PHE, in partnership with relevant PHE staff.

1 Introduction

1.0.1 Hardisty Jones Associates was appointed by the Harlow Gilston Garden Town (HGGT) Employment Workstream³ to undertake research on the future employment role and function of the HGGT, with a particular focus on the implications for employment (B Use Class) sites and premises.

1.1 What is the Harlow Gilston Garden Town?

1.1.1 The HGGT is now a well-established proposal to support the growth needs of the West Essex and East Hertfordshire area. A vision document was published in November 2018 setting out the latest thinking. Proposals include 16,000 additional homes within the current plan period to 2033, with a minimum of 7,000 further homes beyond the plan period.

1.1.2 The HGGT covers the entirety of the district of Harlow, with significant proposed development around its fringes within the districts of East Hertfordshire and Epping Forest. This includes four new Garden Communities comprising approximately 10,000 homes in the Gilston Villages area to the north of Harlow, as well as substantial new residential development at Water Lane, Latton Priory and East of Harlow.

1.1.3 Figure 1.1 illustrates the proposals for the Garden Town. The coloured blocks highlight the most substantial areas of new development at various locations around the edges of the existing Harlow settlement.

1.2 Underlying Harlow Gilston Garden Town Economic Principles

1.2.1 Existing policy and strategy sets out a range of underlying principles for HGGT. At the heart of the rationale for the HGGT is the ambition to strengthen and grow the Harlow economy, and to deliver the capacity to regenerate the town centre. The established principles are a key reference for this new research on the future economic and employment role and function of the Garden Town, in terms of both the nature and scale of ambition, and the development of a high level employment sites strategy.

1.2.2 Key principles set out in the HGGT Vision document relevant to the economy and employment include the need to be:

- Adaptable – able to respond to economic shifts and the emergence of new sectors;
- Sustainable – with people inspired to work locally and encouraged to travel actively; and
- Innovative – spearheading the nation’s response to the UK Industrial Strategy.

1.2.3 The economic strategies set out in the relevant Local Plans and the Harlow Economic Development Strategy are consistent in seeking to secure the economic revitalisation of Harlow and capitalise on its location at the heart of the UK Innovation Corridor. Housing growth and developing critical mass is being utilised as a key enabler of this vision.

1.2.4 Across the relevant documentation is a clear articulation of the opportunities around key sectors such as life sciences, public health, medical technologies, advanced manufacturing, ICT and digital. Existing policy and strategy also supports key site development at Harlow Science Park,

³ A number of workstreams have been set up to develop the concept of the HGGT. The Employment Workstream is tasked with considering the matters around economic development.

the relocation of Public Health England and through the presence of the Harlow Enterprise Zone, which includes the regeneration of existing employment areas. As well as key employment sites there is a desire that new Garden Communities are economically vibrant in their own right. Town centre renewal is also a central aim of the HGGT ambition, in order to deliver an offer that complements and enables the economic growth ambition. This vision is being supported through ongoing work to secure investment through the Future High Streets Fund and a Town Deal.

- 1.2.5 Sustainability runs wide and deep throughout the ambitions for HGGT, with the Transport Strategy there is a clear target that 60% of all journeys within the new Garden Communities and 50% of all journeys across Harlow will be undertaken by sustainable modes. As a result the strategy is clear that a hierarchy of importance for travel needs to influence HGGT activity: reducing the need to travel; walking and cycling; public transport; and private vehicles.
- 1.2.6 Delivering the sites and premises required to enable the economic ambition, aligned to the HGGT principles, is therefore critical. This is identified within the Harlow Economic Development Strategy and Local Plan.
- 1.2.7 Appendix 2 to this report sets out summaries of the key policy and strategy documents.

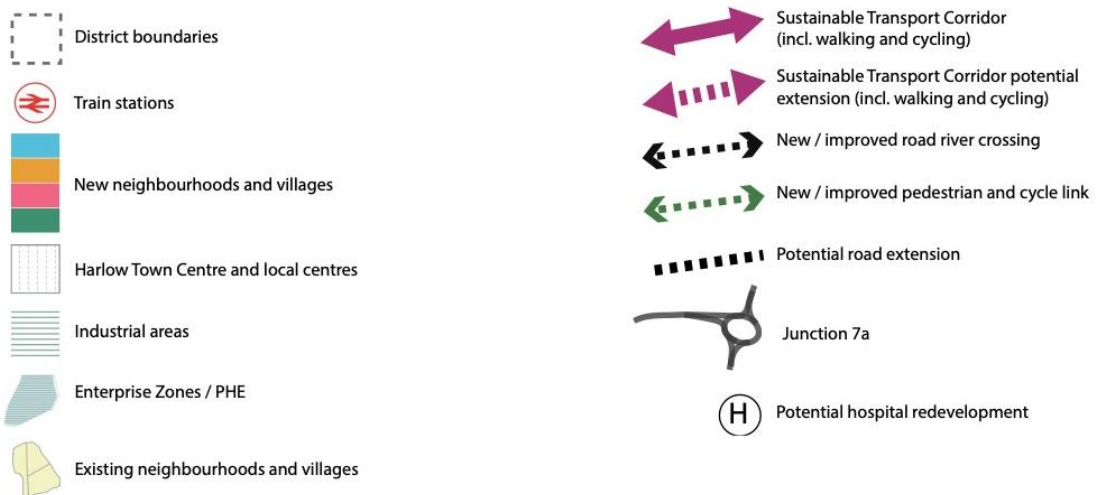
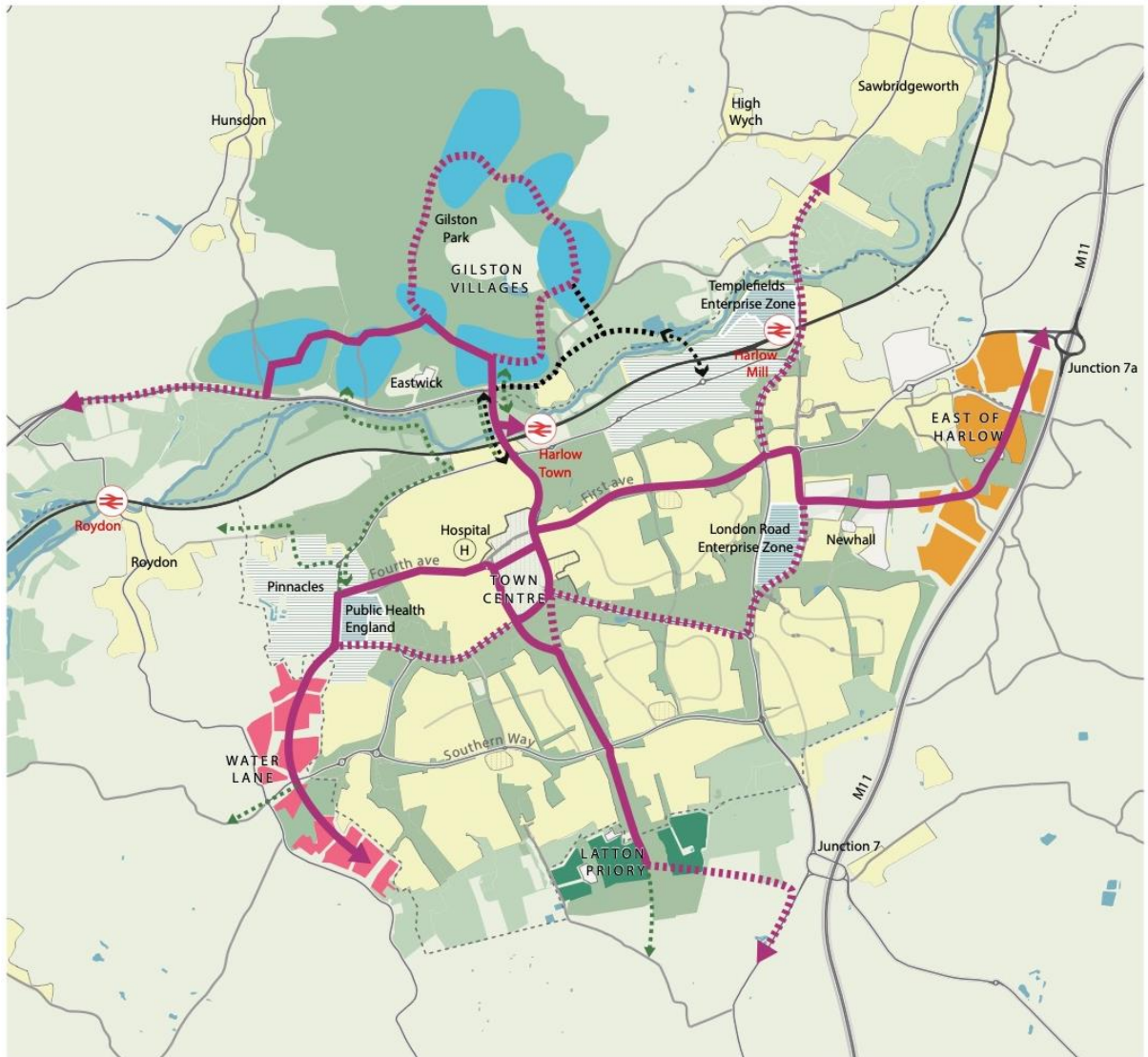
1.3 Purpose of this report

- 1.3.1 The brief for this study set out four key objectives/questions:
1. Based on existing economic data for the sub region and other work undertaken to date, provide an assessment of the opportunities for sustainable job generation across the HGGT in relation to the known housing trajectory growth of 23,000 minimum homes
 2. Which employment sectors/industries are likely to create the jobs growth?
 3. What is the appropriate quantum and type of employment/business accommodation required to accommodate the economic and employment growth?
 4. What is the employment land requirement to accommodate the economic and employment growth based upon the outcomes of questions 1, 2 and 3?
- 1.3.2 Following consideration of these four questions the requirement included a high level strategy for the allocated employment sites within the HGGT.

1.4 Structure of this report

- 1.4.1 This report sets out the findings of research and analysis to answer the key requirements of the brief, and is structured as follows:
- Chapter 2 outlines the development of headline growth scenarios and broad parameters for growth.
 - Chapter 3 considers issues around the sectoral mix of growth.
 - Chapter 4 considers the employment sites and premises requirements arising from this growth.
 - Chapter 5 provides a high-level strategy for allocated sites.
 - Chapter 6 sets out wider recommendations arising from this research.
- 1.4.2 A series of appendices provide further detail on research undertaken to underpin the findings set out in this report.

Figure 1.1 Illustrative Map of Harlow Gilston Garden Town



2 Headline Employment Growth Scenarios

2.0.1 This chapter sets out future potential employment and economic growth scenarios for the HGGT. The analysis in this chapter is based upon:

- Existing research, strategy and policy;
- Official statistics; and
- Consultations with key stakeholders.

2.0.2 The emerging findings were shared in a workshop with the HGGT Employment Workstream⁴ in September 2019. Further detail in respect of existing documentation, data and consultations can be found in Appendices 1-4 to this report.

2.1 Interpreting Future Scenarios and Forecast Analysis

2.1.1 This entire commission is concerned with helping to understand and plan for the future. It is vital that any analysis that considers the future is interpreted appropriately. The future is not certain. The longer the time horizon that is considered the greater the level of uncertainty. Recognising this uncertainty is critically important when reading this report.

2.1.2 The analysis set out within this report is seeking to utilise the available evidence to help inform decision making and planning. It draws on what we know about the here and now, about recent historic trends, and draws on evidence of trends that are likely to continue in the future, or changes that could make an impact. However, the exact manifestation of these trends is subject to uncertainty. Things will occur which have not been foreseen. Other changes that are expected may not come to pass. The speed of change may be greater or slower than expected. This report is being drafted in a context of ongoing negotiation of the manner in which the UK leaves the European Union, which itself creates a significant level of uncertainty around the future economic growth of the UK. However, whilst there is uncertainty which must be acknowledged, it is appropriate to seek to plan using the best evidence available.

2.1.3 This report includes quantitative analysis to outline future scenarios for the HGGT. As a result of the uncertainties of forecasting, these numbers should not be grasped as firm predictions, nor should a level of spurious accuracy be inferred. In considering the period to 2033 and beyond, the analysis in this report is seeking to make broad brush strokes, to set 'orders of magnitude'. These can help to understand the nature and scale of potential responses and actions to take. The focus of this report is not therefore on whether any given figure should be a fraction higher or lower over a 10- or 20-year period but whether the underlying fundamentals are in place, and of a broadly appropriate scale or type. As a result, figures are generally heavily rounded or expressed as a range to avoid any implication of detail or accuracy that is unhelpful. The intention is that this research provides the foundations for a 'plan, monitor and manage' approach rather than 'predict and provide'.

⁴ Comprising representatives of the HGGT team, Harlow Council, Epping Forest District Council, East Herts District Council, Essex County Council and Hertfordshire County Council.

2.2 Establishing Parameters

2.2.1 In order to determine the scope of scenarios for the potential economic future of the HGGT it is necessary to establish some broad parameters to work within. The following parameters have been established:

Geographical Area for Baseline Analysis

2.2.2 The HGGT will comprise the entirety of the Harlow local authority area, as well as parts of both Epping Forest District and East Hertfordshire District⁵. Because the areas in Epping Forest and East Hertfordshire districts which comprise the HGGT are currently relatively sparsely populated, it is not possible to tightly define the HGGT area using standard geographical designations⁶. In seeking to define the geographic area of HGGT, additional parts of Epping Forest and East Hertfordshire districts (including villages and small settlements) are included which are not considered part of the HGGT area. Inclusion of these areas can skew data analysis. However, as a result of the sparse residential and employment development within these growth areas at present, some 99% of the current estimated HGGT population and employment base is accommodated within the Harlow local authority area.

2.2.3 For this reason, the Harlow local authority area has been adopted for the purposes of baseline analysis (including 2011 and 2016 analysis as discussed in more detail below). Adoption of the local authority boundary also allows for a greater range of datasets to be considered.

2.2.4 As development takes place around the edges of Harlow one would expect a redrawing of LSOA and MSOA boundaries at some point in the future, and as such, improved definitions of HGGT for statistical analysis purposes should be possible.

2.2.5 Whilst the analysis is focused on the HGGT area, it is acknowledged that the area is not and will not be an island, and sits within a wider functional economic market area.

Time Periods for Analysis

2.2.6 Local Plans for Harlow (examination stage), Epping Forest District (examination stage) and East Hertfordshire District (adopted) cover the period 2011-33. Planned dwelling numbers for HGGT have been subdivided into 'by 2033' and 'after 2033'. For the purposes of this analysis it has been agreed that the growth of HGGT in its entirety will be underpinned by approximately 16,000 homes within the current plan period (2011-33) with 'at least'⁷ 7,000 additional dwellings beyond 2033⁸.

2.2.7 Therefore:

- 2011 is set as a base date for analysis. This has advantages in that it aligns to the last census of population which provides good quality data as well as the start of the Local Plans.

⁵ Current proposals include approximately 14,000 dwellings of the currently planned 23,000 dwellings outside the boundary of Harlow.

⁶ A range of small area statistical definitions are typically used, for example, lower layer or mid layer super output areas (LSOA or MSOA). These areas are defined to cover areas that accommodate approximately 1,500 persons population (LSOA) and 7,200 persons population (MSOA). Where population is sparse (e.g. rural areas) the geographic coverage of LSOAs or MSOAs is much greater than in densely populated (e.g. urban areas) the geographical coverage is small.

⁷ A further 7,000 dwellings at the Gilston Villages have been identified within documentation to date. Any further potential dwellings growth beyond the current plan periods has not been discussed. This will be a matter for future Local Plan reviews and plan making.

⁸ With some of the identified housing potentially delivered beyond 2050.

- 2016 has been adopted as an interim date to capture the current situation, on the basis that there are lags in the release of statistical data and that it aligns to analysis set out within the West Essex and East Hertfordshire Assessment of Employment Needs report, published in October 2017, which is an important reference document for this analysis.
- 2033 is used as a first 'end point', to enable an indication of the situation at the end of the current plan period.
- No end date is specified for the post-2033 period, to consider the implications of the full extent of current planned dwelling growth at HGGT. Figures for this period are illustrative as full housing requirements for this period have not been considered and will be a matter for future Local Plan reviews and plan making.

Future of Work

2.2.8 In consultation with stakeholders there has been some discussion as to the potential implications of changes to the nature of work. There are a number of issues around this topic:

- The rise of artificial intelligence (AI) and automation and the potential erosion of jobs; and
- Increasing flexibility around what constitutes a 'job' and the growth of portfolio careers that may comprise multiple part time jobs.

2.2.9 With regard to the first issue, the rise of AI, the UK economy has already experienced a transition towards automation in many parts of manufacturing over the last 30-50 years. Whilst this has led to a reduction in jobs within some parts of the manufacturing sector, there has been a substantial shift in the economy towards the services sector. There has been no long-term stagnation in the ability of the economy to create jobs despite the increased use of robotics and automation.

2.2.10 A headline review of literature related to the growth of AI and automation does not suggest a widespread erosion of employment as a concept in the future. Whilst over the course of the analysis period for this study there is likely to be erosion of jobs in a number of sectors, through increased use of AI and automation in new areas, there is an expectation that these will be more than offset through the creation of new jobs⁹.

2.2.11 This continual change within the economy is not in any way new and is clearly likely to continue. This will have implications for the skills required by workers. However, for the purposes of this research it is assumed that the prevalence of work in general will not be affected by AI and further automation, but that it is likely to impact on the sectoral and skills mix of employment opportunity.

2.2.12 There has also been a long-standing speculation that over the course of time increasing wages would lead to workers reducing working hours and increasing leisure time. However, this pattern has not been widely observed. There is no clear rationale to assume this will change markedly over the next 20 years.

2.2.13 In terms of the pattern of part-time and full-time working, time series data from the Annual Population Survey for the UK shows a broadly consistent share of full time and part time working over the last 15 years. There is a slight reduction in the numbers of people working 45 hours or more per week, with rises in those working 35-44 hours and 10-34 hours per week. There is also

⁹ World Economic Forum (2018) The Future of Jobs Report

evidence of a rise in self-employment over the same 15-year period. Non-permanent employment was on the rise as a share of total employment over the period 2004-2014, but has since seen a reversal.

2.2.14 For these reasons, the modelling in this report assumes as its core proposition that the nature of work, and its relationship to the population remains broadly consistent. Some additional detail in respect of the future of work is set out within Appendix 4 to this report.

2.3 Baseline or Starting Position

2.3.1 In 2011 Harlow had a resident population of approximately 82,000 persons residing within approximately 36,000 dwellings (Census). The town also accommodated approximately 43,000 jobs (ONS, Jobs Density).

2.3.2 By 2018 the population is estimated to have grown to around 87,000 persons (ONS, Mid Year Estimates), residing in approximately 37,500 dwellings (HJA estimate based on Census and Harlow Council Annual Monitoring Returns). The town is estimated to accommodate approximately 48,000 jobs (2017, ONS, Jobs Density).

2.3.3 Harlow has seen jobs growth since 2000, however, this has been relatively modest (12%) in comparison to the England average (20%).

2.3.4 Over the period 2011-18 the level and rate of unemployment in Harlow has fallen in line with national trends. The growth in employment has therefore been underpinned by both the growth in the population, but also a reduction in the spare capacity in the labour market.

2.3.5 The 2011 Census of Population provides the most detailed assessment of travel-to-work patterns. This indicates that approximately 16,000 workers commuted out from Harlow for work. This was approximately 40% of the resident-based workforce of the town. The Census also indicates that around 16,000 workers commuted into Harlow for work, equivalent to around 40% of the Harlow workplace-based workforce. This data tells us that whilst there are substantial workforce flows in and out of Harlow, overall there is a broad balance.

2.3.6 Further statistical baseline information is set out within Appendix 1 to this report.

2.4 Economic Role, Function and Opportunity

2.4.1 The review of existing documentation and consultation with key stakeholders (see Appendices 2 and 3) has helped to establish an understanding of the aspirations around the future potential economic role and function of HGGT. This relates to a number of broad areas:

- a. The overall scale of employment growth and the potential balance of labour demand (jobs) and supply (workers), which has implications for self-containment;
- b. The types of economic activity and target sectors to be pursued; and
- c. The role of HGGT within a broader geographic context, which relates to both a. and b. above.

Balance and Self Containment

2.4.2 As identified at 2.3.5 above, Harlow is presently a town with broad balance in terms of labour supply and demand. However, the 2011 Census indicates notable commuting flows into and out of Harlow.

- 2.4.3 Consultations with key stakeholders tested the options for HGGT in the future which are distributed across a continuum. At one extreme is the development of a dormitory settlement, where there are far fewer employment opportunities than workers. In this instance there would be a tendency toward significant net out-commuting to other locations for work. At the other end of the continuum HGGT could be considered an economic hub. Not only a place of greater scale, but accommodating far more jobs than resident workers. On this basis, HGGT would become a significant net in-commuting location, attracting workers from a wider hinterland. At the centre of the range is what could be termed a balanced community, where there are broadly a similar number of jobs to workers. There may well be flows in and out, as there are at present, but these flows would be broadly in balance.
- 2.4.4 When posed this question, consultees had often not considered this issue explicitly but when reflecting, tended towards the concept of a balanced community. Two reasons underlying this conclusion were the Garden Town principles and the sustainable travel objectives¹⁰ at the core of HGGT.
- 2.4.5 It is acknowledged that there will continue to be flows, not least to and from other economic hubs within close proximity such as London and Cambridge and within the local FEMA¹¹. However, to achieve the sustainable travel aims around the Garden Town the volume of commuting flows should be minimised wherever possible. Whilst it is not within the gift of policy makers or masterplanners to determine where people choose to live and work, it is possible to create the conditions that make sustainable development possible. On this basis it was determined that a central aim of the scenario testing should be on creating a broadly balanced community in terms of jobs and workers.
- 2.4.6 Given the scale of planned housing growth at HGGT achieving balanced growth in terms of jobs and workers remains ambitious as set out below.

Target Sectors and Activities

- 2.4.7 The target sectors that have previously been identified within strategy and research documentation were endorsed through consultation. A review of the relevant strategy documentation is set out at Appendix 2 to this report. The key target sectors are:
- Advanced manufacturing
 - ICT and digital
 - Life sciences
 - Medical technologies
- 2.4.8 These sectors have been consistently identified across local, sub-regional and regional policy. These are recognised to have specific opportunities in the HGGT area, capitalising on the location between London and Cambridge. The relocation of Public Health England (PHE) to Harlow is seen as highly significant and creates the potential for Harlow to develop a broader specialism around public health and play a key role in the UK Innovation Corridor.

¹⁰ This includes 60% of trips within the new Garden Communities and 50% within/across the HGGT by sustainable travel modes. Further detail is set out at Appendix 2 in respect of the HGGT Transport Strategy (Consultation Draft, 2019).

¹¹ Which includes the districts of East Herts, Epping Forest, Uttlesford, Harlow and more widely includes Broxbourne and parts of the northern fringe of London.

2.4.9 The scale of proposed growth at the HGGT, including substantial infrastructure investment (new motorway junction, new hospital, 50% uplift in housing delivery etc) has the potential to boost the construction sector in the area.

2.4.10 Further comment on sectors is set out within the following chapter of this report.

Wider Context

2.4.11 The HGGT is viewed by stakeholders, and is identified within policy and strategy, as an important growth location in both economic and residential terms. This has underpinned its designation as a Garden Town.

2.4.12 HGGT is therefore recognised within the Harlow, Epping Forest District and East Hertfordshire Local Plans as a key growth location. The HGGT also forms a key element of the 'core area' of the London-Stansted-Cambridge Corridor (LSCC) now referred to as the 'UK Innovation Corridor'.

