Employment Assessment Review

Stroud District Council

November 2014

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EXECUTIVE SUMMARY

Introduction

i. This report addresses the comments and concerns raised by the Inspector and provides a critical review of the methodology and findings of the AECOM/BE Group Employment Land Study (ELS), completed in February 2013.

ii. The main issues raised were whether the ELS is compliant with national guidance; is its approach consistent with the approach taken by the JCS authorities; is relying on historic land take up an appropriate approach; is the forecasting data up to date to reflect the latest growth figures; is the Local Plan policy on employment consistent with the Local Enterprise Partnership's (LEP) Strategic Economic Plan (SEP); and whether the allocated sites are still appropriate and deliverable.

National Guidance

iii. When the ELS was prepared in 2013, ODPM Guidance 2004 was followed alongside the newly published National Planning Policy Framework (NPPF). ODPM followed a three step approach of identifying sites, quantifying need and considering whether the identified sites meet the need or whether there are gaps that need addressing.

iv. NPPF provides a framework of the Government's economic, environmental and social planning policies for England, for the production of local and neighbourhood plans, and replaced all the previous Planning Policy Statements and Guidance Notes. The Framework identifies that plans must be current and provide for sustainable development.

v. Planning Practice Guidance (PPG) which was published after the completion of the ELS sets out in more detail how housing and economic development land should be considered both in terms of assessing its availability, and in forecasting future needs. A five stage approach is recommended which follows a process of looking at available sites and the location of those sites; assessing the sites to ensure that they will be deliverable and fit for purpose and understanding the market needs in relation to land and premises; assessing any windfall housing sites; ascertaining the future land needs through different forecasting methods, including historic trends; and collating the final evidence base to identify the appropriate land for inclusion in the plan.

vi. The approach that AECOM/BE Group has taken in the ELS largely mirrors PPG, which also extends to non B Class uses and a review of the economic performance and needs of the wider sub region.

JCS Review

vii. When assessing employment land needs for Stroud, the Inspector considered it vital that the Council considers the relationship with the wider economic strategy for Gloucestershire, including the latest SEP. In particular he drew attention to the JCS authorities of Gloucester, Cheltenham and Tewkesbury. Therefore the approach taken by the JCS authorities in assessing land needs are considered in their relationship with Stroud.

viii. Nathaniel Litchfield and Partners (NLP) prepared the Employment Land Review for Cheltenham, Gloucester and Tewkesbury in March 2011. The method adopted to assess future land needs followed the established ODPM guidance and looked at employment change and historic land take up. The method used to determine need was employment change.

ix. The method of translating the change in jobs numbers to a land requirement is very similar in approach to the method used in the ELS, which translates jobs to floor space needs for different types of property, then converts floorspace to land. Both approaches use the floorspace densities recommended by HCA.

x. To ensure that needs were assessed on the most up to date and relevant data, NLP then carried out an update review in 2013 comparing and using the three principal forecasting sources, of Experian, Cambridge Econometrics and Oxford Economics. These showed significant variances. However, rather than opt for one single preferred data source, NLP elected to take an average across the three sources.

Review of the LEP Strategic Economic Plan

xi. It is important that the Stroud Local Plan is aligned to the SEP in terms of priority outputs and growth targets. The LEP's Growth Statement, published in March 2013 sets a jobs target of 33,800 new jobs between 2012 and 2025 and a growth rate of 0.8 percent/annum.

xii. Stroud District Council updated their figures for the Local Plan estimating a net increase in jobs of 6,200 (2006-2031), which is an 11.07 percent increase for the Plan period or 0.58 percent/ annum. The latest forecasts used in preparation of this report show employment rising to either 6,800 (Oxford Economics) and a growth rate of 0.63 percent/annum or 12,500 (Cambridge Econometrics) and a growth rate of 1.16 percent/annum.

xiii. Like the LEP area overall, Stroud will see growth in a number of sectors such as advanced engineering environmental technologies and electronics, whilst manufacturing jobs are forecast to decline, although the findings from the business consultations do not reflect this decline.

xiv. The SEP sets out a Growth Zone for Gloucestershire as one of the flagship projects. This zone is aimed at providing space for business expansion through making development land available in good locations in the County. The priority location for the Growth Zone is the M5 corridor, and is primarily seen as to the north of Stroud, although Quedgeley, Stonehouse, Sharpness and Severnside all fall within and support the wider description of the Growth Zone. A further priority is to retain and develop skills within the nuclear industry and this is recognised through the importance of Berkeley as a location

Forecasting Methods

xv. The projections of employment land needs estimated by AECOM/BE Group were based on historic land take up trends. Employment based forecasts and labour based forecasts were also assessed as a means of calculating need, but in view of the market appraisal it was considered that the net growth from both these methods did not adequately reflect the projected economic activity. In accordance with PPG, the different forecasting methods have been reviewed and a comparison of historic trends for both land take up and jobs change made to consider the appropriateness of using take up as a method.

xvi. Employment change alone is not an accurate method of forecasting future land needs. It is built on the assumption that any jobs created or lost translate to a land amount. This is not the case, and is evidenced by the forecasted decline in manufacturing jobs, but the companies in that sector were categoric that their property needs are not reducing. Comparison of historic trends provided further

evidence of this as the actual jobs change since 1990 when translated to land, fell well below the actual take-up. Jobs growth alone across different sectors whilst not providing a direct comparison is considered a better indication of future need. To ensure that the data is up to date and accurate, forecast data was obtained from both Oxford Economics and Cambridge Econometrics for 2014. These showed significant differences in job creation, with Cambridge suggesting almost twice the jobs over the whole Plan period. Anomalies particularly in public sector forecasts and manufacturing were considered, and it is felt that Oxford, which has the latest BRES data, is possibly more realistic.

Employment Land

xvii. The ELS assessed the land supply in 2012 and concluded that there was a net supply of 32.78 ha. The ELS identified a need of between 9.53 ha, based on all allocations being deliverable, and up to 34.66 ha where the land supply was adjusted to exclude land deemed to be potentially undeliverable during the Plan period. The Draft Local Plan included new allocations of 25.00 ha to meet this shortfall. In addition, a number of employment areas were protected to retain employment uses, whilst others were re-designated as mixed use sites reflecting local need.

xviii. The Council has revised its monitoring to the present day, taking account of new allocations in the draft Local Plan and current commitments., The current baseline supply in 2014, taking account of commitments unlikely to come forward is 55.86 ha. The total net land supply, taking account of completions since 2006, is 51.83 ha which is considered available and deliverable for the Local Plan period.

Growth forecasts

xix. The three alternative forecast methods have been updated to take account of the current land availability, the adjustments made to the forecasting data and the interpretation of the relationship between employment growth and the consequent land needs.

xx. Using a historic land take up method, there is a land need for 58 ha of employment land for the period 2006-2031, 46.4 ha for the period 2011-2031 and 39.44 ha for the period 2014-2031. Using an employment based method, there is a land need for 10.54 ha (OE) or 31.8 ha (CE) for the period 2006-2031, 8.9 ha (OE) or 23.59 ha (CE) for the period 2011-2031 and 6.7 ha (OE) or 16.08 ha (CE) ha for the period

2014-2031. Using the alternative labour supply method, there is a need for -2.64 ha for the period 2014 to 2031.

xxi. In line with the method used in the ELS, a five year buffer is added to allow for choice, potential losses to other uses and any unforeseen increase in demand for land and to ensure a continuation of the land supply after 2031. Whilst this is not a requirement set out in NPPF or PPG, the guidance recommends that the land supply provides choice for the plan period.