2.4.13 Stakeholders identified the 'confluence of opportunity' which the HGGT must seize. This includes:

- The relocation of PHE, bringing up to 3,000 jobs
- The UK Innovation Corridor
- The planned residential growth and designation as a Garden Town
- Economic overspill from both Cambridge and London
- The designation of the Harlow Enterprise Zone, including a Science Park and new Innovation Centre
- The proposed replacement Princess Alexandra Hospital
- The new motorway junction providing improved strategic road access
- Ongoing growth at Stansted Airport providing improved access to global markets
- Strong stakeholder support

2.4.14 However, it was also recognised by stakeholders that opportunity alone is not enough, and success is not guaranteed. These opportunities need to be grasped and challenges need to be overcome. There were multiple calls for a clear, strong and ambitious economic vision accompanied by clear, strong and ambitious economic leadership and governance. It was recognised that whilst well founded, the opportunities and vision were not always well aligned to current market perceptions of Harlow as a primarily industrial and distribution location, which would require concerted effort to change. It was recognised that there were particular issues around housing mix and the quality of the town centre which are fundamental to enabling economic success. There were also calls to ensure that the residents of HGGT, both existing and new are able to participate in the economic opportunities presented.

2.5 Headline Quantitative Growth Scenarios

2.5.1 HJA has used the available data to help understand the overall scale of employment growth required at HGGT. A number of different approaches have been used, with the results triangulated to come to a balanced view on appropriate levels of growth. Each of these approaches is underpinned by the scale of planned housing growth.

Demographic Led

2.5.2 This first approach considers the potential changes in the working population of Harlow. This uses data from:

- Harlow, East Hertfordshire and Epping Forest District Local Plans on planned dwellings growth;
- West Essex and East Hertfordshire Strategic Housing Market Assessment on future average household size;
- 2016-based Sub National Population Projections (SNPP) on working age population share;
- SNPP, Office for Budget Responsibility and ONS Annual Population Survey (APS) on economic activity rates; and
- HJA assumptions on unemployment rates.

2.5.3 Table 2.1 sets out a summary. The analysis identifies a growth in the HGGT resident employed population 2011-33 of approximately 20,000 persons.

2.5.4 It is assumed that net commuting remains broadly in balance, and therefore no adjustment is made for this. An uplift of 6% is applied for double jobbing¹² based on 2011 data. This increases the total job requirement to approximately 21,500 additional jobs over the period 2011-33.

2.5.5 Considering the post 2033 period, the growth in employed resident population is estimated at approximately 8,500 as a result of current planned housing growth. After allowing for double jobbing the required jobs growth is approximately 9,000.

2.5.6 In population terms the scale of planned dwelling growth delivers around a 50% increase in population by 2033 from 2011 levels, and by approximately 66% by completion. Total population will be in the order of 135,000 persons. This will transform Harlow to a place of similar scale to Ipswich or Norwich at the current time, larger than places such as Cambridge, Gloucester or Exeter.

Table 2.1 Summary of Demographic Led Modelling (Resident Based)

	2011	2016	2033	2040s (23,000 dwellings)	Change 2011-33	Change Post 2033
Dwellings	35,500	37,000	52,000	59,000	16,000	7,000
Population	81,500	86,000	119,000	135,500	37,500	16,000
Working Age Population	53,000	54,000	74,000	83,000	21,500	9,000
Economically Active	44,000	47,500	62,000	71,000	18,500	8,500
Unemployed	4,000	2,000	2,000	2,000	-2,000	-
Employed	40,000	46,500	60,500	68,500	20,500	8,500
Jobs Requirement					21,500	9,000

Source: HJA based on Census, Annual Population Survey, Population Mid Year Estimates, Harlow Council Annual Monitoring Reports, West Essex and East Hertfordshire SHMA and own analysis.

Figures may not sum due to rounding.

2.5.7 The analysis suggests a slight shift in the number of workers per dwelling from 1.13 at 2011 (Census) to 1.16 at 2033 and 1.17 at 2041. This uplift is driven by increases in the proportion of working age population that are recorded as economically active, as well as assumed reductions in the rate of unemployment when compared to 2011.

¹² This is where a single person holds a more than one job.

2.5.8 This modelling clearly relies on a number of variables and assumptions. Some sensitivity testing has been undertaken to consider the implications of unemployment rates being slightly higher (4% instead of 3%) and economic activity rates being slightly lower (1% point lower than 2033 and 2041 estimates). This reduces the 2011-33 employed population growth to 19,000 and the jobs requirement to 20,000. For the post 2033 period the employed population is estimated at an additional 8,000 persons with an associated jobs requirement of approximately 8,500.

Workers Per Dwelling Approach

2.5.9 A second scenario was modelled, using the 2011 Census workers per dwelling figure (1.13) as a fixed assumption and applied to the increased dwelling stock at 2033. This suggests a growth in employed workers of approximately 18,000, and a commensurate jobs estimate of approximately 19,000. For the post 2033 period this approach estimates 8,000 additional employed residents requiring approximately 8,500 additional jobs.

2.5.10 The slightly lower level of projected growth requirements during the period 2011-33 highlights the marginal increase in workers per dwelling at 2033 which results from the more detailed demographic modelling. It provides a second helpful sensitivity test for what might be expected without change in this variable.

Jobs Per Dwelling Approach

2.5.11 A third approach uses the 2011 data to calculate jobs per dwelling (1.21) applied to the increased dwelling stock. This approach estimates a requirement of approximately 19,500 additional jobs 2011-33, with a further 8,500 jobs post 2033.

2.5.12 Similarly to the workers per dwelling approach, this holds the 2011 assumption constant and arrives at a broadly similar result.

Summary

2.5.13 As noted at section 2.1 of this report, the focus of this analysis is to set broad parameters and 'orders of magnitude' for future growth at the HGGT.

2.5.14 These three approaches indicate a jobs range in the order of 19,000 – 21,500 by 2033, with a further minimum of 8,500 – 9,000 beyond that point. The results of the three approaches are summarised in Table 2.2 below.

Table 2.2 Summary of Employment Requirement Estimates

Approach	Demographic Led	Workers per Dwelling	Jobs per Dwelling
2011-33	21,500	19,000	19,500
Post 2033	9,000	8,500	8,500
Total	30,500	27,500	28,000

2.5.15 The higher end of these ranges is based on the more detailed demographic modelling which includes positive movement in both economic activity and unemployment variables. The sensitivity test, softening the level of improvement in these variables adjusts the outcomes towards the centre of the range.

2.5.16 On the basis of the three approaches, and the sensitivity test on the most complex approach, a range of approximately 20,000 – 21,000 jobs over the period 2011-33 appears a reasonable scale of growth to maintain a broadly balanced labour market at the HGGT. For the post 2033 period a minimum of approximately 8,500 – 9,000 jobs will be required. There is a clear

implication that under any of the scenarios there is a need to exceed the minimum one job per dwelling metric which is often cited.

Growth to Date

- 2.5.17 The analysis above covers the full analysis period from 2011. As set out at 2.2.6 the analysis has an intermediate break point at 2016, to allow alignment with the 2017 West Essex and East Hertfordshire Assessment of Employment Needs. It is therefore appropriate to consider the change in employment during the period 2011-16, in order to identify the residual requirement 2016-33.
- 2.5.18 Local level employment data can be subject to volatility and there are multiple measures of employment released by the Office for National Statistics (ONS). There is a need for an element of caution in taking a simplistic reading of employment change data between two points, and it is wise to consider the data in the round.
- 2.5.19 The most comprehensive jobs measure for local areas is the total jobs indicator, released by ONS within its jobs density data series. This data is rounded to the nearest thousand, and this can mask some fairly sizeable changes. The data, set out at Appendix 1 (Figure A1.1) to this report estimates 43,000 jobs at Harlow at 2011. This had risen to 46,000 jobs by 2016. Because of the effects of rounding, the actual scale of growth could range from 2,000 – 4,000 jobs over that time. Of note, the 2017 data adds a further 2,000 jobs in a single year. This helps to demonstrate the effects of data volatility. If the period under consideration were 2011-17 the jobs growth would be 5,000, with a range of 4,000 – 6,000. Using the ONS Business Register and Employment Survey, the growth in employment at Harlow is estimated at approximately 4,000 additional jobs, again affected by rounding (potential range 3,000 – 5,000 jobs).
- 2.5.20 The analysis undertaken within the 2017 West Essex and East Hertfordshire Assessment of Employment Needs drawing on a range of sources, estimated a jobs change of approximately 5,000 jobs 2011-16 at Harlow.
- 2.5.21 Overall the evidence suggests in the order of 3,000 – 5,000 jobs created at Harlow over the period 2011-16
- 2.5.22 On this basis, a further 14,000 – 18,500 jobs are required to maintain a balanced labour market at the HGGT over the period 2016-33. The calculations are summarised in Table 2.3 below. The requirement is equivalent to 800 – 1,100 additional jobs per annum.
- 2.5.23 A minimum of 8,500 – 9,000 will then be required for the post 2033 period.

Table 2.3 Summary of Employment Requirement Estimates 2016-33 and beyond

Approach	Demographic Led	Workers per Dwelling	Jobs per Dwelling
2011-33	21,500	19,000	19,500
2011-16	3,000 – 5,000	3,000 – 5,000	3,000 – 5,000
2016-33	16,500 – 18,500	14,000 – 16,000	14,500 – 16,500
Post 2033	9,000	8,500	8,500

Results in Context

- 2.5.24 The analysis has built a picture of the scale of employment growth required at the HGGT. This is approaching a figure of up to 1,100 jobs per annum over an extended period. It is helpful to set this into some context.

- 2.5.25 Over the period 2000-2017 the ONS Jobs Density measure of total jobs at Harlow suggested growth of approximately 5,000 jobs, approximately 300 additional jobs per annum. This included the effects of the financial crash in 2008 and the large-scale closure of the GSK operations in Harlow (with the loss of some 2,000 jobs). Whilst performance from 2011 onwards has been slightly improved, the data indicates that overall jobs growth at Harlow has been fairly modest for a protracted period. As noted at 2.3.3, employment growth has lagged well behind the overall rate of growth of England.
- 2.5.26 This relatively weak historic performance is a key factor behind the pursuit of the HGGT. There is a committed desire to boost the economic performance of the Harlow area, to deliver new infrastructure and tackle some of the challenges that have constrained recent performance.
- 2.5.27 To achieve balanced growth will require annual growth in employment of 1.5% - 2.0% depending on the scenario adopted. This compares to the preferred FEMA wide growth scenario, adopted in the 2017 Assessment of Employment Needs of 0.8% (analysis which included growth for Harlow alone at 1%), and EEFM 2017 and Assessment of Employment Needs baseline levels of growth of 0.4% (0.3% for Harlow alone). The EEFM also forecast UK growth of employment 2016-33 of 0.4% per annum.
- 2.5.28 Both the historic analysis and forecast context highlights the scale of the economic challenge and the step change in performance which is required. Employment growth required to create a balanced community at HGGT will need to vastly outstrip trend rates of growth and baseline forecast rates of growth. As set out at 2.4.11 – 2.4.14 there are clear opportunities including the committed large-scale investment of PHE, but stakeholders recognise these will not deliver growth without concerted effort, strong vision and strong leadership. This could be termed transformational growth.
- 2.5.29 Further, the global economy and UK economy are currently performing relatively weakly¹³. The UK remains embroiled in Brexit uncertainty, with the economic implications of this anticipated to last for some time. This wider context creates a relatively challenging backdrop to the ambitions for HGGT.
- 2.5.30 Therefore, if considering whether the risks are weighted towards the downside (failing to achieve the required level of growth) or upside (over-shooting the required level of growth), the available information would suggest a greater weighting towards downside risks.
- 2.5.31 On this basis, for the purposes of scenario testing figures towards the lower end of the ranges are used as a starting point, mindful of the fact that outperforming these targets is the ideal. Therefore a minimum of 15,000 jobs 2016-33 and a minimum of 8,500 jobs post 2033.

2.6 Summary

- 2.6.1 When interpreting analysis of future requirements it is vital to recognise the inherent uncertainty. The assessment of future employment growth scenarios draws together currently available

¹³ No significant discussion of this backdrop is included. However, for further information the following may be useful: [IMF World Economic Outlook July 2019](#); [OECD Economic Outlook May 2019](#); [World Bank Press Release June 2019](#); [World Bank Global Economic Prospects June 2019](#); [IFS Recent Trends to the UK Economy October 2019](#); [OBR G7 Growth and Investment Since the EU Referendum December 2018](#); [LSE Economic Performance Since the Brexit Vote](#); [PWC UK Economic Outlook July 2019](#); [KPMG UK Economic Outlook September 2019](#).

evidence in order to take informed and considered views of what might reasonably happen, or need to happen.

- 2.6.2 The analysis of headline employment scenarios is predicated on planned residential growth at the HGGT of approximately 16,000 dwellings over the period 2011-33, with a minimum of 7,000 further dwellings post 2033.
- 2.6.3 Data from the 2011 Census shows that Harlow had a broadly balanced labour market with around 40% in- and out-commuting, approximately 16,000 persons in each direction. Stakeholder consultation has identified that maintaining a balanced labour market is a desirable outcome for the HGGT, minimising the need to travel as far as possible and encouraging sustainable travel where possible.
- 2.6.4 When looking forward 20 or more years there will clearly be potential changes in the nature of the economy. One potential change is the nature of work, particularly with rising use of automation and artificial intelligence. Following a review of the evidence, this analysis is predicated on a broad continuation of the current nature of work and its relationship to the population.
- 2.6.5 In considering the future scale of employment growth required to deliver a balanced labour market at the HGGT, this analysis has shown there will need to be 19,000 – 21,500 additional jobs over the current plan period 2011-33, with a further minimum of 8,500 – 9,000 post 2033.
- 2.6.6 This will require transformational growth, with the population rising from around 80,000 in 2011 to 120,000 by 2033 and above 135,000 when the full complement of housing is delivered. In employment terms the HGGT will increase from some 40,000 jobs in 2011 to more than 60,000 jobs by 2033 and around 70,000 jobs when all 23,000 additional dwellings are occupied.
- 2.6.7 To align to the employment land evidence base prepared to inform the Harlow, East Hertfordshire and Epping Forest District Local Plans a shortened analysis period of 2016-33 has been considered. After considering actual growth over the period 2011-16, and considering the results in context minimum requirements of 15,000 additional jobs 2016-33 with a further 8,500 post 2033 were identified.
- 2.6.8 The review of policy and strategy, as well as stakeholder consultation has identified a number of clear opportunities which create the potential to achieve this step change in jobs growth at the HGGT. However, it is recognised that opportunity alone is insufficient and success is not guaranteed. There is therefore a need for clear vision and strong leadership to deliver this economic transformation. The relocation of PHE to Harlow is a key opportunity and the benefits of this need to be maximised.

3 Sector Mix of Growth

- 3.0.1 The preceding chapter considered the overall scale of employment growth that will be required in order to meet the overarching ambitions for HGGT. This chapter considers the potential sectoral profile of this employment change on the basis of the available information.
- 3.0.2 The caveats of section 2.1 fully apply to this chapter i.e. there are substantial uncertainties related to forecasting and the quantitative analysis should be treated as indicative and broad brush.
- 3.0.3 To aid this analysis, it is helpful to broadly characterise the economy into two components.
- The first could be termed the core economy or foundational economy. In particular this comprises jobs that are related primarily to the place in which they are located or perhaps its hinterland, essentially jobs that make a place function effectively. This includes jobs in many sectors such as retail, motor trades, food and drink, education, health, construction and related maintenance trades, leisure and public administration. These are largely, but not exclusively service jobs. As a result of the growth planned at the HGGT there will be increased activity in this part of the economy. Much of the critical infrastructure required for the HGGT including education, health and leisure has been identified within the HGGT Infrastructure Delivery Plan (April 2019).
 - The second could be termed the tradeable economy. This comprises jobs in activities creating products or services that are traded outside the local area. For example, manufacturing activities, regional or national service businesses or government departments and functions. These activities are not reliant on demand from the local population, but from customers (either businesses or consumers) further afield in the UK or internationally. These activities could potentially be located elsewhere, although there may be good reasons to be located in a given place such as access to raw materials, access to skills, knowledge or suppliers, or an existing workforce etc. These activities bring wealth into a given location from outside. The growth of HGGT will not of itself drive growth in the tradeable economy, but these activities will be essential in creating a vibrant economy at the HGGT.
- 3.0.4 These two parts of the economy are not mutually exclusive. There are likely to be organisations in the tradeable economy that sell to local customers, particularly if there are supply chains and interrelated activities. However, the overarching concept is useful when considering future growth.

3.1 West Essex and East Hertfordshire Assessment of Employment Needs

Context

- 3.1.1 The West Essex and East Hertfordshire Assessment of Employment Needs report, published in October 2017, has been adopted as a foundational starting point for this analysis, primarily because it has underpinned the employment growth and employment strategies within the Local Plans of Harlow, Epping Forest District and East Hertfordshire District Councils. The analysis

within the report considered econometric forecasts from the East of England Forecasting Model (EEFM)¹⁴ in detail, and tested alternative economic scenarios based on the available evidence.

- 3.1.2 Of particular relevance for this analysis of the HGGT, the 2017 analysis outlined a preferred scenario which sought to balance labour supply and labour demand at the FEMA¹⁵ (functional economic market area) level over the plan period 2011-2033. However, it did not consider issues relating to the balance of labour supply and demand at HGGT.
- 3.1.3 Also of relevance, in seeking to bring balance to labour supply and demand, the 2017 analysis applied a number of substantial boosts to the baseline forecast level of growth for the FEMA. These boosts related to the known investment of Public Health England (PHE), planned growth at Stansted Airport, the potential for additional growth linked to the Enterprise Zone at Harlow; and the higher proposed levels of housing across the FEMA than inherent within the baseline forecast, leading to additional growth in a range of services sectors. The first three uplifts all related to the tradeable economy, with the fourth uplift relating to the core or foundational economy.
- 3.1.4 These two points are highly relevant to this study because to boost employment levels (by 2033) across the FEMA beyond those in the 2017 study would (a) create a potential imbalance in labour supply and demand at the FEMA level¹⁶, and (b) boost above what has already been considered as a substantially above-baseline level of growth in a wider study.
- 3.1.5 Therefore, if the overall level of growth set out in the 2017 analysis is considered a fixed point for the purposes of scenario testing, the focus becomes about the distribution of employment growth across the FEMA, and whether the apportionment in the 2017 study is compatible with the required levels of growth identified for the HGGT.

Harlow Employment Growth

- 3.1.6 The 2017 analysis considered the district level apportionment of employment growth. This was deemed most appropriate at the time, given the need to provide an evidential basis for Local Plans. The HGGT adds some complexity to this, given the role of parts of East Hertfordshire and Epping Forest District.
- 3.1.7 Over the period 2011-33, growth at Harlow was estimated at approximately 13,500 jobs in the 2017 study. The growth during the period 2016-33 was estimated at approximately 8,500 jobs. This falls below the estimated minimum requirement of 15,000 additional jobs 2016-33 set out in chapter 2 of this report. A further 6,500 jobs would therefore be required as a minimum to meet the needs of the HGGT by 2033.

East Hertfordshire and Epping Forest District Employment Growth

- 3.1.8 Over the current Local Plan period to 2033 16% of proposed dwellings across East Hertfordshire and 31% of proposed dwellings across Epping Forest District comprise part of the HGGT. Alongside the provision of housing it is reasonable to assume an element of employment growth, for example construction, education, health, retail, food and drink as well as wider employment uses will accompany this housing. On the basis that the FEMA wide position has been agreed (as

¹⁴ The EEFM forecasts considered within the 2017 analysis remain the most up to date release.

¹⁵ The FEMA was defined as the local authority areas of East Hertfordshire, Epping Forest, Harlow and Uttlesford.

¹⁶ On the basis that this is adding additional jobs to the FEMA total rather than reallocating within the FEMA.

discussed above), adjusting in line with proposed housing development is a useful tool for scenario testing.

- 3.1.9 In testing this scenario, it is assumed that employment growth related to this new housing growth would be concentrated in the period from 2020 onwards¹⁷. As a result of condensing the associated employment growth within this shorter period the required adjustment factors change i.e. to deliver 16% of East Hertfordshire employment growth for the period 2011-33 over the condensed period 2020-33, requires 24% of East Hertfordshire employment growth 2020-33. For Epping Forest District, the adjustment factor increases from 31% to 48%.
- 3.1.10 Making such an adjustment does not undermine the 2017 analysis. It is a means to scenario test the potential location of employment within East Hertfordshire and Epping Forest districts.
- 3.1.11 The result of this adjustment is an apportionment of approximately 5,000 jobs from East Hertfordshire and Epping Forest District within the HGGT.
- 3.1.12 This remains a minimum of 1,500 jobs below the balancing level of employment for the HGGT previously identified. This could incorporate the element of growth (2,100 jobs) that was left unallocated within the 2017 analysis¹⁸. This more focused research has identified the need to provide additional uplifts to employment at HGGT beyond those made at the time of the 2017 research.

3.2 Further Potential Adjustments

- 3.2.1 HJA has modelled the potential employment impacts arising from the planned community infrastructure for the HGGT as set out in the Infrastructure Delivery Plan (IDP)¹⁹. This includes education, health, emergency services, community facilities and leisure. Headline analysis estimates approximately 3,000 jobs directly related to new housing in these sectors up to 2041. These are elements of the core or foundational economy.
- 3.2.2 The 'bottom up' IDP based assessment of housing related jobs growth has been compared with the HGGT sector projections, comprising Harlow and the apportionment of some East Hertfordshire and Epping Forest District growth. One clear potential discrepancy emerges, within the education sector²⁰. The sector projections include approximately 750 additional jobs within the education sector to 2033. However, the IDP based analysis estimates approximately 1,500 – 1,800. On this basis a minimum²¹ of 750 additional jobs in this sector can reasonably be expected by 2033.
- 3.2.3 The 2017 Employment Needs analysis included a 2,500 uplift related to the wider economic potential of Harlow on the basis of the policy commitment to see it grow backed up by clear

¹⁷ The modelling of this scenario also excludes sectors with forecast employment decline. This is on the basis that employment decline can only take place where employment already exists.

¹⁸ Assessment of Economic Needs, 2017 pages 17, 24 and 32.

¹⁹ The IDP considers the implications of only 17,685 dwellings. This results from the exclusion of dwelling completions up to 2017 and commitments (i.e. dwellings with permissions). The IDP does not discuss these exclusions, however, it is presumed that the relevant infrastructure to deliver these commitments is inherently considered as part of the permissions. The IDP therefore focuses on the infrastructure required to meet the needs of dwellings which are not yet permitted. For the purposes of this economic analysis, any jobs arising from infrastructure related to committed but as yet undelivered housing are still to be realised. To estimate the employment associated with these commitments the IDP related element is inflated by 23% (based on 4,100 commitments as a share of the 17,685 dwellings tested in the IDP).

²⁰ None of the other sectors suggested a need for adjustment.

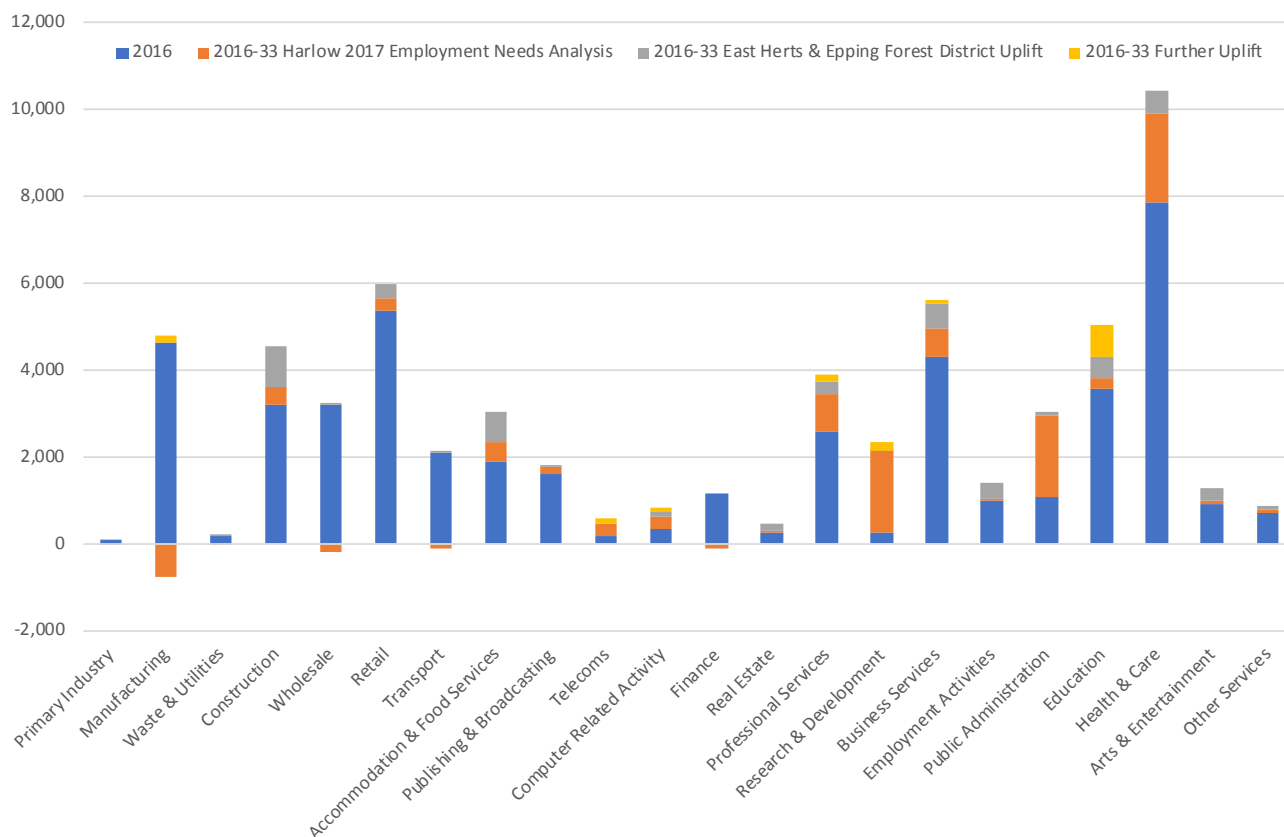
²¹ In keeping with the remainder of the analysis, the minimum level in the range has been adopted as the core assumption.

actions such as the Enterprise Zone. The scenario modelling for the uplift was focused on the key policy priority sectors: pharmaceuticals manufacture, electronics manufacture, telecoms, computer related activity, professional services, research and development and business services. These are activities within the tradeable economy. In order to bring about labour supply and demand balance at HGGT the previously proposed scale of uplift is likely to be insufficient. To deliver balance a minimum of 750 additional jobs in these target sectors would be required over and above the 2,500 previously modelled²².

3.2.4 The construction sector was identified as a potential opportunity given the range of new major infrastructure that is planned to support the HGGT including: M11 Junction 7a, the proposed replacement Princess Alexandra Hospital, new crossings over the River Stort and the sustainable transport corridors as well as a very significant uplift in housebuilding. Following a review of the sector projections it was noted that the construction sector was already forecast for significant growth of 43% (i.e. 1,400 jobs) over the period 2016-33. On this basis no further uplift was applied.

3.2.5 Figure 3.1 illustrates the employment change by sector for the HGGT. This shows the spread of employment at 2016, the change modelled within the 2017 Employment Needs analysis for Harlow, the effects of apportioning an element of East Hertfordshire and Epping Forest District growth to the HGGT, and the additional uplifts to education and target sectors.

Figure 3.1 2016-33 HGGT Modelled Employment Change by Sector



Source: HJA Modelling

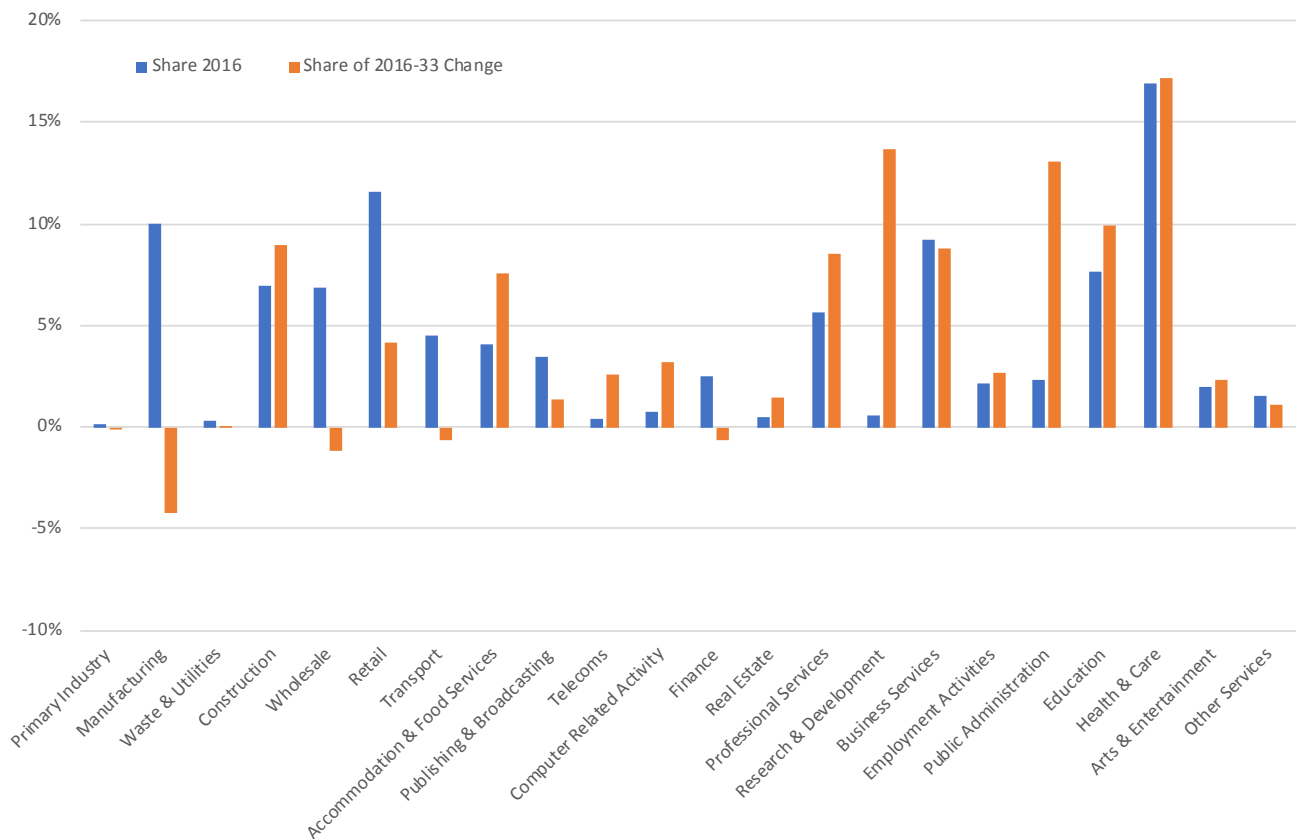
²² The further boost of 1,500 jobs to HGGT in the education sector and Harlow target sectors does constitute a potential adjustment to that set out in the 2017 Employment Needs analysis. However, the 2017 analysis included an outstanding shortfall of approximately 2,100 jobs (see Figure 3.7, page 24 of the [2017 report](#)). The current analysis set out within this report is suggesting the majority (if not all) of this shortfall should ideally be provided at the HGGT.

3.2.6 Figure 3.2 compares the share of employment by sector in 2016 with the estimated share of employment change over the period 2016-33. This shows the relatively strong estimated relative growth in:

- Research & Development
- Public Administration
- Accommodation & Food Services
- Professional Services
- Education

3.2.7 The very strong relative growth in R&D and Public Administration is a direct result of the PHE relocation which includes jobs spread across these two sectors.

Figure 3.2 Comparing 2016 Employment Shares with Indicative 2016-33 Employment Growth Shares



Source: HJA Modelling

3.2.8 Table 3.1 provides further detail of these sectoral changes resulting from the modelling. As noted previously, the detailed figures should be treated with appropriate caution, and the broad orders of magnitude and directions of travel used for reference.

3.2.9 The largest growth sectors are expected to be:

- Health & Care
- Research & Development

- Public Administration²³
- Education
- Business Services
- Professional Services
- Construction
- Accommodation and Food Services

3.2.10 Not all of these sectors will require B Use Class employment sites and premises. This is discussed in more detail in the following chapter.

Table 3.1 2016-33 HGGT Modelled Employment Change by Sector

	2016	Harlow 2017 Employment Needs Analysis	East Herts & Epping Forest District Uplift	Further Uplift	2016-33	2033
Primary Industry	100	0	0	0	0	100
Manufacturing	4,600	-800	0	200	-600	4,000
Waste & Utilities	200	0	0	0	0	200
Construction	3,200	400	1,000	0	1,300	4,600
Wholesale	3,200	-200	0	0	-200	3,000
Retail	5,400	300	300	0	600	6,000
Transport	2,100	-100	0	0	-100	2,000
Accommodation & Food Services	1,900	500	700	0	1,100	3,000
Publishing & Broadcasting	1,600	200	0	0	200	1,800
Telecoms	200	300	0	100	400	600
Computer Related Activity	300	300	100	100	500	800
Finance	1,100	-100	0	0	-100	1,000
Real Estate	200	0	200	0	200	500
Professional Services	2,600	900	300	200	1,300	3,900
Research & Development	300	1,900	0	200	2,100	2,300
Business Services	4,300	700	600	100	1,300	5,600
Employment Activities	1,000	0	400	0	400	1,400
Public Administration	1,100	1,900	100	0	2,000	3,000
Education	3,500	300	500	700	1,500	5,000
Health & Care	7,800	2,000	500	0	2,600	10,400
Arts & Entertainment	900	100	300	0	400	1,300
Other Services	700	100	100	0	200	900
Total	46,400	8,500	5,000	1,500	15,000	61,400

Source: HJA Modelling. *Figures may not sum due to rounding.*

3.3 Post 2033 Employment Growth

3.3.1 Chapter 2 identified a requirement for a minimum of 8,500 additional jobs in the post 2033 period to meet the needs arising from the further planned housing growth.

3.3.2 The starting point in considering the sectoral mix for this period is the extrapolation of long-term trends²⁴ established in the period to 2033. To reach the 8,500 threshold on the basis of extrapolating long-term trends would require an extension of the analysis period to 2044. As

²³ Along with Research & Development this includes the uplift for PHE relocation.

²⁴ Using the 2028-2033 trend.

noted previously, the latest housing trajectory (dated 25th July 2019) supplied to HJA for review extends the delivery of the full quota of dwellings at Gilston beyond 2050, with approximately 5,000 to be delivered from 2040 onwards.

- 3.3.3 The primary purpose for considering the post 2033 period is to enable consideration of the potential employment sites and premises requirements to which it gives rise. For this reason the longer term extrapolation to 2044 is used as a guide to the sectoral mix of employment change post 2033. This continues the trends of the pre 2033 period, with boosts to the key target sectors which are the focus of policy and strategy.
- 3.3.4 Table 3.2 provides the indicative sectoral breakdown for the post 2033 period. Health & Care and Education are the most significant growing sectors.

Table 3.2 Post 2033 HGGT Indicative Modelled Employment Change by Sector

	2033	2033- Completion	Completion
Primary Industry	100	0	100
Manufacturing	4,000	-300	3,700
Waste & Utilities	200	0	200
Construction	4,600	900	5,500
Wholesale	3,000	-200	2,900
Retail	6,000	500	6,500
Transport	2,000	-100	1,900
Accommodation & Food Services	3,000	700	3,700
Publishing & Broadcasting	1,800	100	1,900
Telecoms	600	300	800
Computer Related Activity	800	300	1,200
Finance	1,000	-100	1,000
Real Estate	500	200	600
Professional Services	3,900	800	4,700
Research & Development	2,300	500	2,800
Business Services	5,600	900	6,500
Employment Activities	1,400	300	1,700
Public Administration	3,000	100	3,100
Education	5,000	1,300	6,300
Health & Care	10,400	1,800	12,300
Arts & Entertainment	1,300	300	1,500
Other Services	900	100	1,000
Total	61,400	8,600	70,000

Source: HJA Modelling. *Figures may not sum due to rounding.*

3.4 Summary

- 3.4.1 The West Essex and East Hertfordshire Assessment of Employment Needs (October 2017) has been used as a starting point for more detailed sectoral analysis. To align to this document, which was prepared to inform the Harlow, East Hertfordshire and Epping Forest District Local Plans, a shortened analysis period of 2016-33 has been used. After taking account of actual growth over the period 2011-16, and considering the results in context of historic employment performance, minimum requirements of 15,000 additional jobs 2016-33, and a further 8,500 post 2033 were identified.

- 3.4.2 The Harlow District element of the 2017 Assessment of Employment Needs formed the first building block of sectoral analysis. This estimated approximately 8,500 additional jobs over the period 2016-33. This falls well below the 15,000 required jobs for this period.
- 3.4.3 Apportioning part of the identified employment growth of East Hertfordshire and Epping Forest Districts, reflecting the apportionment of housing growth within these areas to the HGGT, could add a further 5,000 jobs.
- 3.4.4 Two further potential uplifts were identified to deliver broad labour market balance at the HGGT. Firstly, an uplift to employment in the education sector, based on a bottom up review of future educational requirements set out in the HGGT Infrastructure Delivery Plan (2019). Secondly, a further boost to key target sectors over and above that included in the 2017 Assessment of Employment Needs. Making such uplifts retains consistency with the 2017 analysis, which noted a further 2,100 jobs required to balance the FEMA wide labour market but without clarity on where these could or should be located. This HGGT focused analysis suggests the vast majority of these should be targeted at the HGGT in order to support achievement of the balanced community ambitions.
- 3.4.5 The largest growth sectors are expected to be:
- Health & Care
 - Research & Development
 - Public Administration²⁵
 - Education
 - Business Services
 - Professional Services
 - Construction
 - Accommodation and Food Services
- 3.4.6 Post 2033 the education and health and care sectors are expected to continue to be significant employment growth drivers.
- 3.4.7 This analysis shows that a significant level of employment growth at HGGT will arise within the core or foundational economy i.e. that part of the economy that makes a place function effectively. This includes health and care, education, construction and food services.
- 3.4.8 However, increasing the size of the tradeable economy will be essential in creating a vibrant economy and bringing wealth to the area, as well as good quality employment to meet the needs of the growing workforce. Significant growth will come from the relocation of PHE (which is distributed across the R&D and public administration sectors). Further jobs growth in the tradeable economy will need to be secured, through maximising the benefits of the PHE relocation, the Business Innovation Centre at Harlow Science Park, and committed efforts to realise the opportunities presented by being within the UK Innovation Corridor including potential overspill from Cambridge and London.

²⁵ Along with Research & Development this includes the uplift for PHE relocation.

4 Employment Sites and Premises Requirements

- 4.0.1 This chapter considers the employment (B Use Class) sites and premises requirements which relate to the employment scenario set out in the preceding chapter.
- 4.0.2 This analysis is consistent with the methodology deployed in the 2017 West Essex and East Hertfordshire Assessment of Employment Needs. This enables comparison on a like-for-like basis and consideration of any differences. Appendix 5 to this report sets out a summary of the methodological process for ease of reference.

4.1 Quantitative Requirements to 2033

Employment by Use Class

- 4.1.1 Employment by sector is translated to Use Class using the matrix set out at Appendix 5. The results of this process show the range of settings for additional employment across the HGGT 2016-33 are set out in Table 4.1 below. This shows that a third of net employment change is anticipated within the B Use Classes. 29% of net jobs are anticipated to require no land use or be linked to homeworking, with the remainder split across A, C and D Use Classes with a very small amount within Sui Generis.

Table 4.1 Change in Employment by Use Class 2016-33

Use Class	Share of Employment Change
A	9%
B	33%
C	10%
D	18%
Sui Generis	1%
None & Homeworking	29%

B Use Class Sites & Premises Requirements

- 4.1.2 The core Harlow analysis from the 2017 Employment Needs analysis does not change. This included both net additional and replacement requirements for the town. There was also consideration of the potential to re-use existing employment sites to meet requirements.
- 4.1.3 The main differences therefore relate to:
- The apportionment of some of the net additional growth requirements for East Hertfordshire and Epping Forest districts; and
 - The additional employment uplifts for the education sector and target growth sectors.

4.1.4 The analysis estimates a requirement for an additional

- 11,100 sqm of B1a office uses (1 – 3ha)²⁶;
- 9,200 sqm of B1b R&D uses (2.5ha); and
- 11,900 sqm of B1c/B2/B8 industrial and storage uses (3ha).

4.1.5 The total minimum additional requirement is estimated at 7 – 9ha²⁷. This is in addition to the 18-20ha of land identified for Harlow within the 2017 Employment Needs analysis. The total requirement within the current plan period is therefore estimated at 25 – 29ha.

4.1.6 In floorspace terms the gross completions requirements are estimated at approximately 55,000sqm of offices and 205,000sqm of industrial and warehousing over the period 2016-33²⁸.

4.2 Post 2033 Quantitative Requirements

4.2.1 Beyond 2033 there will be both net additional employment land requirements, but also additional replacement requirements to support the churn and development of the HGGT economy at 2033.

Net Additional Requirements

4.2.2 The analysis estimates net additional employment growth requirements post 2033 will drive a requirement for an additional:

- 18,200 sqm of B1a office uses (2 – 5ha);
- 24,800 sqm of B1b R&D uses (7ha); and
- -14,100 sqm of B1c/B2/B8 industrial and storage uses (-3.9ha).

4.2.3 The different typologies of these uses mean they should not be ‘netted off’ to provide a single total. Therefore, a minimum net additional requirement of 9-12ha is estimated.

4.2.4 The negative requirement for industrial and storage uses is driven by forecast reductions in employment. The methodology employed for estimating net changes in employment, particularly for manufacturing activities. Whether this leads to a net reduction in floorspace is uncertain. Evidence of changing employment densities is inconclusive.

4.2.5 For logistics, storage and distribution activities there is the potential for continued growth requirements beyond 2033. However, such requirements are not best considered at the local level. Further consideration of warehouse, storage and distribution requirements beyond 2033 is needed, looking at a wider area. Such uses are critical economic infrastructure and need to be planned for at a larger than local level.

²⁶ Land areas for office requirements are stated as a range to reflect the different potential development densities. In out of town/business park type locations offices are generally developed at approximately 40% site coverage. This corresponds with the higher land area in the range. Where offices are developed in town centres densities can be much higher with multi storey offices and no parking, therefore achieving densities above 100%. For the purposes of this analysis 100% is adopted as an indicative figure and represents the lower land area in the range.

²⁷ Approximately 3 – 4.5ha of this requirement relates to the apportionment of East Hertfordshire and Epping Forest district employment to the HGGT, including the vast majority of the office requirement. The remaining 4 – 4.5ha relates to additional uplifts.

²⁸ Based on combining the Harlow requirement from the 2017 Employment Needs analysis and the additional requirements associated with the further development as part of the HGGT. This floorspace estimate was calculated before adjustment for re-use of existing employment sites.

4.2.6 For the purposes of this analysis the negative industrial and storage requirement has been set to zero.

Replacement Requirement

4.2.7 The method of calculating replacement demand utilised within the 2017 Employment Needs analysis is set out in Appendix 5 to this report. In this instance there is no definite end date. For the purposes of this analysis a 10-year requirement has been included.

4.2.8 The 10-year replacement requirements are estimated at:

- 10,900sqm of office floorspace (1-3ha)
- 49,800sqm of industrial and warehouse floorspace (14ha)

Total Requirement

4.2.9 In considering the total land requirement it is appropriate to take into account the potential re-use of existing employment sites through re-development to meet the overall requirement. The 2017 Employment Needs analysis incorporated a very high re-use percentage for Harlow (70%) on the basis of its portfolio of sites and designation of parts of the Templefields estate within the Enterprise Zone. More typically a figure of approximately 40% is adopted, as was used for East Hertfordshire and Epping Forest districts. With less certainty of the potential for re-use of sites post 2033, the more typical 40% re-use assumption is included.

4.2.10 Table 4.2 sets out the analysis for the post 2033 period in a similar format to the tables within the 2017 Employment Needs analysis. This indicates an overall requirement for 3.5-9ha of office land and 8ha of industrial and warehouse land. Gross completions for both office and industrial and warehousing are anticipated to be in the region of 50,000sqm.

Table 4.2 Post 2033 Estimated Quantitative Employment Floorspace and Land Requirement

	Office (incl B1a/b)	Industrial & Warehousing
Replacement Provision (A)	10,900	49,800
Net Additional Requirement (B)	42,900	-
Gross Requirement (C=A+B)	53,800	49,800
Delivered on Existing Employment Sites [40%] (D)	21,500	19,900
Net Requirement (E=C-D)	32,300	29,900
Flexibility Allowance [10%] (F)	3,200	3,000
Total Requirement (G=E+F)	35,500	32,900
Total Land Requirement	3.5 – 9 ha	8 ha

Source: HJA (*Figures may not sum due to rounding*)

4.2.11 This analysis for the period post 2033 is indicative. This is beyond the current plan period and the full housing requirement for HGGT beyond 2033 has not been considered. Therefore more detailed analysis will be required at the appropriate time to inform future Local Plan preparation or review. However, this longer term requirement is a relevant back drop to planning and decision making.

4.3 Overall Requirement for HGGT

- 4.3.1 When considering the overall quantitative requirement for the HGGT from 2016 is estimated at 36 – 46ha. This covers replacement requirements to c2043 and the net additional requirements arising from 23,000 additional dwellings. The component elements are summarised in Table 4.3.

Table 4.3 Estimated HGGT Quantitative Employment Land Requirement 2016 - Completion

	Office	Industrial & Warehousing
Harlow 2017 Employment Needs Analysis	2 – 4ha	16ha
HGGT Uplifts to 2033	3.5 – 5.5ha	3ha
<i>Total Requirement to 2033</i>	<i>5.5 – 9.5ha</i>	<i>19ha</i>
Post 2033 Indicative Additional Requirement	3.5 – 9ha	8ha
Total HGGT Requirement (23,000 additional dwellings)	9 – 18.5ha	27ha

Source: HJA (Figures may not sum due to rounding)

4.4 Qualitative Requirements and Market Comment

4.4.1 Appendix 4 provides discussion of indicative trends within the key market segments of the commercial market relating to offices, manufacturing and distribution. Some of the most pertinent points for the HGGT are set out below alongside relevant commercial market comment provided through the consultation programme.

4.4.2 Overall there is some evidence of changing working practices and related changes in workspaces. However, the overall scale of potential change in the next 20 years is uncertain. The rate of change in the market may not be as fast generally as it is perceived in some areas.

Office

4.4.3 Harlow is not currently perceived as a major office location. However, town centre regeneration provides the opportunity to reposition the Harlow offer aligned to its economic development strategy and the underpinning aims for the HGGT and its role in the UK Innovation Corridor.

4.4.4 Nationally there has been a shift of office requirements towards urban core locations, this enables improved access by public transport and access to amenities for workers. Out of town locations are having to adapt in order to offer similar benefits. Harlow at present does not have a competitive town centre offer for offices.

4.4.5 Being able to attract and retain workers is now critically important, location is therefore more important than the property offer, or its cost. It was reported by local agents that for employers with even moderate sized workforces paying high wages property costs are de minimis. It is not therefore possible to compete on property cost, the focus must be on workforce amenity.

4.4.6 Flexibility of workspace and tenure is increasing. This includes space being treated as a service rather than a commodity. This increasing flexibility means office space is also being found in non-traditional locations such as hotels and retail centres. Cafes are now frequently quasi workplaces. There is therefore less clear ‘zoning’ of office areas. Notwithstanding, whilst there is increasing flexibility, and home-working may be more prevalent, there is still value stored on interaction and collaboration which is seeing continued take up of office spaces. It may just be that these workspaces are far more flexibly designed, and featuring more meeting spaces, breakout spaces and amenities as opposed to traditional work areas.

4.4.7 There is growing evidence of challenges presented to office markets from Permitted Development Rights (PDRs). This is reducing available office capacity, and in locations where office development is commercially challenging there are real concerns. PDR has been cited as a particular challenge in Harlow. The 2017 Assessment of Employment Needs considered the need

to provide replacement office stock as a result of losses to other uses. Article 4 Directives are now in place which should help to stem unwanted conversions. However, if there are continued large scale losses there will need to be consideration of whether additional provision is required through the monitoring and management process.

- 4.4.8 Discussion with commercial agents active in the Harlow area highlighted that in recent times the main large requirements in areas such as Harlow (but also similar locations in the wider area) have been relocations by established occupiers, rather than new large investments. PHE is viewed as a highly unusual example. The majority of consultees expected smaller flexible office requirements to be the primary driver. To attract multiple larger office requirements would take a significant change in market perception and offer.