xxii. Land stock is compared against land needs, for the periods commencing 2006, 2011 and 2014 to 2031 using the alternative forecast methods. Using the historic land take up method, there is a surplus of 0.49 ha from 2011 to 2031 and if the current position is taken from 2014 until 2031 then there is a surplus of 4.82 ha. Only for the Plan period 2006-2031 under a worst case scenario is there a shortage of 17.77 ha including the buffer of 11.6 ha. If the alternative employment based method is used, there is a surplus of between 13.67 and 47.19 ha depending upon the time period and forecast used. If the alternative labour supply method is used, there is a 52.53 ha surplus for the period 2014 to 2031.

xxiii. Based on actual need and the potential to draw back some of the undeliverable land in the future, no immediate need to allocate further land is necessary. The Council should review its land needs on a regular basis, guidance suggests every five years and this allows the Council to look at actual take-up, the appropriateness of the allocated land and any need for further allocations at that time.

1.0 INTRODUCTION

1.1 Following the initial stage of the Examination in Public into the Stroud District Local Plan, the Inspector published his initial comments which addressed gaps and issues he felt required further consideration by Stroud District Council (the Council).

1.2 A number of matters relating to the economy and employment land have been raised in particular:

- Is the Employment Land Study (ELS) fully compliant with the requirements of national policy and guidance?
- Is the approach in preparing the ELS consistent with the methodology and findings of the Joint Core Strategy authorities?
- Is relying on historic land take-up trends an appropriate method of assessing future land needs?
- Is the forecasting data used appropriate and up to date to reflect future employment growth?
- Do the findings and proposals in the Stroud District Local Plan reflect the policy and strategy of GFirst Local Enterprise Partnership as outlined in its Strategic Economic Plan?
- Are the allocated sites still appropriate and deliverable to meet Stroud District employment needs?

1.3 This report addresses the comments and concerns raised by the Inspector and provides a critical review of the methodology and findings of the AECOM/BE Group Employment Land Study (ELS), completed in February 2013.

1.4 It is worth noting that the forecast data used in the ELS has been updated and this report uses the latest forecast data (2014) from both Oxford Economics and Cambridge Econometrics.

2.0 CURRENT GUIDANCE

Employment Land Review Guidance

2.1 Since the production of the Stroud Employment Land Study, new Planning Practice Guidance (PPG) has been published which provides further detail beyond the guidance given through the 2004 ODPM Guidance Note and the more recently published National Planning Policy Framework (NPPF). PPG outlines in more detail how Local Authorities should approach both housing and employment land reviews. Two guidance notes have been produced – *Housing and Economic Land Availability Assessment* which provides a methodology of reviewing suitable land, and *Housing and Economic Development Needs Assessments*, which provides guidance on how future needs can be determined.

2.2 At this stage it is worth reiterating the government guidance that AECOM/BE Group followed in preparing the ELS in 2013.

2.3 The ODPM Employment Land Review: Guidance Note (2004) promotes a three-stage process for undertaking employment land reviews.

Stage One: take stock of the existing situation including an initial assessment of 'fitness for purpose' of existing allocated employment sites. The objective is to identify the best employment sites to be protected; identify employment sites to be released and prepare an effective brief for stages two and three of the review. The outcome of this stage is to understand key employment land supply issues and generate a portfolio of potential employment sites to take forward for more detailed review.

Stage Two: understand the future quantity of land required across the main business sectors; to provide a breakdown of that analysis in terms of quality and location; and, provide an indication of 'gaps' in supply through economic forecasting, consideration of recent trends and/or assessment of local property market circumstances. The outcome of this stage is to provide broad quantitative employment land requirements across the principal market segments covering the Local Development Plan period and an analysis of the likely 'gaps' in supply that need to be filled.

Stage Three: entails a qualitative review of all significant sites (and premises) in the

existing portfolio in order to confirm which of them are unsuitable for/unlikely to continue in employment use; to establish the extent of 'gaps' in the portfolio; and if necessary, identify additional sites to be allocated or safeguarded.

National Planning Policy Framework – Department for Communities and Local Government (2012)

2.4 As part of ongoing reforms of planning policy, the Department for Communities and Local Government published the National Planning Policy Framework (NPPF) in 2012. The NPPF sets out the Government's vision of sustainable development. It provides a framework of the Government's economic, environmental and social planning policies for England, for the production of local and neighbourhood plans, and has replaced all the previous Planning Policy Statements and Guidance Notes. This was reviewed in the ELS and the Study was undertaken having regard to the NPPF.

Planning Practice Guidance

2.5 Planning Practice Guidance 2014 (PPG) now provides guidance on how Local Authorities should approach both housing and employment land reviews. Two guidance notes have been produced – *Housing and Economic Land Availability Assessment* which provides a methodology of reviewing suitable land, and *Housing and Economic Development Needs Assessments*, which provides guidance on how future needs can be determined. The assessment process takes the form of a five stage methodology under the following headings:

- **Stage 1: Identification of sites and broad locations** to provide an audit of available land of 0.25 ha and above. This will be a desk top review identifying as wide a range as possible of sites and broad location for development (including those existing sites that could be improved, intensified or changed). The outcome of this stage is to understand key employment land supply issues and generate a portfolio of potential employment sites to take forward for more detailed review.
- **Stage 2: Site/broad location assessment** to estimate the development potential. This will include a re-appraisal of the suitability of previously allocated land and the potential to designate allocated land for different or a wider range of uses. This stage entails a qualitative review of all significant sites and premises for their 'suitability', 'availability' and 'achievability' in order

to confirm which of them are unsuitable for/unlikely to continue in employment use; to establish the extent of 'gaps' in the portfolio; and if necessary, identify additional sites to be allocated or safeguarded. This exercise will help to inform whether a site is 'deliverable', 'developable' or neither. In assessing the portfolio, factors which need to be considered include:

- *"The recent pattern of employment land supply and loss to other uses (based on extant planning permissions and planning applications). This can be generated though a simple assessment of employment land by sub-areas and market segment, where there are distinct property market areas within authorities.*
- *Market intelligence (from local data and discussions with developers and property agents, recent surveys of business needs or engagement with business and economic forums).*
- *Market signals, such as levels and changes in rental values, and differentials between land values in different uses.*
- *Public information on employment land and premises required.*
- *Information held by other public sector bodies and utilities in relation to infrastructure constraints.*
- *The existing stock of employment land. This will indicate the demand for and supply of employment land and determine the likely business needs and future market requirements (though it is important to recognise that existing stock may not reflect the future needs of business). Recent statistics on take-up of sites should be consulted at this stage, along with other primary and secondary data sources to gain an understanding of the spatial implications of 'revealed demand' for employment land.*
- *The locational and premises requirements of particular types of business.*
- *Identification of oversupply and evidence of market failure (e.g. physical or ownership constraints that prevent the employment site being used effectively, which could be evidenced by unfulfilled requirements from business, yet developers are not prepared to build premises at the prevailing market rents)."*

- **Stage 3: Windfall assessment** Not applicable as relates to housing only
- **Stage 4: Assessment Review** ascertaining the need for economic development uses. To understand the future quantity of land required across

the main business sectors; to provide a breakdown of that analysis in terms of quality and location and provide an indication of 'gaps' in supply through economic forecasting, consideration of recent trends and/or assessment of local property market circumstances. Preferred forecast methods include:

- Sectoral and employment forecasts and projections (labour demand)
- Demographically derived assessments of future employment needs (labour supply techniques)
- Analyses based on the past take-up of employment land and property and/or future property market requirements.

The outcome of this stage is to provide broad quantitative employment land requirements across the principal market segments covering the Local Plan period and an analysis of the likely 'gaps' in supply that need to be filled

- **Stage 5: Final evidence base**, the outcome of which will be the completion of the employment land review, to be taken forward in the Local Plan. This Review is prepared in line with this advice.