Industrial

- 4.4.9 Harlow is currently perceived as a predominantly industrial location in terms of the commercial property market. This market segment is proving very successful with low void rates.
- 4.4.10 Generally the continued rise in automation and use of AI is impacting manufacturing space. In particular this is driving requirements for modern stock. In areas where stock renewal has been slow, with a preference for refurbishment, there is a potential need for significant replacement activity. This has been recognised in Harlow e.g. the designation of part of Templefields within the Enterprise Zone.
- 4.4.11 The general trend nationally is towards smaller unit sizes and towards urban sites. This aligns to consultees who highlighted the need for smaller units and grow on space (for both office and industrial market segments). This aligns with the findings of the 2016 Grow-On Space Feasibility Study prepared by SQW and BBP Regeneration on behalf of Essex County Council.

Storage, Distribution and Logistics

- 4.4.12 The market is split into two core segments, large regional distribution hubs, often requiring very large sites; and first mile/last mile local centres which require much smaller sites.
- 4.4.13 There are trends towards densification, including multi storey development to maximise value from rising land costs.
- 4.4.14 There is also a continuing increase in the need for data storage.
- 4.4.15 Consultations highlighted concerns around the volume of land at Harlow that is being lost to large distribution requirements, and which has an opportunity cost. It is recognised that such development has the potential to constrain the supply of land for the type of economic uses being targeted at HGGT. It was evident that there is a need for a strategic consideration of where large scale footloose logistics uses can be accommodated within the wider area over the long term. This may require LEP wide or Innovation Corridor wide analysis to ensure this critical infrastructure can be accommodated without detrimental effect to wider economic ambition.

4.5 Summary

- 4.5.1 The assessment of future employment sites and premises requirements has been undertaken to be consistent with the methodology utilised in the 2017 Assessment of Employment Needs. Over the period 2016-33 a requirement for an additional 7-9ha of employment land has been identified, over and above the requirements as set out for Harlow in the 2017 study which has informed the Harlow Local Plan allocations. This is required to accommodate the higher levels of

employment growth identified in order to deliver a balanced labour market across HGGT. This comprises 1 – 3ha for B1a office uses, 2.5ha of B1b R&D uses and 3ha for B1c/B2/B8 industrial and warehouse uses. This creates a total quantitative requirement for the HGGT over the period 2016-33 (aligned to the respective Local Plans) of 25 – 29ha.

- 4.5.2 The period beyond 2033 has not yet been considered in other evidence, given that it extends beyond the Local Plan periods. Long term future requirements at the HGGT will comprise both net additional requirements and the need to facilitate further modernisation and replacement of existing stocks. Analysis based on the net additional requirements arising from a minimum of 7,000 dwellings post 2033 plus replacement requirements over a 10-year period indicates a longer-term quantitative requirement for a minimum of a further 3.5 – 9ha of land for office uses and 8ha for industrial and warehouse uses. However, this will require further analysis and research as part of the appropriate processes for Local Plan preparation and review in due course.
- 4.5.3 In qualitative terms there are changing trends in the commercial employment property markets. There are likely to be further changes over the period to 2033 and beyond, as working practices change. This will require appropriate flexibility and a ‘plan, monitor, manage’ approach.
- 4.5.4 Within the office market the primary changes are being driven by ensuring access to amenities for workers. This is driving office requirements to town and city centres with good public transport access and nearby leisure, retail and services. This has potential implications for future town centre redevelopment at HGGT. There is also a move to more flexible workspaces and tenures, with office space being viewed as a service rather than a commodity. This flexibility includes offices in non-traditional settings, integrated with other uses such as hotels, cafes and retail centres. Whilst homeworking may be more prevalent, there is a continued desire to enable collaboration and interaction. Discussion with local agents has indicated that Harlow is not currently a primary office location and there will need to be a substantial change in perception for this to change. Most large requirements have arisen from relocations within the town. Future requirements are therefore expected to be predominantly for smaller flexible workspaces.
- 4.5.5 Within the industrial market the evidence suggests continued requirements for new stock to enable modern working practices and technology. The trend is also towards smaller unit sizes. The primary focus for HGGT is expected to be small units and grow on space. The current industrial market in Harlow is viewed as very strong with low void rates and evidence of new developments proving successful.
- 4.5.6 Within the storage, distribution and logistics markets there is a separation between very large regional distribution centres and more localised final mile centres. There is also evidence of a move towards more intensive use of space including multi storey development to reduce land costs. The primary concern for HGGT is footloose logistics uses swallowing up all available supply which constrains growth in target sectors.

5 High Level Employment Sites Strategy

5.0.1 This chapter provides a high level analysis of the current employment sites relevant to the HGGT and some overarching strategic guidance on (a) whether these are likely to be sufficient to meet the identified needs of the HGGT; (b) the potential roles that each can play; and (c) what additional potential supply might be needed in the future.

5.1 Currently Identified Supply

5.1.1 Table 5.1 summarises the current employment supply which can play a role in meeting the requirements of the HGGT. This considers those sites which can contribute from 2016 onwards, aligned to the analysis of future requirements. These sites have been identified from the respective Local Plans. Sites in Epping Forest and East Hertfordshire that are not relevant to the HGGT are shown in grey italics for reference.

5.1.2 In aggregate a total of 27 ha of employment land has been identified within the three Local Plans which is relevant to the HGGT. In addition, policy ED1 of the Harlow Local Plan notes that opportunities for office floorspace in Harlow Town centre will be identified through the Harlow Town Centre Area Action Plan. The allocation at Dorrington Farm also includes the redevelopment of the existing 1ha employment area at that location to deliver higher density development.

Table 5.1 Allocated Employment Sites

Site name	Policy ref.	Use allocation	Size
Harlow			
Harlow Business Park, The Pinnacles	ED1-1	B1	4.6 ha
London Road	ED1-2	B1	14.2 ha
East Road, Templefields	ED1-3	B1/B2/B8	2.2 ha
TOTAL			21.0 ha
Epping Forest			
<i>Langston Road Industrial Estate</i>	<i>LOU.E2</i>	<i>B2</i>	<i>1.0 ha</i>
<i>North Weald Airfield</i>	<i>NWB.E4</i>	<i>B1/B2/B8</i>	<i>10.0 ha</i>
Dorrington Farm	RUR.E19	B1	1.0 ha
<i>Galley Hill Road Industrial Estate</i>	<i>WAL.E6</i>	<i>B2/B8</i>	<i>1.0 ha</i>
<i>Land North of A121</i>	<i>WAL.E8</i>	<i>B1/B2/B8</i>	<i>10.0 ha</i>
TOTAL			23.0 ha
Total HGGT Relevant			1.0 ha
East Hertfordshire			
<i>North of Buntingford Business Park</i>	<i>BUNT3</i>	<i>B1/B2/B8</i>	<i>3.0 ha</i>
<i>Bishop's Stortford North</i>	<i>BISH3</i>	<i>B1/B2/B8</i>	<i>4.0 ha</i>
<i>Bishop's Stortford South</i>	<i>BISH5</i>	<i>B1/B2/B8</i>	<i>4.0–5.0 ha</i>
<i>North and East of Ware</i>	<i>WARE2</i>	<i>B1/B2/B8</i>	<i>3.0 ha</i>
Gilston Area	GA1	B1/B2/B8	5.0 ha
TOTAL			19.0–20.0 ha
Total HGGT Relevant			5.0 ha
TOTAL HGGT SUPPLY			27.0 ha

5.2 Comparing Supply and Demand

- 5.2.1 The assessment of requirements over the 2016-33 period estimated a need for a minimum of 25-29ha. This compares to identified supply within the three Local Plans of 27ha plus further opportunities in Harlow Town Centre and the redevelopment of an additional 1ha at Dorrington Farm. In purely quantitative terms this suggests that there is sufficient supply to meet requirements to 2033. However, this is reliant on the vast majority of land coming forward and little to no additional capacity to meet requirements beyond 2033 identified at present.
- 5.2.2 In terms of Use Class, supply is dominated by sites allocated for B1 uses. These sites are not necessarily solely office focused and will include B1b Research and Development and B1c Light Industrial, so there isn't perfect read across with the assessment of future requirements. However, only 7.2ha is allocated with potential for B2 and B8 uses. This compares with an identified industrial and warehousing requirement of around 20ha. On this basis, a substantial proportion of the B1 allocated sites will be required to deliver light industrial, R&D and technology uses rather than office development. Those sites that do have B2 and B8 allocations will most likely be required to make a significant contribution to those uses. That includes the proposed employment allocation at Gilston. This issue of mix will need to be carefully monitored.
- 5.2.3 What is evident from this analysis, and is unsurprising given the focus of Local Plans and their evidence base on the period to 2033, is that employment land supply has not yet been identified to meet longer term (post 2033) requirements. This will be subject to appropriate research and policy making as part of future Local Plan review and preparation when a longer time frame is considered. However, this should also be given appropriate consideration within planning and decision making around the HGGT, particularly for sites anticipated to play a long-term role in the delivery of the HGGT.

5.3 Re Use of Previously Used Employment Sites

- 5.3.1 The 2017 Employment Needs analysis included an assumption that 70% of the Harlow gross requirement for new employment floorspace could be achieved through the redevelopment of existing/previously used employment sites²⁹. In quantitative terms this equates to 33,000sqm of B1a office floorspace and 137,000sqm of industrial and warehousing uses. This assumption was justified through both historic evidence of achieving this level of site reuse, and identified sites with opportunities for redevelopment (see 2017 Employment Needs study, Appendix 3, Figure A3.7). This identified 36ha of land with the potential to deliver 170,000sqm of employment floorspace. The majority of these sites are identified as protected employment sites within the Harlow Local Plan (Policy ED2)³⁰. These sites will play a critical role in delivering modern industrial and warehousing stock to meet the needs of HGGT.
- 5.3.2 Analysis of the redevelopment of these sites has identified significant progress in terms of permitted schemes and the start of construction. These redevelopment schemes are delivering B Use Class employment floorspace and have not been lost to other uses. In broad terms around

²⁹ The 2017 analysis therefore deducted this level of requirement from the total volume of new supply that would need to be identified. Given a significant driver of industrial requirement was to deliver modern replacement stock this approach does not undermine achievement of growth ambitions.

³⁰ The one exception is the site listed in the 2017 analysis as East Place. This is listed under Policy ED1 of the Harlow Local Plan and therefore would be subject to double counting if included in both the schedule of new supply under ED1 and reuse of existing sites under ED2. This site was identified to deliver 10,000sqm of floorspace through re-use. This was the smallest of the identified sites.

75% of the redevelopment sites by land area are delivering industrial and warehousing uses, with around 25% delivering B1a/b uses (comprising Grade A office space at Kao Park and the PHE scheme on part of the former GSK site). This mix is broadly aligned to the anticipated replacement requirements within the 2017 study.

- 5.3.3 This is reassuring, in that the assumption in the 2017 analysis is being validated in reality. It also suggests there is no shortfall in terms of re-using previously developed employment sites that needs to be met through additional supply. This redevelopment is also providing substantial short-term supply of B Use Class floorspace to support the growth of HGGT.

5.4 Potential Additional Supply

- 5.4.1 The above analysis suggests a broad quantitative sufficiency of identified supply to meet requirements within the current plan period. However, there is a potential lack of industrial and warehouse supply, given the predominance of B1 allocations. This will not be resolved through identification of town centre sites. If existing B1 allocations are unable to meet requirements through B1c light industrial uses there may be a need to provide additional industrial capacity through future Local Plan reviews. This will need appropriate monitoring and management.

- 5.4.2 The progress of new industrial and logistics developments on redevelopment sites provides evidence of strong current demand and supply in these sectors. Whilst planning permissions are in place on many of the redevelopment sites, these are not yet fully constructed or occupied. This suggests supply will meet arising requirements for some time yet. The redevelopment of part of the Templefields area, designated within the Enterprise Zone, will also need to play an important role in meeting future requirements for industrial development.

- 5.4.3 A further unsurprising gap identified by this analysis is the post 2033 period, which has not yet been considered in terms of Local Plans. Identifying further supply may reasonably be considered a matter for Local Plan reviews or the next generation of Local Plans. Notwithstanding, appropriate consideration should be given to any sites anticipated to play a long-term role in the delivery of HGGT.

5.5 High Level Sites Strategy

- 5.5.1 On the basis of the evidence set out previously in this report, and dialogue with stakeholders, this section considers a headline strategy for allocated employment sites and the wider economic development of the HGGT.

- 5.5.2 The sites strategy has been devised to support and deliver the wider strategic principles of the HGGT, in particular facilitating the economic revitalisation of Harlow and maximising the potential of its key development sites and regeneration opportunities, including the Enterprise Zone. These larger sites will be important in accommodating the bulk of employment development.

- 5.5.3 The strategy recognises the centrality of the sustainable travel aims. In order to align to the HGGT Transport Strategy the following principles have influenced the high-level sites strategy:

- Reduce the need to travel – integrating workspace within new and existing communities where appropriate.
- Walking and cycling – providing workspace within short journey distances utilising safe routes.

- Public transport – locating employment close to interchanges and sustainable transport corridors.
- Private vehicles – seeking to avoid locations that do not enable options 1-3 in the hierarchy, whilst recognising the importance of transport access for movement of goods.

5.5.4 The strategy for employment allocations at the new Garden Communities has been developed to ensure they are able to be 'economically vibrant in their own right' as well as providing a range of local services and workspace to enable sustainable travel aims. This reflects the important placemaking role of providing employment premises within the new Garden Communities, as well as contributing to the wider needs of HGGT.

5.5.5 To enable the ambitions around sustainable travel and reducing the need for journeys it will be important to provide local access to services within Garden Communities. This will include services requiring workshop premises (e.g. repair and servicing activities) and start-up and grow on space for SMEs (both office and industrial).

5.5.6 Integrated mixed-use centres which feature employment uses provide the opportunity to deliver against the key principles for the HGGT. Such centres should include facilities such as workhubs or serviced offices as well as light industrial uses. These should be in close proximity to local amenities and with good public transport access. This can serve local micro businesses and SMEs as well as homeworkers. These are unlikely to be large scale and should not compete with Harlow town centre. However, they can play a role in both placemaking and facilitating business start-up and grow on.

5.5.7 Maintaining flexibility is also a core tenet, and progress should be monitored to ensure adaptability to ongoing economic and commercial market change and the emergence of new opportunities.

Harlow Business Park, The Pinnacles

5.5.8 This allocation comprises 4.6ha for B1 uses. The site lies adjacent to existing business park development with largely modern office and light industrial uses. Further development in keeping with its surrounding development appears appropriate, particularly creating opportunities for SMEs in terms of both start up and grow on space. Notwithstanding, larger scale employment locations at Harlow should be used to accommodate larger occupiers and users which may not be appropriate within new Garden Communities.

Harlow Science Park, London Road

5.5.9 This allocation comprises 14.2ha for B1 uses. The science park has a clear target market and is a key priority development area for HGGT. This designation should be protected as a premium employment site for appropriate Science Park uses to support the delivery of the overarching economic ambition for the area.

5.5.10 A number of schemes have already come forward including a new Business Innovation Centre. It is understood that there is limited potential for further expansion beyond the existing allocation. It may therefore be appropriate to consider now where further science and high technology related activities will be accommodated as and when the Science Park is filled and particularly to meet longer term needs post 2033.

5.5.11 Competitor sites (i.e. focused at the science park market) should not be brought on stream at an early stage, so as not to compete with the current offer.

East Road, Templefields

- 5.5.12 This allocation comprises 2.2ha for B1, B2 and B8 uses. A new development of industrial, warehouse and ancillary trade counter units is already permitted/under construction. It is understood that only one unit remains available. This site is therefore effectively fully taken up.
- 5.5.13 Elsewhere in Templefields, the redevelopment of the area identified within the Enterprise Zone to deliver approximately 8ha or 32,000sqm of replacement industrial floorspace has a role to play in providing further modern stock. This site has an important role to play in meeting the industrial related requirements of HGGT.

Dorrington Farm, Latton Priory

- 5.5.14 This allocation comprises 1ha for B1 uses in addition to the existing 1ha of employment land at the site, which is anticipated to be subject to comprehensive redevelopment as part of delivering the new Garden Community. This allocation will contribute to the economic vitality of the Latton Priory Garden Community to the south of Harlow as well as supporting the wider needs of the HGGT. It is anticipated that relatively high density of employment development can be achieved³¹. A minimum of 15,000sqm of B Use Class floorspace should therefore be delivered, including a mix of B1 uses comprising both office and light industrial/workshop space. Further analysis to support this quantum is set out in Appendix 6 to this report.

Gilston Area

- 5.5.15 This allocation comprises 5ha for B1, B2 and B8 uses. The analysis in this report supports the need for a significant proportion of this allocation to be delivered within the current plan period. It is anticipated that relatively high density of employment development can be achieved, due to the low provision of car parking to be provided and through integrating uses as a result of positive masterplanning. A minimum of 20,000sqm of B Use Class floorspace should therefore be delivered by 2033 with the ambition for a total of 34,000sqm at completion. Further analysis to support this quantum is set out in Appendix 6 to this report.
- 5.5.16 The analysis in this report has identified the importance of the Gilston Villages allocation contributing to appropriate industrial uses to meet the needs of the HGGT. Masterplanning should explore sympathetic integration within the fabric of the villages in keeping with the HGGT Transport Strategy³². Consultation has identified opportunities linked with proximity to key transport infrastructure including the A414 and Harlow Town Station. Such areas should be a focus for the majority of employment provision (including B2/B8), with the remainder provided within other village centres.

Town Centre and District Centres

- 5.5.17 Harlow town centre has been identified in the Harlow Local Plan as having potential for office development. This will be examined through development of an Area Action Plan. Based on trends in the office market, integration of office development within the town centre should be a key ambition in order to deliver vibrancy and provide an offer aligned to the needs of modern occupiers.
- 5.5.18 As noted above for Gilston and Latton Priory, but also relevant to Water Lane and East of Harlow Garden Communities, there is a role for employment space, potentially including workshops and serviced offices or workhubs as part of integrated mixed-use centres. These could helpfully be

³¹ Epping Forest District Local Plan Examination Hearings Homework Note 16 with further detail at Appendix 6 to this report.

³² A significant logistics type development across the entire allocation at Gilston is not anticipated.

located in close proximity to wider services (retail and leisure) as well as public transport hubs and interchanges.

5.6 Accommodating Land Hungry Uses

- 5.6.1 This research, including the stakeholder consultation and review of recent development proposals has identified the current strength of market interest for logistics uses. Icon Harlow on the GSK South Phase 1 site is permitted to deliver more than 500,000 sqft (approximately 50,000 sqm) of B8 warehouse and logistics uses. There is concern that if this pattern continues, footloose logistics development will crowd out higher value industrial uses and hamper efforts to achieve the economic ambitions for the HGGT, particularly given the proximity of HGGT to both the M11 and M25 providing strong attraction for such users.
- 5.6.2 The allocation of new employment sites at Harlow for B1 uses is therefore helpful in protecting these sites. However, there is a need to strategically plan long term for large scale footloose logistics uses across a wide geography given their role as critical economic infrastructure for the modern economy. Without alternative appropriate long term locations for such uses pressure will remain on sites in and around the HGGT which is a clear risk to the ambitions for transformation.

5.7 Summary

- 5.7.1 The assessment of requirements over the 2016-33 period estimated a need for a minimum of 25-29ha. This compares to identified supply within the three Local Plans of 27ha plus further opportunities in Harlow Town Centre and the redevelopment of an additional 1ha at Dorrington Farm. In purely quantitative terms this suggests that there is sufficient supply to meet minimum requirements to 2033. However, this is reliant on the vast majority of land coming forward and little or no additional capacity to meet requirements beyond 2033 identified at present.
- 5.7.2 Much of the allocated supply is designated for B1 uses. It is likely that this will need to include a range of B1b/c R&D and light industrial activities to align to the anticipated mix of requirements. It will also be important that the vast majority of identified allocations come forward within the plan period. This includes a significant proportion of the 5ha at Gilston.
- 5.7.3 There have been high levels of activity on previously used employment sites, bringing forward new employment development. This was a critical element of the 2017 Assessment of Employment Needs. Emerging development is broadly aligned to the anticipated mix of re-use activity within the earlier research. In order to meet the full requirement, the redevelopment of Templefields will be important, this site has been subject to less activity to date.
- 5.7.4 The high-level sites strategy has been developed on the basis of the evidence gathered and is aligned to the principles of the HGGT Transport Strategy.
- 5.7.5 The Harlow Business Park, Harlow Science Park and East Road allocations within the Harlow Local Plan should be progressed as anticipated. Harlow Science Park should continue to be protected as a premium site aligned to the economic ambitions around the target sectors. Early thought should be given to where further Science Park related development might be located in the long term given limitations on expansion to the current site. Harlow Business Park should be developed in keeping with its surroundings with potential for a mix of B1a, b and c uses. East Road has a permitted/constructed scheme which is almost fully taken up. The larger employment

sites at Harlow should be used to accommodate larger occupiers and users which may not be appropriate within the new Garden Communities.

- 5.7.6 Within the new Garden Communities there are two employment allocations. The 1ha (+1ha) allocation at Dorrington Farm within the Latton Priory Garden Community should provide a minimum of 15,000sqm of B Use Class floorspace for a mix of local services including workshops and grow on spaces.
- 5.7.7 A significant proportion of the 5ha allocation at Gilston for B1, B2 and B8 uses will need to be delivered within the current plan period. A minimum of 20,000sqm of B Use Class floorspace should therefore be delivered by 2033, with the ambition for a total of 34,000sqm at completion. Consultation has identified opportunities linked with proximity to key transport infrastructure such as the A414 and Harlow Town rail station. This should be a focus for the majority of employment provision, with the remainder provided within other village centres. This will include industrial premises, workshops and grow on space for SMEs (both office and industrial).
- 5.7.8 The new Garden Communities should include integrated mixed-use centres which feature employment uses, providing the opportunity to deliver against the key principles for the HGGT. Such centres should include facilities such as workhubs or serviced offices as well as light industrial uses. These should be in close proximity to local amenities and with good public transport access. This can serve local micro businesses and SMEs as well as homeworkers. These are unlikely to be large scale and should not compete with Harlow town centre. However, they can play a role in both placemaking and facilitating business start-up and grow on.
- 5.7.9 Harlow Town Centre has been identified in the Harlow Local Plan as having potential for office development. This will be examined through development of an Area Action Plan. Based on trends in the office market, integration of office development within the town centre should be a key ambition in order to deliver vibrancy and provide an offer aligned to the needs of modern occupiers.
- 5.7.10 There is concern that footloose logistics development could crowd out higher value industrial uses and hamper efforts to achieve the economic ambitions for the HGGT, particularly given the proximity of HGGT to both the M11 and M25 providing strong attraction for such users. The allocation of new employment sites at Harlow for B1 uses is therefore helpful in protecting these sites. However, there is a need to strategically plan long term for large scale footloose logistics uses across a wide geography given their role as critical economic infrastructure for the modern economy. Without alternative appropriate long term locations for such uses pressure will remain on sites in and around the HGGT which is a clear risk to the ambitions for transformation. This should be explored with stakeholders with a wider geographic focus such as the LEPs and UK Innovation Corridor.

6 Wider Issues

6.0.1 This chapter highlights a small number of wider issues for consideration which have emerged from this research. These are not directly related to employment sites and premises but have a clear relationship to achieving the level and type of employment growth that is identified in earlier chapters of this report.

6.1 Economic Leadership and Aspiration

6.1.1 The analysis in this report has identified the need for a step change in the rate of employment growth in the local area. The research has also noted clear opportunities and drivers that have the potential to enable a step-change in employment growth to take place. However, consultees were clear that there remains a significant task to turn these opportunities into reality, not least because it will require a repositioning of Harlow and changes in perception of the town.

6.1.2 There was a nervousness expressed by some consultees as to whether the scale of aspiration, action and leadership currently in place is sufficient to fully capitalise on the opportunities, and whether the scale of the transformation that is required has been fully grasped. However, through new funding routes including the Future High Streets Fund and Town Deal, the latter of which has led to the establishment of a Town Growth Board, there is already a strengthening of the leadership offering. This requirement for a step change in growth is also consistent with the Harlow Economic Development Strategy and underpinning ambitions of the HGGT.