2.6 The guidance is broadly in line with the methodology that AECOM/BE Group followed in preparing the ELS. There is one significant difference between the original ODPM Guidance and the new PPG, and that is the reference now to economic land rather than employment land. This distinction allows for land to be assessed for uses beyond the traditional B class employment uses, and the guidance does make reference to considering land for a wider range of uses.

2.7 Table 1 shows how the Employment Land Study aligns with this Guidance. The link between the report and the PPG methodology is not always clear cut, with different sections overlapping, indeed certain steps overlap.

Table 1 – Employment Land Reviews – PPG Guidance

Stage 1 – Site / Broad Identification	
Step 1 – Determine assessment area and site size	Covered in Section 1
Step 2 – Desktop review of existing information	Covered in Sections 2, 3, 4, 5, 6
Step 3 – Call for sites/broad locations	The Council undertook a Call for Sites in 2009 and 2011. There has been extensive consultation through the Local Plan process 2009-2013.
Step 4 – Site/broad location survey	Covered in Sections 4, 5, 6

Stage 2 – Site / Broad Location Assessment	
Step 5 – Estimating the development potential in parallel with assessing suitability, availability, achievability – including viability	Covered in Sections 5, 6, 8, 9. Section 11 addresses Non B class uses. As part of the Study sites were considered for their appropriateness of B class uses, or alternatively more appropriate uses.
Step 6 – Overcoming constraints	Covered in Section 9 and Appendices 5 and 6
Stage 3 – Windfall Assessment	
Step 10 – Determine housing / economic development potential of windfall sites (where justified)	Covered in Section 6 - through a review of consents. This has been updated through Stroud Employment Land Availability Report 2014.
Stage 4 – Assessment Review	
Step 11 – Review assessment and prepare draft trajectory; enough sites/broad locations?	Covered in Section 10 through the forecasting of quantitative needs and Section 13 which draws conclusions and recommendations based on both qualitative and quantitative assessments.
Stage 5 – Final Evidence Base	
Step 12 – Evidence Base and monitoring	ELS produced by BE Group and monitoring/updating undertaken by Stroud District Council at the point of producing the Local plan and current monitoring

Source: BE Group 2014

2.8 These steps are considered in more detail below.

Sites Assessments

2.9 The PPG sets out a methodology for reviewing sites and ensuring that they are fit for purpose. Initial assessment is from records and data sources to provide a definitive list, following which site surveys are undertaken. The surveys record the nature and characteristics of the properties, identifying constraints and reviewing deliverability as part of the final assessment on suitability.

2.10 The ELS provides a detailed analysis of sites, employment areas and premises which mirrors the methodology set out in the PPG. Site proformas for each location were provided and a scoring system created which assesses suitability and provides a hierarchy of sites and employment areas. All of this is in line with those outlined in the PPG.

2.11 As highlighted, there are departures from the ODPM 2004 guidance, namely, the need to consider wider uses beyond the B classes, the need to undertake a call for

sites and consider windfall sites, points which align with both PPG and NPPF guidance.

Wider uses

2.12 As part of the original instruction by Stroud District Council, AECOM/BE Group considered uses beyond the traditional B1, B2 and B8 employment uses. This was partly as a result of discussions with some landowners who were considering a mix of uses on sites in the Stroud Valleys and close to the District's town centres. The ELS commented on alternative uses in the employment land supply review (Section 6.17, Table 23) and further recommendations were made in the employment areas review (Section.6.41, Table 29) on the areas' suitability for alternative uses.

2.13 In line with the definitions of economic development in NPPF/PPG, the ELS reflected that wider uses are employment generators and fall into this category. Section 11.0 addresses wider uses including accommodation and food services; education; human health and social work and arts, entertainment and recreation. Regard was also had to retail, but the Council commissioned a separate Town Centres and Retail Study in 2010 to address this sector in more detail. Further work was undertaken in 2013 to update that report with new expenditure patterns in the District.