6.1.3 To deliver a 20+ year programme of continuous and transformational economic growth will require committed leadership and vision. One example could be an economic masterplan with strong governance arrangements around implementation. This will also need to be backed up by appropriate delivery mechanisms that can ensure significant projects come to fruition. To ensure a balanced community the economic focus needs to go hand in hand with the residential growth, and not play merely a supporting role. If the economic development focus is merely in the background there is a clear risk that growth will be predominantly residential led, with an increasing dormitory role and the potential for disconnection.

6.2 Importance of Housing and Town Centre

6.2.1 The importance of both improving the housing mix and delivering significant town centre regeneration were repeatedly identified as critical to enabling economic transformation. Both these issues have been recognised in the documentation to date, and to a large extent are central aims of the HGGT concept. However, as a result of repeated mention of these issues in the consultation programme it is appropriate to stress again their importance.

6.2.2 It is also recognised that there is a 'chicken and egg' dilemma in terms of delivering the town centre regeneration without the scale and mix of population; and in terms of attracting the residents without a high-quality town centre. Challenges around fragmented ownership were also recognised. It was suggested there is a need for a very pro-active public sector lead approach to town centre delivery, which could also integrate with an economic masterplan or similar.

- 6.2.3 The chicken and egg analogy also applies in terms of town centre regeneration and delivering high quality employment. Recent research by Centre for Cities³³ has stressed the fundamental requirement for high-skilled, high paying jobs in order to provide the consumer market to fuel strong high streets. In summary this research emphasises the need to strengthen the demand side, rather than addressing the supply side alone.
- 6.2.4 With workforce a fundamental location decision-making criterion it is vital for the HGGT to offer high quality amenities and facilities in terms of housing, education, health, leisure and retail. This will enable employers to attract and retain their workforce.

6.3 Skills

- 6.3.1 It is a repeated ambition of the HGGT that the existing residents of Harlow are able to participate in the economic growth of the area. The analysis in this report has identified that employment growth is likely to be across a broad range of sectors. The foundational or core economy will deliver an array of employment opportunities at a mix of levels. The tradeable economy, focused on priority sectors will also need to perform strongly and will require a range of skills.
- 6.3.2 This analysis has not considered the skills needs arising from employment growth. However, this needs to be a central strand of an economic masterplan. The importance of workforce as a growth driver was a consistent topic in consultation discussions. The increasing role of digital skills across many, if not all, sectors was also frequently cited. For example, healthcare is expected to undergo significant transformation in the coming years which will drive a significant change in the skills required by the sector. The work of key partners to ensure appropriate skills provision will therefore be critical to the achievement of ambition.

6.4 Capitalising on Public Health England

- 6.4.1 The relocation of Public Health England to Harlow is a major boost to the economic transformation of the area. The potential to drive further growth as a result of this is as yet unproven and unquantified but has been recognised as an opportunity. The focus of PHE staff will be on ensuring a successful relocation. The activity related to maximising the local benefits of this relocation to HGGT and the wider area will likely need leadership and coordination from outside PHE, albeit in partnership with relevant PHE staff.
- 6.4.2 PHE is not a new entity and therefore will have existing supplier relationships and partnerships. Therefore, understanding the potential for wider effects should be a first step e.g. through considering the wider effects on the current locations of PHE operations. As well as supply chain relationships there may be spin-out potential, which could link to the new Business Innovation Centre. Over time, the establishment of a critical mass of highly skilled workers at PHE has the potential to create significant spin-out activity and PHE could become an anchor of a public health related cluster.

³³ <https://www.centreforcities.org/publication/whats-in-store-british-high-streets/> [last accessed 31/10/19]

Appendix 1: Baseline Data Analysis

Methodology

- i. The allocated residential development sites within the Harlow Gilston Garden Town (HGGT) boundary do not directly correlate with any spatial units used to gather socio-economic statistics.
- ii. As such, it was necessary to first define a 'best fit' study area that could give a representative picture of the socio-economic baseline conditions in the locations directly impacted by the development of HGGT. This area extended beyond the existing Harlow local authority boundary to incorporate parts of both East Hertfordshire and Epping Forest districts.
- iii. Upon analysing the contribution of the non-Harlow parts of the 'best fit' study area in both East Hertfordshire and Epping Forest districts, it became apparent that these areas contributed to less than 1% of the 'best fit' study area's resident and workplace populations (according to Census 2011 data).
- iv. As such, given that Harlow accounts for over 99% of the 'best fit' study area's resident and workplace populations, Harlow District has been chosen as the most appropriate spatial unit to represent the socio-economic baseline conditions in the HGGT impact area. This will also enable a much more detailed baseline analysis given the availability of socio-economic data that utilises the district-level spatial unit.
- v. Information on the economic baseline conditions within the study area has been collected through a detailed desktop review of existing studies and datasets. These are summarised in Table A4.1 below.

Table A4.1 Data Sources

Annual Population Survey	2018	ONS
Annual Survey of Hours and Earnings	2018	ONS
Business Demography	2017	ONS
Business Register and Employment Survey	2018	ONS
Census of Population	2011	ONS
Jobs Density	2018	ONS
Local authority population projections	2014-based	Statistics England
Mid year population estimates	2018	ONS
Regional Gross Value Added	2018	ONS
Regional Gross Value Added by Local Authority	2017	ONS
UK Business Counts	2018	ONS

Population

- vi. The Office for National Statistics (ONS) Mid-Year Population Estimates report a resident population of 86,594 persons in Harlow in 2018 (latest available).
- vii. The population of Harlow has increased by 8.4% over the ten-year period since 2008 (Mid-Year Population Estimates, ONS).
- viii. The Mid-Year Population Estimates report a working age population (aged 16–64) of 53,901 in Harlow in 2018, which is 62% of the resident population.
- ix. The working age population of Harlow has increased by 4.6% over the ten year period since 2008, but the share of the resident population has decreased by more than 2% (Mid-Year Population Estimates, ONS).

Industry

- x. There are 2,875 businesses in Harlow in 2018 (UK Business Counts, ONS).
- xi. The Harlow economy is dominated by micro businesses. This is not too dissimilar to the business base of England as a whole. However, Harlow does have a higher proportion of SME and large businesses in comparison to the England average.

Table A4.2 – Business base by business size, 2018

Business size	Harlow	England
Micro (0–9 employees)	88%	89%
SME (10–249 employees)	12%	10%
Large (250+ employees)	0.7%	0.4%

Source: UK Business Counts, ONS (Note – figures may not sum due to rounding)

- xii. The number of micro and small-medium size enterprises (SME) in Harlow increased between 2010 and 2018 (UK Business Counts, ONS). It is difficult to make an accurate assessment of the change in the number of large businesses in the Harlow as ONS figures are rounded to the nearest five.

Table A4.3 – Change in size band distribution of businesses 2010–2018, Harlow

Business size	2010	2018
Micro (0–9 employees)	1,780	2,520
SME (10–249 employees)	260	335
Large (250+ employees)	15	20

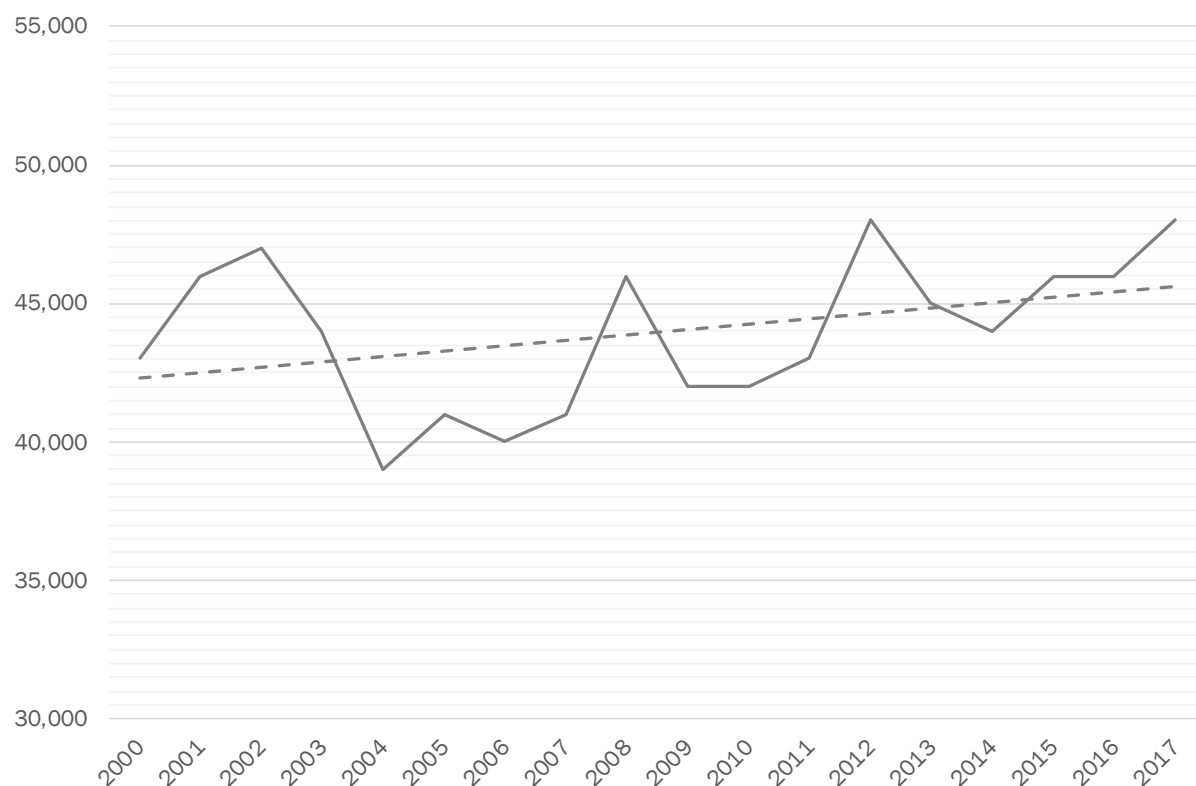
Source: UK Business Counts, ONS

- xiii. Overall, Harlow’s business base is very active when compared to the picture across England. The number of enterprises in Harlow increased by 40% between 2010–2018, compared to an increase of 29% in England as a whole (Business Demography, ONS).

Employment and Economic Activity

- xiv. The most comprehensive measure of jobs in an area is the ONS Jobs Density measure. This reports 48,000 jobs in the Harlow in 2017 (latest available).

Figure A1.1 – Harlow Total Jobs, 2000–2017



Source: Jobs Density, ONS

- xv. The number of jobs in Harlow is at the highest level it has ever been. However, the level is highly volatile year on year. The linear trend from 2000–2017 shows a clear increase over the period.
- xvi. The increase in absolute terms equates to an almost 12% increase in total jobs in Harlow between 2000–2017. This compares unfavourably to an increase of 20% across the whole of England.
- xvii. The economic activity rate (residents aged 16–64) in Harlow is 81.8%. This is higher than the England average (78.9%) (ONS Annual Population Survey, Apr 2018 – Mar 2019).
- xviii. The employment rate (residents aged 16–64) in Harlow is measured at 76.4% compared to 75.6% in England.
- xix. Self-employment is high in Harlow, at 13.6% compared to 10.9% in England.
- xx. Unemployment is high in Harlow (6.6%) compared to England (4.2%) (all figures ONS Annual Population Survey, Apr 2018 – Mar 2019).
- xxi. Overall the Annual Population Survey indicates a high level of reported labour market participation in terms of a high economic activity rate. This high degree of participation enables the employment rate to also be higher in Harlow, despite higher reported levels of unemployment.
- xxii. Table A4.4 shows the share of Harlow residents employed in occupation categories 1-3 (higher order occupations) is lower than the England average, mainly as a result of significantly less workers in ‘Professional occupations’ (Annual Population Survey, ONS). The share employed in

occupation categories 4-6 (middle order occupations) is also lower than the England average. The share employed in occupation categories 7-9 (lower order occupations) is much higher than the England average.

Table A4.4 – Resident employment by SOC, Harlow (2019)

Occupation	Total employment	Share of employment (Harlow)	Share of employment (England)
1: Managers, directors and senior officials	4,300	10.5%	11.2%
2: Professional occupations	6,100	14.8%	21.0%
3: Associate prof & tech occupations	7,400	18.1%	15.0%
4: Administrative and secretarial occupations	3,600	8.9%	10.0%
5: Skilled trades occupations	3,800	9.3%	9.9%
6: Caring, leisure and other service occupations	3,100	7.5%	8.9%
7: Sales and customer service occupations	2,700	6.6%	7.3%
8: Process, plant and machine operatives	6,100	14.9%	6.2%
9: Elementary occupations	3,900	9.4%	10.2%

Source: HJA analysis based on Annual Population Survey, ONS (figures may not sum due to rounding)

- xxiii. The proportion of Harlow population aged 16–64 with NVQ4+ as a highest level of qualification is reported at 36.1% compared to 39.0% in England (ONS Annual Population Survey, Jan–Dec 2018). This trend is evident at every level of qualification, with the result being 11.6% of Harlow residents having no qualifications, compared to 7.6% in England as a whole.
- xxiv. This data on occupations and skills indicates a relatively low concentration of Harlow residents with high-skill levels working in high-order occupations.

Sector Profile

- xxv. Location Quotients (LQ) show the concentration of sectors in an area, relative to the UK economy. An LQ of 1 indicates the sector has an equal concentration to GB, an LQ>1 shows a relative concentration of activity in that sector. An LQ<1 shows an under-representation of that sector.
- xxvi. Table A4.5 reports the number of businesses and level of employment of each sector in Harlow, along with the equivalent LQ for each metric.
- xxvii. In terms of business numbers and concentration, Harlow has a relatively strong business base in Transportation and storage (LQ = 2.03), Construction (1.60), Manufacturing (1.32), Human health and social work activities (1.32) and Education (1.30).
- xxviii. In terms of employment numbers and concentration, Harlow has a relatively strong representation in Wholesale and retail trade (LQ = 1.46), Administrative and support service activities (1.37), Human health and social work activities (1.31), and Professional, scientific and technical activities (1.15) as well as some concentration in manufacturing (1.07). These sectors with concentrations are generally the larger employment sectors in Harlow.

Table A4.5 – Total business LQ by sector, Harlow (2017)

Sector	Total bus.	LQ	Total emp.	LQ
A : Agriculture, forestry and fishing	5	0.03	30	0.05
B : Mining and quarrying	0	0.00	0	0.00
C : Manufacturing	195	1.32	3,500	1.07
D : Energy	0	0.00	20	0.11
E : Water supply	15	1.85	125	0.45
F : Construction	560	1.60	1,750	0.87
G : Wholesale and retail trade	430	1.05	9,000	1.46
H : Transportation and storage	245	2.03	1,500	0.78
I : Accommodation and food services	115	0.70	1,750	0.58
J : Information and communication	200	0.82	900	0.52
K : Financial and insurance activities	35	0.57	600	0.43
L : Real estate	70	0.68	400	0.55
M : Professional, scientific and technical activities	380	0.71	4,000	1.15
N : Administrative and support service activities	265	1.04	5,000	1.37
O : Public administration and defence	0	0.00	800	0.47
P : Education	70	1.30	3,000	0.85
Q : Human health and social work activities	175	1.32	7,000	1.31
R : Arts, entertainment and recreation	50	0.71	800	0.77
S : Other service activities	110	0.95	400	0.48
Total	2,930		41,000	

Source: HJA analysis based on UK Business Counts and BRES, both ONS (Note – figures may not sum due to rounding)

Commuting

- xxix. Resident based travel to work patterns suggest Harlow is part of a functional economic area covering Harlow, Epping Forest, East Hertfordshire, Uttlesford, and Broxbourne, with strong out-commuting links to London also evident. Census 2011 data on Origin Destination indicates that 59% of Harlow residents that are in employment have a workplace located within Harlow. This data also indicates that 14% of Harlow residents that are in employment have a workplace located in London.
- xxx. Workplace based travel to work patterns indicate that 60% of workers who work in Harlow are also residents of Harlow.
- xxxi. Of the approximately 40,500 Harlow residents in employment, 7% work mainly at or from home and 9% have no fixed place of work (Census 2011, ONS).

xxxii. In Harlow, 52% of jobs with a fixed workplace outside the home (i.e. excluding those categorised as working from home or 'no fixed place' of work) are filled by residents of Harlow, and 48% are taken by in-commuters (Census 2011, ONS).

Income

xxxiii. The Annual Survey of Hours and Earnings reports a slight disparity between resident and workplace earnings in Harlow. The median annual salary of a Harlow resident in full-time employment is £28,360, compared to £29,869 for England (ONS, 2017 – latest available). Conversely, workplace based measures report the median annual salary of someone working full-time in Harlow is £29,996, slightly above the figure for England (£29,083). This indicates resident earnings are slightly below workplace earnings, this suggests better paid roles in Harlow have a tendency to be filled by in-commuters.

Jobs per home/dwelling

xxxiv. Data from the 2011 Census has been used to assess the ratio of both jobs and workers to dwellings and households. Given the fact that the levels of in and out commuting are broadly in balance, the discrepancy between the statistics for workers and jobs is primarily underpinned by a small amount of double jobbing. There were approximately 6% more jobs than workers at 2011. Table A4.6 below displays the results of this analysis.

Table A4.6 – Jobs and Workers per Dwelling and Household

	Workers	Jobs
Per Dwelling	1.13	1.21
Per Household	1.17	1.24

Source: HJA analysis based on Census 2011 and Jobs Density 2011, both ONS

Summary

- xxxv. This analysis has considered the baseline economic conditions in Harlow district.
- xxxvi. Harlow has a mixed economy. There is evidence of a relatively strong concentration of businesses in Transportation and storage, Construction, Manufacturing, and Human health and social work activities. In terms of employment, there is a relatively strong concentration in Wholesale and retail trade, Administrative and support service activities, Human health and social work activities, and Professional, scientific and technical activities.
- xxxvii. There is a relatively low prevalence of high-skill residents working in high-order occupations. Employment and economic activity rates in Harlow are slightly above the England average.

Appendix 2: Review of Policy, Strategy and Research

HGGT Vision Document

- i. The HGGT Vision Document was published in November 2018.
- ii. With proposals developed in line with Garden Town principles there is a range of objectives relevant to the economy and employment:
 - Adaptable: Local industry that can respond to economic shifts and the emergence of new sectors;
 - Sustainable: A place where people are inspired to work locally and encouraged to travel actively;
 - Innovative: Spearheading the nation's response to the UK Industrial Strategy³⁴
- iii. Four specific principles related to Economy and Regeneration are set out within the Vision document. These are:
 - At the heart of the LSCC UK Innovation Corridor
 - Having the right workspaces, homes and community facilities
 - A diverse employment base and skilled labour supply
 - A vibrant and resilient Town Centre for all the Garden Town

Harlow and Gilston Garden Town Transport Strategy

- iv. The Draft for Consultation was published in 2019.
- v. The strategy has been devised to help deliver the vision and principles.
- vi. There are three objectives:
 - Achieve a target where 60% of all journeys within the new Garden Town Communities and 50% of all journeys across Harlow, will be undertaken by sustainable modes.
 - Mobility options will be based on a hierarchy of importance:
 - Reduce the need to travel
 - Walking and cycling
 - Public transport
 - Private vehicles
 - Support and encourage a culture of active and sustainable travel ensuring all journeys will be efficient and safe
- vii. Particularly relevant to the Employment Commission under Objective 3 are:
 - Careful planning of the built and natural environment...it starts with policy and planning, and place-making and home design, and providing local centres that can reduce journey lengths and provide a degree of self-sufficiency for every day activities...For instance, digital technology is reducing the need for travel through increasing the option for people to work

³⁴ The HGGT lies within the UK Innovation Corridor

from home. Local co-working spaces can further reduce travel by recognising that people may still prefer to retain a work environment but might not necessarily need to be at their place of work every day.

- Existing and new HGGT communities will be supported by sustainable movement corridors providing high quality networks for walking, cycling and public transport. These will be linked to key places of employment, the bus station and rail network, enabling seamless and multi-modal sustainable connections with destinations within HGGT and beyond.

viii. Within the Actions set out the following are particularly pertinent:

- Action 1 – Reducing the need to travel. Including: facilitating remote and flexible working technologies and practices to enable a better work life balance for residents; facilitating shorter (and more active) journeys by improving sustainable interconnectivity; encouraging vibrant town and neighbourhood centres offering a wide range of local services and amenities; and providing opportunities to live and work within the same community to reduce travel distances.
- Action 3 – Supporting and encouraging a culture of active and sustainable travel. Including: Identifying and enhancing principal sustainable movement corridors, both within and beyond HGGT, which connect housing with key destinations for work, education, healthcare, leisure and recreation.
- Action 5 – Supporting walking and cycling. Including: ensuring homes and destinations provide suitable facilities, so that access to secure cycle parking, e-bike charging, associated storage and other facilities to support users of active travel modes are at least as convenient, if not better, than access to private motor vehicles.
- Action 6 – Public transport. Including: ensuring that services connect homes with key destinations, making use of the Sustainable Transport Corridors, offering frequent, high quality, seamless, rapid services with limited stops.

Local Plans

Harlow Local Development Plan: Pre-Submission Publication, May 2018

- ix. The Local Plan sets out a long-term vision for Harlow, and contains policies that ensure future development is sustainable by meeting the needs of residents, businesses and visitors, while providing the required infrastructure and protecting environmental assets.
- x. Chapter 8 of the Local Plan contains the Economic Development and Prosperity Strategy. The Strategy and its policies are targeted at delivering the following objectives:
- Meet the employment needs of the district by diversifying and investing in the district's employment base
 - Secure economic revitalisation and reinforce Harlow's reputation as a key centre for Research and Development
 - Improve educational opportunities and the skills base of local residents
- xi. The Strategy highlights a number of high-skill 'growth' sectors that will underpin jobs growth in Harlow – Life sciences and MedTech, Advanced manufacturing, and ICT and digital. Developing the visitor economy is also seen as an economic priority.

- xii. The strategy identifies suitable land for the delivery of new employment floorspace that supports employment growth in these sectors via the delivery of committed floorspace at the Enterprise Zone, Public Health England and its Science Campus.
- xiii. The Strategy re-affirms the importance of ensuring Harlow's ability to deliver space for quality businesses and employment in light of the Government's decision to support Garden Town status for the area.
- xiv. The Strategy also highlights the London Stansted Cambridge Consortium (LSCC) support for Harlow Enterprise Zone as an important opportunity site for growth sectors in the corridor, identifying the area as being a strategically important destination for jobs, particularly high-skilled jobs.
- xv. Policy ED1 allocates 20ha of employment land to meet the needs of the plan period. Policy ED2 sets out protections for existing employment sites.

Epping Forest District Local Plan, December 2017

- xvi. The Local Plan will shape how the District develops until 2033, attracting and guiding investment in the District from the private sector, the Council, and other public bodies.
- xvii. The Local Plan does not explicitly state the economic aims and objectives that underpin its policies relating to the economy. However, it is possible to discern a number of key approaches that form the basis of policy direction:
 - The Council's approach is to protect and enhance existing employment sites (including through intensification), together with the allocation of new sites. Evidence suggests the need for over 10,000 jobs to be generated over the course of the Plan period. To achieve this, it will be necessary to protect and enhance existing employment sites, in addition to identifying at least 16-19 hectares of land for B class uses. This includes a 1ha allocation for B1 uses at Latton Priory within the HGGT.
 - Growth in town centre uses will be focussed on the largest town centres at Epping and Loughton High Road, and the Council will seek to promote growth in centres across the District in order to maintain their vitality and viability over the Plan period.
 - An objective of this Local Plan is to support the diversification of the agricultural economy, including the expansion of the glasshouse horticulture industry.
 - There is potential to develop the tourism sector locally, drawing on the 'green and unique' character of the District. There is commitment to support the sector through improving access to a wide range of existing attractions in the District.
- xviii. The District has key strengths in the construction, professional services, business services, health and care sectors and job growth is forecast in these sectors over the Local Plan period. Also important to the District's economy is the long established horticultural and glasshouse industry. Developing the visitor economy is also seen as an economic priority.
- xix. Retaining a constant market share of retail expenditure is a specific target, which creates a need for up to 59,700sq.m. of retail floorspace. When 'pipeline' development is removed there is a net need of 39,700sq.m retail floorspace. From this it has been assumed that approximately 40% will be provided in Harlow, recognising the contribution the town makes to service the needs of Epping Forest District.

East Hertfordshire District Plan, October 2018

- xx. The District Plan sets out the Council's planning framework for the district. The Plan is a long-term document which provides certainty to communities and businesses as to where development will be provided and, likewise, where precluding restrictions may apply. It also allows infrastructure providers to plan effectively for the future.
- xxi. The economic objectives listed in chapter 15 are summarised below:
- Support businesses as 'customers' of council services as well as listening to the needs of the business community.
 - Encourage wealth creation in the district and ensure businesses can access a wide range of locally sourced services.
 - Maximise investment into the rural economy and ensure it remains competitive.
 - Ensure town centres meet the needs and wants of residents and visitors.
 - Raise the profile of local attractions and support businesses in their supply chain.
 - Work with key partners to ensure East Hertfordshire can support growth in the right places at the right times.
- xxii. With specific regard to HGGT, chapter 11 of the Plan outlines its impact on employment strategy. HGGT will provide local employment opportunities, including small scale office employment. This will be in the form of either a business park of 5ha, or distributed across the village centres. Residents will also be able to access more substantial employment opportunities within Harlow, including the Enterprise Zone. The proximity of the site to Harlow Town station will also enable sustainable access to employment opportunities further afield, including Stansted Airport, Cambridge, Bishop's Stortford and London.

Harlow Economic Development Strategy, April 2017

- xxiii. The EDS sets out Harlow's economic development strategy for the 5 years from April 2017.
- xxiv. Focusing on the three themes of businesses and jobs, place, and people, the document sets out the following economic priorities and objectives:

Business and jobs

- Securing more investment and jobs from key industries such as Life Sciences, MedTech, ICT, and Digital and Aerospace.
- More jobs and investment by businesses that are part of the supply chain of key industries.
- Continued growth in the business base.
- A healthy business start-up and survival rate.
- Young people and adults gaining entrepreneurial skills and experience to help with future career success and entrepreneurship.

Place

- Make Harlow an outstanding location and environment for businesses, particularly those where Harlow has existing strengths - including ICT, Advanced Manufacturing and Life Sciences industries.
- Attract and retain more jobs in Harlow.
- Establish a world-class Public Health Campus.

- Ensure a sufficient, high quality, viable employment land supply to meet future demand and provide a credible offer to prospective inward investors.
- New managed workspace and a mix of premises sizes and styles that cater for existing and future demand.
- Create a vibrant, inclusive Town Centre that attracts and retains existing and new residents and workers and where expenditure and footfall increases.

People

- Harlow Council, education and training institutions, individuals and local industries will have an informed view of future skills needs that provides a basis for education and training planning and provision.
- Businesses can access the workforce they need.
- Local residents are better placed to meet businesses' workforce requirements, particularly in skilled jobs.
- Increased education and skills attainment that helps Harlow residents to access better employment opportunities and meet local employers' needs.
- A rise in earnings of Harlow residents, closing the gap when compared with workplace earnings.

Findings and Recommendations of the London Stansted Cambridge Corridor Growth Commission, July 2016

xxv. The Growth Commission was established to provide independent analysis and advice to boost the global economic potential of the London Stansted Cambridge Corridor. In this report, The LSCC Growth Commission sets out a vision for transformational change to become the next global tech and life sciences region.

xxvi. The report sets out five priorities areas that underpin the delivery of the vision:

New powers and financial vehicles for infrastructure, housing and place-making

- Study the feasibility of new investment vehicles, examining how private and institutional finance could fund infrastructure, transport, housing and employment sites.
- Explore the case for a Corridor Transport Authority to take control of all major strategic routes and public transport assets, and to develop and implement an integrated transport plan

Place-making for tech and life sciences

- Improve understanding of what tech and life science businesses and employees need and want, and the attributes of global 'best in class' workplaces and communities.
- Produce shared place-marketing materials and information, particularly to attract inward investment.
- Explore the potential for a new 'brand' for the area's tech and life sciences clusters.
- Advocate for and raise the profile of growth areas and sites, ensuring that regeneration and new developments meet the location requirements of technology – and knowledge – based industries and their workers

Building talent and ensuring everyone can benefit

- Develop better links between employers, educational institutions and young people across common skills and capabilities – particularly for STEM and IT skills and careers

- Provide information and guidance materials for careers information and job entry that reflect the needs of tech, engineering and life sciences industries across the Corridor.
- Encourage the sharing of ideas and best practice within the Corridor and from international leaders in the field.

London Stansted Airport as a dynamic source of growth and development

- Produce a joint public-private economic development strategy for London Stansted Airport and its surrounding area, with the aim of developing the Airport zone as a growth node in the Corridor.

Deepening the partnership with London

- Develop a deeper shared understanding of the challenges and potential responses by building on existing relationships and the successful track record of joint working.
- Establish a joint initiative to undertake economic and policy research to inform future strategic choices across all major areas of shared policy, including transport, infrastructure, health, business competitiveness, international connectivity, housing, education and skills.

- xxvii. ICT and digital and Life Sciences are seen as the key sectors.
- xxviii. The LSCC is an area where growth has substantially outperformed national averages. This includes GVA, jobs and population. Productivity is recorded as considerably above the UK average. High rates of innovation and knowledge-based industry and employment are also reported.
- xxix. However, this is driven primarily by Cambridge and London, with the area between experiencing slower growth rates. Harlow is one of the areas identified as having lower attainment and vacant employment sites awaiting development.
- xxx. Supporting the Corridor’s main regeneration and development opportunities and sites is seen as a key part of achieving the vision. Harlow is seen as having an important role in supporting the Corridor’s tech and life sciences clusters. Support for current developments and future plans is encouraged in order to provide the right types of development that enhance the Corridor’s offer to knowledge-based industries and residents.

Harlow and Gilston Garden Town and the UK Industrial Strategy, August 2018

- xxxi. SQW was asked by Hertfordshire LEP to appraise the fit between the draft Harlow and Gilston Garden Town Spatial Vision and the Industrial Strategy White Paper, focusing particularly on the four Grand Challenges.
- xxxii. The Garden Town’s Draft Spatial Vision is structured into four main “Themes”:
- Placemaking and Homes
 - Landscape and Green Infrastructure
 - Sustainable Movement
 - Economy and Regeneration.

xxxiii. The appraisal finds that although the draft Vision document maps onto all four of the Grand Challenges to some extent, there are opportunities for the Garden Town to address the Grand Challenges more fully.

AI and Data-Driven Economy

xxxiv. There is an opportunity for the Garden Town to boost productivity in the health tech, life sciences, advanced manufacturing, and ICT sectors through artificial intelligence and data analytic technologies by providing appropriately tailored business support through the planned innovation centre.

Ageing Society

xxxv. The draft Vision document suggests there will be some investment in upskilling the current population. This is an opportunity to support and encourage people to remain at work for longer by refreshing their skills consistent with the pace of technological change. The Garden Town could encourage industries to adapt their workplaces to the requirements of an ageing workforce through the provision of new office workspace that is suitable for older workers.

Clean Growth

xxxvi. It will be important to generate high quality local jobs to avoid the Garden Town simply being a dormitory settlement with substantial flows of commuters and an environmental footprint that is at odds with the commitment to clean growth.

The Future of Mobility

xxxvii. The draft Vision states that there will be “adaptable car parking that could change to accommodate future autonomous vehicles” – this could be pushed further to cover all transport infrastructure. For example, road networks could be made adaptable to the use of self-driving cars. This could possibly make the Garden Town an appropriate testbed location for the use of autonomous vehicles.

Essex and Hertfordshire Digital Innovation Zone, March 2019

xxxviii. This strategy was jointly commissioned by 11 organisations from business, health, education, local councils and the voluntary and community sector.

xxxix. The strategy sets out seven ‘foundations’ that will help achieve the vision for the DIZ, each of which is underpinned by a series of strategic and operational recommendations:

- Establish the Essex-Herts DIZ brand
- Create digital leadership to champion HealthTech and AgriTech innovation
- Engage and invigorate the public sector
- Harness the power of social innovation to increase digital inclusion and citizen participation
- Futureproof the local economy by upskilling for the future of jobs
- Leverage local assets to attract investment in digital infrastructure
- Harness place-making in new developments and existing centres

xl. One of the key roles of the DIZ is to examine programmes and projects that have been successfully tested or applied in larger urban conurbations and assess their benefit to a geography such as the DIZ area – a mixture of small urban market towns and rural surroundings. The partners also look at innovative solutions to some major public service challenges, such as pressures on health services and the lack of rural connectivity.

Hertfordshire Local Transport Plan 4 (2018)

- xli. This plan sets out how transport can help deliver a positive future vision of Hertfordshire. As well as providing for safe and efficient travel, transport has a major input into wider policies such as economic growth, meeting housing needs, improving public health and reducing environmental damage.
- xlii. The Plan covers the period up to 2031. However, it also considers how future planning decisions and emerging technology might affect the way that transport needs to be provided in the longer term.
- xliii. With travel demand increasing in future years, continued reliance on high levels of car use will lead to worsening congestion and journey time reliability, both of which are constraints on economic growth.
- xliv. This plan accelerates the transition from a previous transport strategy that was largely car based to a more balanced approach which caters for all forms of transport and seeks to encourage a switch from the private car to sustainable transport.
- xlvi. Addressing the challenge of increased future travel demand will require significantly stronger support for walking, cycling, passenger transport, and traffic demand management measures where appropriate.

A414 Corridor Strategy (Draft, 2018)

- xlvii. Hertfordshire County Council has developed this draft A414 Corridor Strategy to confirm the key current and future growth and transport challenges and identify the proposed set of intervention packages
- xlviii. The A414 corridor is a strategic east-west, multi-modal transport corridor extending from Harlow in the east to Hemel Hempstead in the west. The corridor is extremely important in facilitating movements of people by different modes of transport across Hertfordshire.
- xlix. Today, the corridor experiences traffic congestion along sections of the A414 and at key junctions between and within towns. There are also notably very few opportunities for continuous travel by public transport which increases dependency on the car to make journeys along the corridor. There are also limited opportunities for walking and cycling, with poor and discontinuous routes in many areas.
- l. The draft A414 Corridor Strategy has drawn from existing adopted plans and strategies to develop a list of interventions which seek to address the growth and transport challenges in the corridor which also align with the priorities described in Hertfordshire County Council's Local Transport Plan 4. Thirty packages are proposed, each containing two or more interventions. Interventions are wide ranging and can include improvements to footways, new cycle routes, new bus services, better access to rail stations and highway improvements including alterations to junctions.

- li. The potential impact of the A414 on the economy and employment can be summarised by the predicted outcomes set out in section 9 of the Strategy:
- Significantly reduced journey times by public transport between key urban areas along the corridor
 - Key employment areas better connected by public transport
 - Managed traffic delays at key junctions and on sections of the A414
 - Reduced rat-running on less appropriate roads such as country lanes and residential streets to avoid congestion elsewhere

Loss of Employment Space in Hertfordshire (LSH, 2019)

- lii. This study has addressed the topic of understanding how the loss of commercial floorspace in Hertfordshire may be impacting the economy. It assesses the nature and extent of such floorspace loss, examines what the implications are for the Hertfordshire economy, and considers what some of the solutions might be.
- liii. The property market analysis has demonstrated that there is healthy underlying demand in both the office and industrial sectors across Hertfordshire. The sectors that Hertfordshire performs well in – the life sciences, agri-tech, advanced engineering and manufacturing, sustainable construction and the creative industries – are leading this occupier demand, as well as pent-up demand in the SME market in particular.
- liv. However, there is a severe lack of available supply to meet these demands. This has been one of the reasons for the relatively suppressed take-up rates compared to demand requirements. New stock is coming forward, but it is insufficient to meet demand levels. Development opportunities do exist, but difficulties with land ownership and assembly are holding back some of these potential schemes.
- lv. In contrast to an active but highly constrained occupier market, Hertfordshire has seen a major haemorrhaging of commercial floorspace. Almost a quarter of the office stock has been lost over the last decade, and for some local authorities it has effectively halved. Whilst efficiencies in workspace use are happening across the economy, the scale of the divergence between office loss and employment growth in Hertfordshire is putting major pressure on businesses.
- lvi. The industrial sector has not seen a net loss to the same extent as the office sector. However, the nature of this market requires larger scale developments to meet future needs, so losses of industrial floorspace without suitable replacement space will create problems for the successful operation of the market.
- lvii. In part, the trends that have been identified reflects the natural operation of the market, whereby obsolete, inefficient or poorly located floorspace is re-used for other purposes, and is resulting in more efficient business operations through more intensive space use. However, the scale of commercial floorspace loss witnessed across Hertfordshire goes beyond this, and is creating very real problems for existing, expanding and new businesses, and for those looking to move into the area, notably international investors.
- lviii. In that context, the impact of PDR on the office sector has been particularly significant. It has been responsible for the vast majority of the increased rate of loss of office floorspace since 2013-14. This is having a very significant impact on existing and potential occupiers. Whilst PDR

has helped to remove excess or inappropriate floorspace in some areas and to contribute to housing needs to a small degree, the scale of loss, and the inability to avoid the loss of good quality and in-demand floorspace, is creating serious imbalances between supply and demand in the market. There are various examples of good quality, well located and in-demand office floorspace being lost to residential uses through PDR conversions across Hertfordshire. This includes cases of existing good covenant tenants being given notice to leave in order to convert the premises to residential use via permitted development.

- lix. There are a number of key implications for the economy of Hertfordshire of this loss of employment floorspace. These include:
- Constraining growth
 - Forcing relocations
 - Reinforcing home-working
 - Limiting productivity and performance
 - Deteriorating image
 - Inhibiting place-making/place-shaping
 - Restricting achievement of SEP objectives
- lx. There are a number of actions that would help in balancing the often competing land-use demands between residential and commercial use, and which would help ensure there is an appropriate amount, form, quality and distribution of employment floorspace to serve the needs of the Hertfordshire economy. These include the following:
- Planning and place-making
 - Reinforcing joint-planning
 - Ensuring Local Plan delivery
 - Balanced housing and commercial space delivery
 - Halting the use of PDR
 - Investment and funding
 - Promoting public sector development
 - Developing joint-venture initiatives
 - Provide greater tax break incentives
 - LEP marketing and funding
 - Infrastructure
 - Coordinated master-planning
 - Improving transport links
- lxi. The research indicates that without appropriate support for and protection of commercial floorspace in Hertfordshire, over the next decade there will be further net floorspace loss which may result in the office stock in the County being at least 50% smaller than it was in 2008 and the industrial stock up to 20% smaller. This will critically impact the economic objectives and ambitions of the County.

LEP Strategies

South East LEP (SELEP) Strategic Economic Plan, March 2014

- lxii. The SEP outlines the opportunities and challenges across the SE LEP area. It provides the economic context and outlines the desired approach to creating the conditions for growth
- lxiii. The key economic ambitions are:
- enable the creation of 200,000 sustainable private sector jobs over the decade to 2021, an increase of 11.4% since 2011;
 - complete 100,000 new homes by 2021, which will entail, over the seven years, increasing the annual rate of completions by over 50% by comparison with recent years; and
 - lever investment totalling £10 billion, to accelerate growth, jobs and homebuilding.
- lxiv. The SEP indicates that many parts of the SE LEP economy are over-reliant on public sector employment. The area is also more reliant on wholesale, retail and accommodation, and construction jobs. Generally, these sectors do not provide high value employment. A lower proportion of employment is in high value, or 'knowledge economy' sectors.
- lxv. The priority sectors with high growth potential have been identified as advanced manufacturing, life sciences and medical-technologies, transport and logistics, low carbon environmental goods and services, the visitor economy, and creative, cultural and media industry.
- lxvi. Harlow Enterprise Zone is noted as offering the potential for significant economic growth in the key growth sectors of Life Science, Advanced Manufacturing and ICT. The enterprise zone sites offer opportunities to attract major inward investment and deliver an estimated 5,000+ jobs over the next 25 years. Key to achieving the successful development of the Harlow Enterprise Zone is the provision of high quality, modern business space that meets the needs of businesses in the key growth sectors and improvements to site access and infrastructure.

(Hertfordshire LEP) Perfectly Placed for Business: The refreshed Strategic Economic Plan: 2017–2030, published July 2017

- lxvii. The SEP sets out a "route map" for Hertfordshire which has been refreshed to chart both what the LEP and its partners are seeking to achieve, and the priority interventions that are needed to make this happen.
- lxviii. Four priorities are set out in order achieve the wider aspirations of the SEP:
- Maintaining global excellence in science and technology
 - Harnessing Hertfordshire LEP's relationships with London (and elsewhere)
 - Re-invigorating our places for the 21st Century
 - Foundations for growth
- lxix. The SEP highlights a number of key sectors that make the LEP area one of the highest ranking LEPs in terms of R&D expenditure per FTE, and product or process innovation: Life sciences, advanced engineering and manufacturing, agri-science and agri-tech, sustainable construction, and creative industries.

- lxx. Incremental steps need to be taken to nurture the ecosystems that surround all five sectors described above, both individually and in combination. The surrounding strategies need responsive elements, recognising particularly the uncertainties linked to Brexit.
- lxxi. The SEP emphasises that the development of the new Garden Town at Harlow and Gilston will need to take place with the principle of becoming a vibrant, lively, urban hub underpinned by new models of both living and working, in which “third spaces” (between home and work) play an ever- growing role. Moreover, the Garden Town needs a clear economic purpose and vision, reflecting its particular character, opportunities and growth potential. Defining a clear economic strategy for the Garden Town will be a crucial component of its overall sustainability.

Hertfordshire Local Industrial Strategy

- lxxii. Work has been underway to develop Hertfordshire’s Local Industrial Strategy. The Local Industrial Strategy (LIS) is, effectively, a further “refinement” of the SEP, not a departure from it. There is strong continuity in relation to many of the key themes
- lxxiii. Improving productivity performance and achieving more inclusive growth are the overarching challenges for the LIS.
- lxxiv. Data and digitization will redefine much economic activity in the future, transforming mobility, healthcare and the nature of both sectors and jobs.
- lxxv. Town centres will need to redefine themselves: rather than high street retailing, the emphasis will be far more cultural and experiential, recognising (and perhaps nurturing) the social aspects of economic life.
- lxxvi. The population will age with multiple consequences – including the design of houses, the nature of jobs and the need to make provision for multiple career changes in a (much longer) working life.
- lxxvii. Particularly in urban areas, transport will become a service and reliance on private cars (certainly those fuelled by petrol or diesel) will decline.

Appendix 3: Stakeholder Consultation

i. The following were consulted as part of this research:

- East Hertfordshire District Council
 - Andrew Figgis
 - Kevin Steptoe
- Essex County Council
 - Daphne White
 - Dawn Redpath
- Hertfordshire LEP
 - Adam Wood
- Hertfordshire County Council
 - Lewis Claridge
- South East LEP
 - Adam Bryan
- Invest in Essex
 - David Rooke
- Harlow Enterprise Zone
 - John Keddie
 - Andrew Bramidge
- Harlow Council
 - Julie Houston
 - Sam Terrell
 - Vicky Forgione
 - Mark Philpott
- Epping Forest District Council
 - Vicki Willis
 - John Houston
- Princess Alexandra Hospital
 - Michael Meredith
- UK Innovation Corridor
 - John McGill
- Derrick Wade Waters
 - Simon Beeton

Appendix 4: Future Trends in Work, Working Practices and Commercial Property Requirements

- i. The following analysis provides a summary of latest research on changing property market trends within the core employment property sectors.

The Impact of Automation

- ii. There is now little doubt that automation and artificial intelligence (AI) will lead to a dramatic change in the labour market. Those jobs which consist of repetitive, routine tasks are most likely to be automated, with people working in more cognitive roles that involve creativity, interpretation and problem-solving, and listening and communicating.
- iii. Predictions of the impact of automation on the labour force vary. One study suggests that, based on an assessment of the tasks completed across 700 occupations, up to 47% of jobs could be automated in the future (Osborne and Frey, 2018). The World Economic Forum has estimated that 75 million jobs could be displaced by machines up to 2022 (Leopold et al, 2018).
- iv. However, job destruction is predicted to be outweighed by job creation, with an increase in demand for roles working with technology such as Data Analysis, Software and Applications Developers, Ecommerce, and Social Media Specialists. Demand is also forecast to rise for those working in Customer Services, Sales and Marketing, and Training and Development. Beyond this, the World Economic Forum also suggests there will be demand for new specialist roles such as AI and Machine Learning Experts, Robotics Engineers, and Blockchain Specialists (Leopold et al, 2018).

Office Space

- v. Office space in the UK market can be categorised as urban core³⁵, peripheral³⁶, and out-of-town³⁷. Current and future trends in these categories are discussed below, followed by concluding comments.

Urban Core

- vi. Developments in recent years have seen a market shift towards urban core office space. Jones Lang LaSalle (JLL, 2013) suggests six drivers of this trend: demographics; immigration and globalisation; working practices; sustainability; policy; and transport improvements. A discussion of these drivers is presented below.

Demographics

- vii. With movement of labour now more prevalent than ever, businesses are paying closer attention to the wellbeing of their staff in order to retain their most talented employees. Given the shift in lifestyle preferences towards a desire for proximity to services, amenities, and leisure facilities, urban living has become more attractive (especially to young people). Similarly, international talent is most likely to be concentrated in urban areas. Many businesses have taken the opportunity to relocate to city-centres in order to compete for the top talent in their sector (NLP, 2015).

³⁵ Central office market areas with high levels of employment density.

³⁶ Edge of town and suburban employment centres, offices interspersed with residential areas.

³⁷ Large out-of-town business parks and science parks located on the edge of urban settlements.

- viii. Some areas have experienced a market trend towards take up within the Telecommunications, Media, and Technology (TMT) sector. This sector is focused highly on agile working such as hot desking and attracting staff, which generally tend to be younger staff. These companies tend to focus on urban core areas because of the amenities offered by those area and also periphery locations.

Working practices

- ix. Reduced desk space requirements have facilitated a move towards urban core office space, brought about by technological advancements (improved broadband connectivity and smaller personal computers), and a rise in hot-desking and remote working as established and accepted norms in professional sectors (NLP, 2015). Up to 14% of the UK's working population work from home, with this proportion growing at a rate of 1.2% p.a. (ONS, 2014). The rise in self-employed workers in professional sectors is seen to have contributed to a reduction in overall office space requirements. It is unclear if a rise in homeworking has led to an increase in demand for flexible workspace, but JLL has found a correlation between the change in self-employment and the amount of flexible office stock across Europe and the US (Ramsey, 2018).
- x. Average office density increased from 15 sq m per employee to 10 sq m between 2005-2015 (LSH, 2015), with densities of up to 8 sq m nowadays becoming commonplace in many offices (Dady, 2016). Indeed, the public sector is becoming more efficient in its office accommodation with the Government targeting 8 sq m in order to reduce its estate costs and become more efficient. Along with reducing workspace requirements, this can be attributed to the trend towards city-centre relocation, alongside the fact that office-based job growth has outpaced growth in office floorspace over the same period (NLP, 2015), both of which have made higher office densities a necessity. It is expected that this recent increase in densities will plateau, as densities can only increase so far (Bedford et al, 2013). BCO research data suggests that this levelling-out is already beginning to happen. If this is true, this would reduce the need to future-proof developments against further increases in densities. The BCO also reported anecdotal evidence to suggest that in some instances, densities will continue to rise. This could be made possible by improving design standards as a response to a push towards reducing construction costs and environmental concerns.
- xi. Space as a service is rising in popularity, with many businesses suggesting they will move towards utilizing at least some co-working space in the future (Leopold et al, 2018). Co-working spaces will continue to evolve and start to specialise into niche areas based around industries or, occupier characteristics.
- xii. Flexible office space is also likely to continue its expansion into non-traditional locations such as hotels, pubs, and retail outlets (Fanoun, 2019).

Sustainability

- xiii. The move towards more sustainable living means that the walking, cycling, and public transportation opportunities provided by urban core locations plays a role in office developments. Continual improvements in city-centre public transport infrastructure, such as tram lines, train lines, and bus routes are making city-centres more accessible. This, combined with a decline in car ownership, has contributed to the shift towards urban core office markets (NLP, 2015).

Policy

- xiv. Policy initiatives such as Enterprise Zones, City Deals, and Town Centres First have contributed to the shift towards urban core office space.

- xv. The policies need to work alongside other property fundamentals, a policy on its own will not help an area. Occupiers understand and believe in the fundamentals and the policies will help them to decide, but they are not the main deciding factor.
- xvi. Permitted Development Rights (PDRs) allow the change of office space to residential use without the need for full planning permission. PDRs have the potential to lead to a deficit in office space and increase pressure on office markets. The availability of commercial property has been declining at its fastest rate since 1998 since the introduction of PDRs (RICS, 2014). However, in some locations, the policy is allowing the removal of poor quality office space, which is increasing rental values and making new development more viable.
- xvii. PDRs are often seen as a negative trend by Councils and Occupiers/landlords, but the mechanism can help larger office markets improve their office stock. In the case of tertiary space that is often unfit for purpose, this can be beneficial. A reduction in available space due to PDR conversions means office rents rise as a result of a lack of competition. This in turn means that it can become more commercially rewarding to build offices rather than residential units, which improves the overall office stock on offer. Also, increasing rents can mean some landlords who might consider converting from office to residential can instead refurbish their premises, which again improves on the office market offering.
- xviii. Smaller office markets are slightly different as the majority of existing office stock does not normally fit the modern office occupier therefore is not in demand (or is in smaller demand). The issue for such markets is that they do not have the replacement stock available; the risk is these markets may not be seen as being a commercially viable option, and therefore become a less attractive option for inward investment.
- xix. Policies influenced by agglomeration theory are also encouraging a shift towards urban core office space. This theory suggests that businesses benefit from being co-located with similar firms, not only because of the concentration of labour which results, but also due to the sharing of ideas, best practice, and associated supply chain advantages (JLL, 2013).

Potential problems

- xx. Developable land is harder to come by in city-centres due to the interrelated effects of constrained planning regulation, high development costs, and higher physical constraint due to existing infrastructure and buildings (JLL, 2013). There is also a risk that concentration in urban core areas will create a rent bubble.
- xxi. Most city centre markets also have an issue with school sites. This discourages other developments and fragments the market. High profile sites need to be developed to give confidence to the market – this is key.

Periphery

- xxii. Good access to the urban core provided via improving public transport links makes periphery locations a promising alternative to urban core areas. The strengthening of urban core areas as business centres, and the inevitable rising rents in those areas, will ensure a market for periphery office spaces. With better land availability, the increasing popularity of mixed-use developments makes periphery office space a viable option. This land availability also provides increased opportunities for ‘future proofing’ developments, ensuring flexibility to change capacity in order to meet the needs of a changing economy, and capitalise on city-centre spill-over (JLL, 2014). There is predicted to be an improved performance from peripheral office markets over the

next five years, with higher yields encouraging investment at a comparative discount compared to urban core areas.

- xxiii. These areas mainly attract small occupiers that are especially successful in TMT markets. Such premises can offer cost effective space together with flexible leases suiting tenants, which are terms not offered in new urban core areas.

Out-of-town

- xxiv. Despite the trend towards urban core relocation, occupier demand for out-of-town office space has remained steady, and there is no evidence of a decline in demand for business park space. They offer the large, flexible floorplates that more central locations can't always provide, and space to expand, which is also more problematic in urban centres. Their connectivity to motorways and airports are also attractive, particularly for sales firms (JLL, 2014).
- xxv. However, due to a lack of proximity to urban areas, out-of-town markets are finding it increasingly challenging to attract occupiers by providing the working environment that a changing workforce is looking for. As an investment opportunity, new out-of-town office developments on greenfield land are seen as too expensive. High upfront infrastructure costs and tighter car parking restrictions mean that new out-of-town office developments are on the wane (Dady, 2016). The Town Centres First policy has also made obtaining planning consent for out-of-town schemes more difficult.
- xxvi. The general trend for out-of-town office space is moving towards recycling and retrofitting existing business parks, moving away from campus-style buildings to increased densities, multi-letting, and vibrant public spaces in an attempt to mirror urban conditions.

Possible Impacts on the Office Property Market

- xxvii. Despite the reduction in average office space per employee, and the increase in flexible working, business behaviour still reflects the importance of office space in encouraging interaction, networking and collaboration (NLP, 2015). Prevailing market conditions generally support the UK's office market, due to the importance of the services sector to economic growth and its contribution to job creation (LSH, 2016).
- xxviii. Furthermore, even though office densification is on the increase, this doesn't necessarily lead to smaller overall floorplates. Smaller workspaces are in many cases offset by meeting spaces and on-site provision of cafés, gyms, crèches and other facilities.
- xxix. Sectoral growth will also play an important role in the provision of office space. Employment growth in the UK is primarily driven by the knowledge economy, with differing office space needs from sector to sector. Media and technology companies tend to value combinations of dedicated workspaces and collaborative areas, whereas many businesses in professional services sectors prefer a more traditional, formal workspaces with large floorplates (NLP, 2015).
- xxx. Flexibility of covenant will be important for emerging businesses, whilst established firms can commit to the long-term covenants desired by investors.
- xxxi. Demand for office space in the UK is not in decline, but there is an ongoing shift in the areas that businesses are choosing to locate themselves, and the way they choose to use that space.

Industrial & Manufacturing

“The general trend is towards smaller, manageable, clean, well-organised, highly flexible factories that contain updated but traditional technologies that can be quickly ramped up to meet volume and changing market requirements. Customer focus and personalisation of product is recognised as being of increasing importance and it is clear that in the longer term there will be a need for centralised mass production facilities and localised facilities to personalise the product.”

The factory of the future, Office for Science

General Outlook for the UK Manufacturing Sector

- xxxii. Over the last 30 years, the manufacturing sector in the UK has been in relative decline. During this period, output in the manufacturing sector has grown more slowly than output in the services sector. The number of people employed in manufacturing has also fallen steadily as productivity per employee has increased (PwC, 2009). Britain’s negative balance of trade (more goods imported than exported) has had a negative impact on the sector and is unsustainable if UK manufacturing is to succeed in the future. However, it is not all ‘doom and gloom’ - UK manufacturing output was reportedly at its highest in 10 years in January 2018 (BBC, 2018).
- xxxiii. With the population of the UK as a proportion of global population falling, and emerging economies claiming an increasingly proportionate share of global markets, Britain’s relative economic influence will continue to adjust accordingly.
- xxxiv. This adjustment process will be aided by the repatriation of production from low cost locations as the UK becomes a more cost-competitive location for manufacturing. This will encourage further investment in onshore manufacturing capital.
- xxxv. The UK’s cost-competitiveness will also be impacted by the conflicting demands presented by the global supply chain. The Brexit vote, which led to the Sterling devaluing by c. 20%, will continue to impact the UK’s competitiveness. An example of how closely reliant some parts of the sector are is that 80% of all cars made in the UK are exported to EU countries (KPMG, 2017).
- xxxvi. On the one hand, some businesses desire a global supply chain to support their international operations. Meanwhile, there is an emerging move towards clustered local supply chains which support the sharing of resources (including knowledge). This latter trend, combined with higher labour costs and rising transport costs, will encourage the onshore sourcing of components and resources. This move towards more localised supply chains will make it increasingly possible for the UK to compete on the grounds of cost, quality, delivery speed, and customisation, which are becoming increasingly important (Foresight, 2013).
- xxxvii. In order to thrive in these new market conditions, the British manufacturing sector must capitalise on its areas of competitive advantage and continue to establish itself as a ‘niche player’ (PwC, 2009). The strongest manufacturing industries in the UK are aerospace, automotives, and pharmaceuticals (Ridgway et al, 2013).
- xxxviii. Although it is predicted that manufacturing employment in the UK is set to decline by around 170,000 from 2013 to 2020, there will be 800,000 jobs to fill in the same period as people leave manufacturing through retirement and career changes (Ridgway et al, 2013). Furthermore, the historic fall in employment has been offset by productivity gains in UK manufacturing.

Technological Advancements

- xxxix. Technological advancements continue to disrupt and influence the way the manufacturing industry operates. Increased connectivity is making it possible to reduce costs and boost productivity through the development of 'smart factories'. Similar to the office property market, connectivity is making remote operations more possible in manufacturing (Pinsent Masons, 2015). The resultant decentralisation of manufacturing premises is discussed in the next section.
- xi. One such connective technology which has been adopted throughout the sector in recent years is Radio Frequency Identification (RFID); an advancement of the more conventional barcode technology. RFID is a tag or label which enables tracking of the items that they are attached to and most critically, without the need for line of sight. This has eliminated the need for scanning each item by hand, which reduces time and increases scanning accuracy but it can also be used for a multitude of other applications.
- xli. Automation has already taken place in many areas of manufacturing, with robotic arms conducting repetitive tasks no longer a novel sight. The step change for the manufacturing industry will not come, therefore, from automation, but AI and the Internet of Things. AI will be used to run the manufacturing process autonomously, optimising systems and responding to issues in real time (Daecher et al, 2019). Data will also be collected and analysed on machine performance, and can highlight issues before a failure occurs.
- xlii. Although it is challenging to predict how new technology will shape future property requirements, an increase in the need for data storage to meet the functional requirements of connected products means a continued increase in the data storage property market will be necessary.
- xliii. One specific product set which could have a significant impact on the UK manufacturing sector is that of connected and autonomous vehicles. The further rollout of this technology could create an additional 320,000 jobs in the UK (Ridgway et al, 2013), with an inevitable impact on the manufacturing and industrial property market.
- xliv. The prevalence of 3D printing could also impact manufacturing practice. The number of 3D printers sold will reach 2.3 million by 2018, with the global market for 3D printed products growing from £2bn to £70bn per year by 2020 (Pinsent Masons, 2015). As the types of products that are generated by this technology become ever more complex, so will the floorspace solutions required to facilitate these operations.

Possible Impacts on the Manufacturing and Industrial Property Market

- xlvi. The above sector trends and technological advancements have implications for the manufacturing and industrial property market. It is therefore critical that developers of industrial accommodation collaborate with occupiers to identify and embrace modern working practices, to ensure that the specification of new buildings align to modern operational requirements. In rural and less established industrial locations, there is a significant amount of industrial accommodation that is dated and out of sync with modern occupier requirements. Despite these drawbacks, owners of these buildings are typically choosing to refurbish (sometimes extensively), rather than demolish and re-build to a more modern specification. As such, it is anticipated that there is a significant proportion of current stock that will need replacing in the short to medium term as they come to the end of their economic and functional life.
- xlvii. The trend towards localised operations will be facilitated by the technological advancements that are emerging. The factories of the future will be more varied and more distributed than those of

today. There is general consensus that the manufacturing and industrial property market will tend towards smaller local and urban sites, with mobile and domestic warehouses becoming more prevalent as well. This will allow for increasing supply chain integration, which will impact the manufacturing property market. Products dependent on process-driven innovation benefit from the co-location of different parts of their production systems, which may lead to clustered hubs. Although large sites are set to become less prevalent, there is scope for a 'hub and spoke' model, with large, centralised premises supplementing a proliferation of smaller, decentralised ones (Foresight, 2013).

- xlvii. The trend towards smaller premises will be further prompted by a drive towards sustainability, with the need to make efficient use of land becoming ever more important. Advancements in automation and robotics may reduce the footprint of sites (Foresight, 2013).
- xlviii. The need for these smaller decentralised sites to be flexible and reconfigurable may require a re-categorisation of land use. Businesses are likely to desire less space for production and more space for offering access to customers, clients, suppliers, universities, and other bodies i.e. non-industrial uses. This trend will create a demand for premises that are attractive places in which to work.

6.5 Distribution & Logistics

- xlix. Recent research suggests there are some emerging trends in the distribution and logistics market that will influence the property market over the coming years. This section discusses those trends and their likely impacts.

Increased Online Retailing

- i. The UK is the global leader for online consumer spending, with around 16% of all retail sales made via the internet (ONS, 2018), which continues to increase year-on-year. It is expected that this figure will rise to 20-25% by 2020 (Colliers, 2015). This continued rise in retail demand has fuelled demand for large distribution centres, a trend which is set to continue as ecommerce increases its market share. Increasingly, companies that have a good approach to ecommerce are receiving better covenant strength in their lease arrangements, with investors keen to support property ventures in the online retailing market.
- ii. Online grocery shopping in particular is set to be the primary driver of an increased demand for logistics assets and infrastructure. Despite the UK's mature online retail market, online grocery shopping accounts for only 4.4% of total grocery spending (JLL, 2014). This is set to change as retailers increase their provision of online grocery shopping and adapt their distribution models in the face of rising demand. The traditional model of in-store picking is becoming unsustainable due to its increasing disruptiveness, with supermarkets utilising 'dark stores³⁸' instead. This growth will generate new requirements for logistics facilities.
- iii. As demand for space continues to grow as a result of e-commerce demands, multi-storey warehousing is likely to become more common (JLL, 2019). This will meet the demand for additional space in constrained locations (Savills 2019). This will go beyond stacking and will allow for the intensification of land use in areas where supply is constrained, for example in Peruvian Wharf in London (Gilham et al, 2019).

³⁸ Distribution warehouses closed to the public which focus on online orders only

Changing Supply Chain Models

- liii. The increase in online retail will change the supply chain models adopted in the distribution and logistics market. The market is changing from a 'business-to-business' model to a 'business-to-customer' one.
- liv. Businesses are focusing more on 'first-mile' and 'last-mile' logistics³⁹, as distribution is becoming more complex under this new 'business-to-customer' model.
- lv. Strategic Rail Freight Interchanges (SRFIs) are a response to changing 'first-mile' demands. SRFIs create direct employment opportunities, reduce the need for HGV transport⁴⁰, and play an important role in serving regional markets. They create increased on-site land requirements, and differing off-site infrastructure requirements (DfT, 2011).
- lvi. One trend which will change property requirements in the near future is the increased prevalence of 'click-and-collect' services. This model is a response to changing 'last-mile' logistical demands. It reduces distribution costs for retailers, and is often seen as more convenient for the customer as items can be collected at their discretion. Whether businesses choose collection in-store or at a dedicated location (e.g. Amazon Locker), this model will require more floorspace closer to the customer.
- lvii. Turley has argued that housing (as a proxy for population) and warehousing requirements should be considered in tandem to ensure the development of sustainable communities (Gilham et al, 2019). In 2017 there was approximately 69sq ft of warehouse per dwelling in England. Applying this ratio to the UK's annual target of 300,000 new homes per year suggests there is a need to provide an additional 21 million sq ft of warehouse space per annum.
- lviii. The role of warehousing in an area will have an influence on the amount of space needed, for example national distribution centres can occupy sites of up to 100 acres, with last mile fulfilment occupying as little as 3-5 acres. This means that there are actually significant variations in the ratio from region to region – the 'Golden Triangle' having the largest ratio of 100sq ft per dwelling, and the South West and London the lowest at around 40sq ft per dwelling. The South East has also much more warehousing delivered over the past five years than its expected ratio, this is likely due to displaced demand for 'last mile' delivery in London.
- lix. These ratios should not be seen as static, nor prescriptive, but should provide an indication of the level of warehousing growth that might be required to meet sustainable growth needs in areas of new housing development.
- lx. McKinsey's suggest that fully autonomous lorries will arrive towards the end of the next decade (Chottani et al, 2018). As delivery vehicles move towards autonomy, it will be necessary to ensure that warehouse facilities (such as car parks and doors) are optimised for interaction with these new vehicles.
- lxi. Another 'last-mile' distribution model being explored by retailers is the use of drones, or Unmanned Aerial Vehicles (UAVs). Current usage of this technology is still in its infancy, but there are reasons to believe it will become more prevalent. With fuel prices posing one of the biggest future threats to the logistics industry, UAVs may provide cost savings in the long term. UAV

³⁹ As a rule, the shipment of a good begins with the so-called 'first-mile' and ends with the 'last-mile'.

⁴⁰ And consequently reduce the impact of HGV logistics on an already congested road network.

distribution could also provide relief for urban traffic networks, reducing congestion whilst maintaining delivery times. However, in the near future it is unlikely that UAVs will be used for anything more than small package distribution (March, 2015).

Possible Impacts on the Distribution and Logistics Property Market

- lxii. The above shifts in supply chain models will have an impact on the land and property requirements of the distribution and logistics sector.
- lxiii. The changes in 'last-mile' logistics will almost certainly place increased demand for smaller, localised distribution centres either on the periphery of towns and cities, or located within urban areas, especially in and around London (Colliers, 2015). Demand for more traditional, large distribution centres with a regional focus will be maintained in order to support a network of smaller, local units. As access to land in and around UK cities and key logistic locations tightens, 'skyscraper sheds' may become more common. It is reported that Amazon has reviewed the specification for their new regional distribution centres and are now opting to build to three or four storeys, with some floors being fully automated. In metropolitan centres with premium land costs and availability, such developments will enable logistics firms to locate themselves closer to where the majority of online consumers reside, reducing the time, cost, and carbon footprint of their distribution networks.
- lxiv. If UAV distribution becomes popularised, this will further necessitate a move towards smaller, localised distribution centres which can service urban areas.
- lxv. For out-of-town office space that cannot be developed for residential use under Permitted Development Rights, subject to gaining planning permission there may be scope for such units to serve a more localised approach to distribution.
- lxvi. Distribution and logistics make up a large proportion of transport greenhouse gas emissions. Significant reductions in emissions will be required to meet the UK's climate change targets and carbon budgets (DfT, 2011). Despite this pressure on the industry, it looks set to experience growth over the coming years as a result of increasing ecommerce sales and the demand this will create for new supply chain models.

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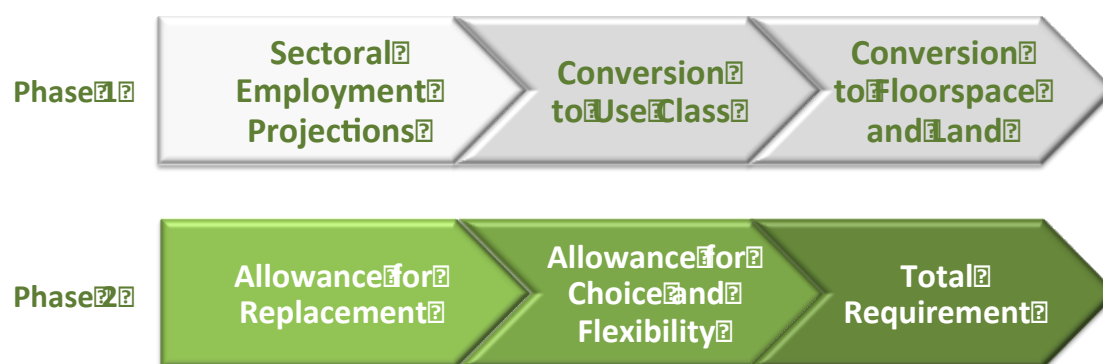
Appendix 5: Method for Calculating Employment Land Requirements

- i. This appendix provides further detail on the methodology used to derive forecast estimates of employment land. This is adapted from the content of the 2017 West Essex and East Hertfordshire Assessment of Employment Needs.

Overarching Approach

- ii. A summary of the overarching method and approach to assessing the employment sites and premises implications is set out below. Figure A5.1 provides a diagrammatic summary of the two phase process.

Figure A5.1 Approach to Assessing Sites and Premises Requirements



- iii. The first phase takes account of the net changes in the economy i.e. the growth and decline of particular sectors. The sectoral employment projections are converted to Use Class. This provides an indication of the spread of future employment change across the full range of planning Use Classes and none. From that point onward the focus is upon the B Use Class, with other evidence documents more suited to informing the detailed requirements for A, C and D Use Classes (e.g. retail and leisure studies and infrastructure development plans). The net employment changes in the B Use Class are then converted to property and land requirements using employment and development density assumptions.
- iv. The second phase then considers wider market factors, particularly the need to recognise the churn in the economy and the associated need to replace and upgrade property stocks. For example, whilst the manufacturing sector as a whole has experienced well-documented decline in its employment base, there has been a continued demand for newly constructed premises within which to operate. This demand can be driven by existing companies needing more/less space, a different location, or a different type of premises. It can also be driven by new companies in the market, which may not find the right type of property available in the right location. As a result, whilst overall a sector may be in decline (although this still applies to growing sectors too), there are changes beneath the surface that continue to drive demand for new premises. This can be a particular issue where existing stocks are ageing or where vacant sites are no longer in the locations that are suitable to modern occupiers. This element of the method also ensures provision is made for sites or premises that might be lost from employment use to other uses. Also within Phase 2, the assessment builds in an allowance for choice and flexibility. This element needs to take account of offering location choice as well as choice in terms of the type of property and setting.

- v. Within the detailed assumptions employed as part of the analysis, local evidence is used to ensure the approach is appropriate to the FEMA. The results of the assessment approach are also validated through a review of historic levels of development activity as recorded through the Councils' monitoring records.

Detailed Assumptions

SIC to Use Class Matrix

- vi. The allocation of employment by sector to Use Class is something of an imprecise science and requires some level of subjective assumption. HJA uses a three stage approach to develop a locally bespoke matrix to translate sectoral employment to Use Class.
- The first phase is a standardised matrix, which allocates employment in each 4 digit SIC sector of the economy to one or more Use Classes. For example, the manufacture of mattresses is allocated 100% to B2. Retail sale of furniture etc is allocated 100% to A1. General cleaning of buildings is allocated 10% to B1a (representing the management activities of such a company) and 90% to 'none' as cleaners will be involved in cleaning other buildings, not their own workplace. As a result those activities which are located in the workplace of others are not allocated to a Use Class. This includes activities such as mobile repair services, construction activities, sales agents, market trading, many transport and delivery jobs, driving instructors etc.
 - The second phase adjusts for local patterns of homeworking. This utilises data drawn from the 2011 Census of Population for the FEMA. This identifies the percentage of jobs in each sector that are fulfilled through homeworking. For example, 10% of manufacturing workers list homeworking. Therefore the master matrix is adjusted so that 90% of jobs are in B2 and 10% homeworking.
 - The third phase weights the matrix to the local area. That is, the East of England Forecasting Model (EEFM) provides data for 31 sectors, each of these comprises a number of fine grained 4-digit SIC sectors. The employment data for the more than 600 4-digit SIC sectors is fed into the stage two matrix, to generate a weighted matrix for the 31 EEFM sectors. Why is this important? Some of the sectors in the EEFM include a mix of different activities e.g. sales agents and wholesalers and car sales all fall within the same sector. These will draw upon different Use Classes. If one area has lots of car sales activities but very little wholesale this will require a different mix of uses than an area that has a lot of wholesalers and very few car showrooms. So this local weighting ensures the matrix is appropriate to the local area.
- vii. The final SIC to Use Class Matrix is set out at the end of this appendix.

Homeworking

- viii. It is important to consider the effects of homeworking. The 2011 Census of Population data shows us that homeworking accounts for some 12% of all workers. Data on homeworking by sector is relatively limited and crude because of the aggregation of broad sectors.
- ix. In some sectors, homeworking may be a reflection of home-based businesses, which might include some itinerant working, e.g. the construction sector. The level of detail in the data does not allow clear conclusions to be drawn.
- x. The SIC/Use Class matrix used for assessing employment by Use Class already makes allowance for employment that does not require land. This could include some who report being home-

based, or itinerant workers. It could also include those with home-based businesses in a wide range of sectors. It would not therefore be appropriate to apply the figures from the Census as standardised deductions by sector.

- xi. HJA has used the 2011 Census data as a starting point for the 'none and homeworking' category, with further allowance for other activities which are not home-based but which do not require sites and premises provision. The Census data is set out in Figure A5.2 with the final assumptions integrated into the SIC to Use Class matrix at Figure A5.7.

Figure A5.2 Homeworking in the FEMA 2011 Census of Population

	West Essex and East Herts
All categories: Industry	12%
A, B, D, E Agriculture, energy and water	28%
C Manufacturing	10%
F Construction	16%
G Wholesale and retail trade; repair of motor vehicles and motor cycles	8%
H Transport and storage	8%
I Accommodation and food service activities	11%
J Information and communication	21%
K Financial and insurance activities	7%
L Real estate activities	16%
M Professional, scientific and technical activities	20%
N Administrative and support service activities	15%
O Public administration and defence; compulsory social security	5%
P Education	8%
Q Human health and social work activities	8%
R, S, T, U Other	16%

Jobs to FTE Conversion

- xii. It is necessary to convert the change in employment measured in jobs to full time equivalents (FTEs). The process is required because employment density data is provided for FTEs. The following sets out the method used by HJA to make this conversion.
- xiii. The first stage includes identifying the mix of full-time and part-time jobs by sector relevant for the study area. HJA utilises the ONS Business Register and Employment Survey (BRES) which provides local data on a sectoral basis.
- xiv. The second stage translates the part-time element into FTEs. The third edition (2015) of the Home and Communities Agency's (HCA) Employment Density Guide recommends a ratio of 2:1 part-time staff to FTE. This is based on a study of (ASHE) data nationally. This ratio is also supported by an analysis of 2011 Census data for the FEMA, which indicates that the average part-time employee works around 17.5 hours per week, half of the full-time figure of 35 hours per week. Part-time jobs should therefore be weighted to an equivalent of 0.5 FTE and fed back into the model to contribute to the total FTE figure.
- xv. Using BRES data, it has been possible to determine a ratio of full-time to part-time jobs for each sector in the forecast model. An average was taken over the period 2009-15 to smooth any data anomalies. The results are set out in Figure A5.3.

- xvi. These FTE ratios were then fed back into the forecast model across all four Districts in the FEMA, producing a set of FTE jobs figures.

Figure A5.3 Calculating FTE Conversion Rates

	Average PT jobs	FTE equivalent
Agriculture	26%	0.86
Mining & quarrying	1%	0.99
Manufacturing - food manufacturing	13%	0.93
Manufacturing - general manufacturing	11%	0.94
Manufacturing - chemicals only	7%	0.96
Manufacturing - pharmaceuticals	9%	0.96
Manufacturing - metals manufacturing	9%	0.95
Manufacturing - transport equipment	6%	0.97
Manufacturing - electronics	9%	0.96
Utilities	3%	0.99
Waste & remediation	6%	0.97
Construction	14%	0.93
Wholesale	14%	0.93
Retail	54%	0.73
Land transport	23%	0.88
Water & air transport	11%	0.94
Accommodation & food services	59%	0.70
Publishing & broadcasting	22%	0.89
Telecoms	11%	0.94
Computer related activity	20%	0.89
Finance	22%	0.89
Real estate	33%	0.84
Professional services	26%	0.87
Research & development	13%	0.94
Business services	44%	0.78
Employment activities	25%	0.88
Public administration	25%	0.87
Education	55%	0.73
Health & care	43%	0.79
Arts & entertainment	59%	0.71
Other services	39%	0.80
TOTAL	34%	0.83

Floorspace per Worker Assumptions

- xvii. Best practice guidance⁴¹ on employment densities uses a mix of net internal area (NIA), gross internal area (GIA) and gross external area (GEA). To convert to GEA an uplift is provided, +20% to convert NIA to GEA and +5% to convert GIA to GEA.
- xviii. The table below (Figure A5.4) sets out further details on assumptions in respect of average floorspace per worker.

⁴¹ Homes and Communities Agency, Employment Density Guide 3rd Edition, November 2015.

Figure A5.4 Floorspace Per FTE

Use Class	Assumption
B1a Offices	The Employment Densities Guide (2015) provides estimates for a range of office functions ranging from 8 – 13 sq m per FTE (Net Internal Area). The higher end of this range relates to Corporate HQ and the lower end relates to call centres. Financial Services, Public Sector and Professional Services fall within the 10-12 sq m range. The Occupier Density Study (2013) indicates an average density of 10.9 sq m for the UK. On this basis, an assumption of 11 sq m per employee has been adopted, with a 20% uplift to provide Gross External Area (GEA). The utilised assumption is therefore 13.2 sq m per FTE .
B1b R&D	The most recent (2015) best practice guidance sets out a range of 40-60 sq m (NIA) for R&D B1b premises. The mid point of this range has been adopted, and uplifted by 20% to convert to GEA. A figure of 60 sq m per FTE has been used within the analysis.
B1c Light Industry	The most recent (2015) best practice guidance indicates a figure for B1(c) light industry at 47 sq m per FTE (NIA). Allowances are made to align to GEA (+20%) with a final assumption of 56.4 sq m per FTE (GEA) .
B2 General Industry	B2 General is estimated at 36 sq m per FTE (GIA). Allowances are made to align to GEA (+5%) with a final assumption of 37.8 sq m per FTE (GEA) .
B8 Storage & Distribution	Latest available estimates suggest a range of 70 – 95 sq m per FTE. 70 sq m per employee (GEA) for ‘final mile’ distribution centres and 95 sq m per employee (GEA) for national distribution centres. There is the potential for a mix of both and 80 sq m per FTE has been adopted for this analysis.

Changing Employment Densities

- xix. Research publications setting out employment densities have indicated a trend towards increasing density of occupation of office space (i.e. reduced space per worker) over the last 20 years. Guidance published in 2001 indicated general office density of 19 sq m per worker (GIA) which had reduced to 13.8 sq m per worker (GIA) within the 2010 2nd edition of the guidance and a range of 9.2 – 15.0 sq m per worker in the 2015 guidance. As a result of increasing density of occupation across the whole office stock it was possible for substantial increases in employment to be accommodated within existing stocks through the reconfiguration and modernisation of space.
- xx. However, the September 2013 Occupier Density Study published by the British Council for Offices suggests this trend might be levelling off, for various reasons. This is in keeping with the findings of the 2012 and 2015 guidance documents. For the purposes of the quantitative assessment in this report it is assumed that there is no further substantive increase in the density of office occupation so as not to artificially restrict the provision of office space. However, when interpreting the results it should be considered that if the recent historic trend did continue there may be scope for a lower requirement for new office development than set out within this analysis. Particularly if there is a high proportion of call centre type occupiers.

Development Density/Plot Ratios⁴²

- xxi. A site development density of 40%⁴³ is assumed for industrial premises development.
- xxii. For offices a range of 40% to 100% is used to address the differing nature of development at 'in-town' and 'out-of-town' locations. A figure of 40% is used for out-of-town and business park type development. A figure of 100% is used to capture the higher densities achievable in town. If high-rise development is accommodated this can lead to even higher densities being achieved. As a result the land requirement range for the office sector is wide and the floorspace figure may be a more suitable metric in some circumstances.

Replacement Allowances

- xxiii. An allowance for replacement has been included within the methodology to encapsulate the wider changes in the economy not picked up in the employment projections. Working practices change, new technologies are adopted, and the sites and premises used by firms need to adapt to these new ways of working. The buildings vacated by some businesses may not be suitable for re-occupation by new tenants. There will also be instances where existing buildings are so dilapidated that they require complete reconstruction and replacement. The introduction of Energy Performance Certification for industrial premises may speed the need for this replacement over the period to 2033. There are also losses to other uses either through sales and lettings or redevelopment. The introduction of Permitted Development Rights (PDRs) has already impacted on the losses of office stocks and is shortly to be introduced for industrial space. Overall, there are a range of factors that underpin the need for some existing employment stocks to be replaced.
- xxiv. Developing a methodology to estimate the scale of replacement activity is not straightforward. As a result, the team at Hardisty Jones Associates, drawing on its experience of working with clients over a number of years, has developed a methodology which is robust in terms of its underpinning logic and the evidence used to derive assumptions.
- xxv. Typically within the property sector, development appraisals on new buildings consider a 25-35 year time horizon. As a result, one may expect that after this period, a building would be ripe for replacement through dilapidation. However, data on the age of commercial employment buildings indicates a very different picture.
- xxvi. Data from 2004 (no more recent data has been published) for the FEMA (shown in the table below) indicates that a notable proportion of the existing⁴⁴ stocks were built pre 1940 and around 50% pre 1970. This implies that the useful lifespan of some stocks is considerable and beyond the 35 year development appraisal period.
- xxvii. If buildings were replaced every 30 years, one would expect around 3.3% of all commercial employment property stocks to be replaced each year. Due to the existence of a substantial stock of property aged pre 1970 this assumption is not supported by the evidence and is too strong.

⁴² Development density assumptions, sometimes referred to as plot ratios are informed by a range of evidence including ODPM (2004) Employment Land Reviews: Guidance Note; and Yorkshire Forward (2010) Planning for Employment Land: translating Jobs into Land;

⁴³ i.e. 4,000 sq m of gross development per hectare (10,000 sq m)

⁴⁴ This data is indicative given it is now 12 years out of date, but is used to indicate the point that much of the data has a longer economic life than may be imagined at time of construction.

Figure A5.5 Age of Commercial Stocks in West Essex and East Herts (2004)

	% built Pre 1940	% built 1940 - 1970	Total Pre 1970
Retail	24%	30%	54%
Office	27%	29%	56%
Factory	6%	60%	66%
Warehouse	6%	38%	44%
Total	13%	43%	49%

Source: Department for Communities and Local Government (CLG) archive. Total floorspace by LAD and age. 2004.

- xxviii. At the other extreme, if one assumes buildings last 200 years before being replaced, that equates to a 0.5% replacement rate each year. However, this appears to be too low, with numerous examples of buildings requiring replacement through dilapidation or loss to other activities well before they reach 200 years of age.
- xxix. The reality is therefore likely to lie somewhere in between these two extremes, in the region of 1-2%. 1% is adopted as a starting assumption, with the scope for districts to consider whether local need is greater through consultation with local commercial market stakeholders and through detailed review of supply. A figure of 1% equates to the replacement of the total supply of employment premises every 100 years, although in reality that could include some premises being replaced more often and some premises not being replaced at all. It has been noted to HJA in various locations that whilst Victorian premises were constructed to last for the long term, many more modern construction methods do not last as well.

Reuse of Land

- xxx. A proportion of future gross development requirements will be met through the re-use of former/existing employment sites. This can be through the immediate re-use of a site, with one building replaced by another, or with a time lag, in some cases sites are left vacant or cleared for some time before being brought forward for redevelopment. This redevelopment may include a mix of uses, some of which is within the B Use Class.
- xxxi. Monitoring data from the four districts within the FEMA, along with discussions with planning and economic development officers informed the assumptions used in the analysis. The historic period for which monitoring data is available varies from district to district. The quality and detail of the data also varies. HJA therefore sought to check all its interpretation of the data with the officers to ensure it accords with local understanding.
- xxxii. Figure A5.6 sets out results of recent historic development activity, which formed part of the evidence to develop assumptions on the re-use of employment sites.

Figure A5.6 Historic Monitoring Data

	Data Span	Average Annual Gross Completions (full data span)	Average Annual Gross Completions (2011 onwards)	B replacing B (full data span)		B replacing B (2011 onwards)	
				Sq m	%	Sq m	%
East Herts	2007-16	10,290	7,830	6,420	62%	3,720	47%

Epping Forest	2006-15	19,180	11,910	6,580	34%	4,770	40%
Harlow	2011-16	4,730	4,730	3,340	71%	3,340	71%
Uttlesford	2004-16	13,770	8,300	4,070	25%	5,850	42%

- xxxiii. In East Herts the long term trend has been for almost two thirds (62%) of gross B Use Class development to be achieved through the re-use of previously developed employment land. This equates to an average of 6,420 sq m per annum. This has fallen to 47% since 2011, at only 3,720 sq m per annum. A figure of 47% was adopted within the forecast analysis for the period 2016-33. Under the preferred scenario this equates to a floorspace figure of 3,950 sq m per annum. This is marginally above the short term average but comfortably below the longer term average.
- xxxiv. In Epping Forest District recent development patterns since 2011 indicate 40% of gross development has been achieved through the redevelopment of previously developed employment land. This is slightly higher than the long term average. Over the long term an average of 6,580 sq m per annum of gross development on previously developed employment land has been achieved. This has fallen to below 5,000 sq m in recent years, reflecting the lower overall levels of development activity which are consistent across the FEMA. A figure of 40% was adopted on the forecast analysis over the period 2016-33. In absolute terms this equates to 2,790 sq m per annum, well below historic rates of site re-use.
- xxxv. Data for Harlow is only available from 2011 onwards. 71% of gross development has been achieved through the reuse of previously developed employment land, an average of 3,340 sq m per annum. A figure of 70% is adopted within 2016-33 forecast analysis. This equates to 10,000 sq m per annum. In absolute terms this is much higher than historic rates of re-use. This is also consistent with higher overall requirements for floorspace reflecting the employment growth focus at the town. HJA has explored the potential capacity to accommodate this high rate of replacement with officers of the council. The re-use approach accords with committed policy including the relocation of PHE into the former GSK site and the redevelopment of Templefields and Kao Park as one of the core objectives of the Enterprise Zone. Figure A3.7 lists the redevelopment opportunities which are currently known in Harlow. This shows that at the time of writing there is a clear indication of where 170,000 sq m of gross development on previously used employment sites can be identified. It is likely that further opportunities will be identified through the forecast period.

Sources

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

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

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

Occupier Density Study, 2013, British Council for Offices

Figure A5.7 SIC to Use Class Matrix

	A1	A2	A3-5	B1a	B1b	B1c	B2	B8	C1	C2	C3	D1	D2	SG	None & Homeworking
Agriculture	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Mining & quarrying	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Manufacturing - food manufacturing	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Manufacturing - general manufacturing	0%	0%	0%	0%	0%	4%	83%	0%	0%	0%	0%	0%	0%	0%	14%
Manufacturing - chemicals only	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Manufacturing - pharmaceuticals	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Manufacturing - metals manufacturing	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Manufacturing - transport equipment	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Manufacturing - electronics	0%	0%	0%	0%	0%	0%	90%	0%	0%	0%	0%	0%	0%	0%	10%
Utilities	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	72%	28%
Waste & remediation	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	72%	28%
Construction	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	95%
Wholesale	2%	0%	0%	1%	0%	0%	0%	66%	0%	0%	0%	0%	0%	21%	9%
Retail	86%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%	1%	10%
Land transport	0%	0%	0%	30%	0%	0%	0%	16%	0%	0%	0%	0%	0%	2%	52%
Water & air transport	0%	0%	0%	0%	0%	0%	0%	23%	0%	0%	0%	0%	0%	0%	77%
Accommodation & food services	9%	0%	55%	0%	0%	2%	0%	0%	14%	0%	0%	0%	0%	0%	20%
Publishing & broadcasting	0%	0%	0%	62%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%	21%
Telecoms	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Computer related activity	0%	0%	0%	75%	0%	0%	0%	4%	0%	0%	0%	0%	0%	0%	21%
Finance	0%	29%	0%	64%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
Real estate	0%	22%	0%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	16%
Professional services	0%	2%	0%	77%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
Research & development	0%	0%	0%	1%	79%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
Business services	1%	0%	0%	28%	3%	1%	1%	1%	1%	1%	1%	1%	1%	9%	54%
Employment activities	14%	1%	6%	7%	0%	0%	10%	8%	1%	7%	0%	17%	0%	1%	27%
Public administration	0%	0%	0%	64%	0%	0%	0%	0%	0%	0%	0%	25%	0%	0%	11%
Education	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	91%	0%	0%	9%
Health & care	0%	0%	0%	10%	0%	0%	0%	0%	0%	50%	0%	32%	0%	0%	8%
Arts & entertainment	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	47%	24%	22%
Other services	39%	0%	0%	13%	0%	0%	0%	0%	0%	0%	0%	7%	0%	10%	30%
TOTAL	11%	1%	4%	17%	2%	0%	8%	6%	1%	5%	0%	13%	1%	4%	27%

Appendix 6: Potential Employment Development Options for New Garden Communities

- i. This appendix provides additional supporting information to underpin the headline analysis of B Use Class employment development potential set out within the main report.

Plot Ratios and Development Density

- ii. The underlying principle of integrating employment development with other uses, as opposed to large stand alone industrial estates or business parks, is a key principle of the envisaged approach. Clustering B Use Classes at village/district centres within the Garden Communities is anticipated to be a key feature of this.
- iii. As a result of integrating uses as part of high quality masterplanning it is expected that relatively high development densities can be achieved. For the purposes of generating indicative estimates the following assumptions have been used:
 - B1a/b – plot ratio of 1.0
 - B1c/B2/B8 – plot ratios of 0.6 and 0.4
- iv. The basis for these assumptions is as follows:

B1a Plot Ratio

- v. The anticipated nature of B1a development at the new Garden Communities is for relatively small scale office uses integrated within village/district centres. These will be integrated closely with other uses and include activities such as workhubs. Due to location within mixed use centres the nature of development is not expected to be in stand alone office developments with its own dedicated car parking. A mix of one and two storey office activities are anticipated, potentially alongside, below or above other land uses. An average plot ratio of 1.35 is assumed as a basis for estimating realistic floorspace potential.
- vi. The Employment Land Reviews: Guidance Note (ODPM, 2004)⁴⁵ noted town centre office ratios of 0.75 – 2.00.
- vii. Detailed research of the Old Oak and Park Royal⁴⁶ industrial area in London considered plot ratios in detail. Office activities within this area were identified to be 1.26.
- viii. Detailed analysis of the London Employment Sites Database (CAG Consultants, 2017) found average plot ratios for B1 from 1.07 in outer London to 6.51 for central London. The average was 2.32.
- ix. Previous analysis of the London Employment Sites Database (Roger Tym & Partners, 2009) found average B1 plot ratios for outer London of 1.74, and a median value of 1.07.
- x. Whilst London may be viewed as atypical of HGGT and the nature of development at the new Garden Communities, examples are cited due to (a) the volume of detailed research that has been undertaken; and (b) the desire to achieve efficient land use and high density development.

⁴⁵ Whilst dated this remains the most up to date 'official' document at a national level providing evidence of plot ratios.

⁴⁶ Old Oak and Park Royal Development Corporation, Industrial Land Review, Local Plan Supporting Study, June 2018, Mayor of London

- xi. Looking in a different context at Poundbury in Dorset, this includes small stand alone office buildings close to village centres. Examples include Stowey House and Paceycombe House which achieve plot ratios of 0.5 – 0.63. Both schemes include dedicated parking. Anticipated proposals for greater integration of uses and sustainable travel at HGGT new Garden Communities offers the potential to achieve higher densities.
- xii. The evidence indicates the following:
- Development densities at town centres are typically higher than peripheral development;
 - Development densities in excess of 1.0 can be achieved, and are typical in London;
 - A working assumption of 1.0 sits comfortably in the range set out in previous official guidance and well within the bounds of other indicators set out within existing research. It also recognises the nature of new centres as not competing with Harlow Town Centre, but seeking to achieve efficient land use through integrating uses.

B1c, B2, B8 Plot Ratio

- xiii. Industrial and workshop development will be required to achieve the principles of the new Garden Communities. However, this is not anticipated to be in the form of large industrial estates or business parks, but integrated within the fabric of communities as far as is possible. Through integration there is the potential to achieve higher densities, avoiding the need for dedicated site access roads and reducing parking requirements.
- xiv. The Employment Land Reviews: Guidance Note (ODPM, 2004) noted industrial and warehouse ratios of 0.35 – 0.6.
- xv. Detailed research of the Old Oak and Park Royal⁴⁷ industrial area in London considered plot ratios in detail. Industrial activities within this area averaged 0.65, with the average inclusive of some very low density activities such as open storage, utilities and bus depots. For light and general industry plot ratios of 0.69 – 0.78 were identified.
- xvi. Detailed analysis of the London Employment Sites Database (CAG Consultants, 2017) found average plot ratios for B2 of 0.56 and for B8 0.67 (the figure for outer London was slightly lower at 0.65). On the basis of this evidence an ambition for achieving a density of 0.65 was set out within the London Plan.
- xvii. Previous analysis of the London Employment Sites Database (Roger Tym & Partners, 2009) found mean average B2 plot ratios for outer London of 2.62 (from a very small sample), and a median value of 1.74. For B8 uses the mean value was 0.71 and median 0.59.
- xviii. Further recent research for the Mayor of London: Analysis of plot ratios in industrial development in London (2011-18) was published in October 2018. This found mean plot ratios of 0.86 for all London, falling slightly to 0.83 for outer London. Median values were 0.71 falling to 0.65. Looking at outer London data in more detail B1c schemes achieved a mean ratio of 0.85, B2: 0.78 and B8: 0.87. Mixed schemes achieved 0.77. When considering industrial schemes collocated with residential (13 schemes identified) the mean and median plot ratio was 2.0. Examples of mixed use development including residential, industrial and non-industrial uses

⁴⁷ Old Oak and Park Royal Development Corporation, Industrial Land Review, Local Plan Supporting Study, June 2018, Mayor of London

have also been considered. These indicate mean plot ratios of 2.7 and median 2.13, however, in outer London (on a smaller sample size) these ratios fall to 1.88 and 0.92.

- xix. Whilst London may be viewed as atypical of HGGT and the nature of development at the new Garden Communities, examples are cited due to (a) the volume of detailed research that has been undertaken; and (b) the desire to achieve efficient land use and high density development.
- xx. HJA has also looked more specifically at some development examples at Poundbury in Dorset, as a quite different form of development to London. Within the Poundbury development there are examples of B2 uses integrated within a residential area (House of Dorchester and the Loop Technology building), as well as small mixed B Use Class development at the edge of the residential settlement (Parkway Farm Business Park).
- The House of Dorchester premises have been subject to multiple planning applications. The 0.56ha site accommodates 4,247sqm of B2 (including ancillary B1 and B8) achieving a plot ratio of 0.76 (application 110/12/000021). An earlier application to extend the original premises which was not implemented sought a plot ratio of 0.72 – 0.76 (range depending on inconsistent figures quoted on application documentation).
 - The Loop Technology building comprise 2,014sqm of built floorspace on a site of 0.55ha, achieving a plot ratio of 0.37.
- xxi. These two relatively large industrial type premises demonstrate the potential to integrate such premises with residential uses, close to active centres. The densities range from approximately 0.4 – 0.8.
- Parkway Farm Business Park has been developed in multiple phases and includes a mix of B Uses with some D Class uses. Phase 1 achieved a plot ratio of 0.38, Phase 2 a density of 0.6 and a proposed Phase 3 a density of approximately 0.3. The latter phase includes substantial parking provision. Overall the plot ratio for the three phases is approximately 0.4 which is broadly typical of stand alone sites of this nature and includes all access roads and considerable parking.
- xxii. The evidence indicates the following:
- Development densities in central locations are typically higher than peripheral development;
 - Development densities in excess of 0.6 are typical in London;
 - Development within a much less urban context at Poundbury also evidences higher density can be achieved, particularly where integrated with residential development;
 - The Poundbury examples also demonstrate the potential to integrate B2 and B8 uses within the residential fabric of a new community, alongside other employment uses and close to village centres;
 - A working assumption of some development at a plot ratio of 0.4 and some at 0.6 falls comfortably within the bounds of what has been achieved in a range of settings, with much higher densities possible where required.

Indicative Floorspace Calculations for New Garden Communities

xxiii. Indicative floorspace estimates for the new Garden Communities have been derived as follows:

Gilston Villages

xxiv. The 5ha of identified employment land has been distributed on the basis that each village centre will provide some employment floorspace to provide local services and facilities underpins the starting position. An indicative 0.25ha (plot ratio 1.0) of office and 0.25ha (plot ratio 0.6) of light industrial is allocated to each centre. Across the 7 villages this equates to a total of 3.5ha. The remaining 1.5ha is identified to provide further industrial capacity at a plot ratio of 0.4.

xxv. The total floorspace derived using this method equates to 17,500sqm of B1a office, 10,500sqm of B1c distributed across the seven villages, with a further 6,000sqm of mixed industrial B1c/B2/B8 to be delivered in line with the identified high level sites strategy. In aggregate an estimate of 34,000sqm is anticipated, with an expectation of approximately 20,000sqm to be delivered by 2033.

Latton Priory

xxvi. The 1.9ha of identified employment land at Latton Priory/Dorrington Farm is identified on the basis of a 50:50 split of B1a:B1c to provide a mix of office and light industrial workshop space. A plot ratio of 1.0 for offices and 0.6 for light industrial is assumed, on the basis of the evidence set out earlier in this appendix.

xxvii. The total floorspace derived using this method is 9,500sqm of B1a office and 5,700sqm of B1c light industrial. A total of 15,200sqm of B Use Class premises to be delivered, anticipated to be concentrated around an integrated mixed use centre.