2.14 The Draft Local Plan (December 2013) reflects the need to widen uses within some of the existing employment areas and have identified a number of locations as mixed use sites.

Call for Sites

2.15 A Call for Sites was undertaken by the Council was in 2009. This was primarily for the Strategic Land Housing Availability Assessment. This was updated with a further Call for Sites in 2011.

2.16 In addition, the public consultation undertaken by the Council as part of the Local Plan process has given landowners the opportunity to make representations regarding land they wish to see brought forward. This has been an ongoing process and the informal stages of consultation where sites were put forward are as follows:

- March – May 2009
- February – March 2010
- February – March 2012.

2.17 As part of the ELS future allocations were considered and recommendations were made (Section 14.24) to include new allocations in the Local Plan process to meet future needs. As a result The Council identified new allocations at the following locations:

- East Quedgeley (13.00 ha)
- Sharpness Docks (3.00 ha)
- Land South of Severn Distribution Park (9.8 ha).

Windfall Sites

2.18 Windfall sites are dealt with by The Council through consideration of planning applications and provide additional land supply beyond sites highlighted in the Local Plan. The ELS took account of all new planning consents and included these in the calculations of land supply.

2.19 The Employment Land Availability Report 2014 provides an update of the land allocations which includes new consents. This update review will take account of the current land supply position.

Assessing Growth

2.20 The Planning Practice Guidance Note *Housing and Economic Development Needs Assessments* is primarily directed at forecasting future housing needs. In making recommendations on the assessment of future changes in household numbers, there is a recommendation that employment trends are taken into account and that plan makers should make an assessment of the likely change in jobs numbers based on past trends and/or economic forecasts, as appropriate.

2.21 A methodology for assessing the situation in relation to economic and main town centre uses, and employment land is provided. This states that when examining the recent take-up of employment land, it is important to consider projections (based on past trends) and forecasts (based on future scenarios) and identify occurrences where sites have been developed for specialist economic uses. This will help provide an understanding of the underlying requirements for office, general business and warehousing sites, and assist in identifying mismatches between supply And demand.

2.22 The guidance recognises that employment markets will cross local authority boundaries and that the assessment of employment trends needs to have regard to cross boundary commuting and that this is addressed through consultation with neighbouring local authorities under the duty to cooperate.

2.23 Forecasting is addressed, and plan makers should use:

- Sectoral and employment forecasts and projections (labour demand)
- Demographically derived assessment of future employment needs (labour supply)
- Past take-up of employment land and an assessment of future property market requirements
- Consultations with relevant organisations and monitoring of business and economic trends.

2.24 This methodology aligns closely with the approach AECOM/BE Group used in the preparation of the ELS, both in terms of the assessment of the land availability and also the forecasting where both past trends, primarily through the review of employment land take-up, and forecasting of future needs through projections of take-up based on the historic trends, labour employment and labour force projections, was completed. Cross border and sub-regional trends and needs were considered through consultations with neighbouring authorities, the County Council, the LEP and relevant commercial organisations.

2.25 PPG states that using past trends is an accepted method of assessing future land needs. AECOM/BE Group assessed land needs using all three forecasting methods, but considered historic take-up to be most appropriate. This has been questioned by the Inspector. Therefore, to further qualify this approach, Section 5.0 of this report sets out a more detailed analysis of historic take-up, recorded between 2002 And 2011 set against actual employment change during the same period, which shows that the two approaches are closely aligned, and confirming historic trends are a relevant method of forecasting.

Summary

2.26 The ELS prepared in 2013 pre-dates the publication of PPG which sets out in more detail how local authorities should approach both housing and employment land reviews, and updates earlier ODPM guidance.

2.27 The BE Group/AECOM approach in 2013 was very similar to the five steps proposed under PPG and as Table 1 shows, reference is made to the ELS and how each step identified in the PPG is covered within the ELS.

2.28 PPG seeks a detailed analysis and assessment of sites to assure that land allocated is fit for purpose. The ELS provides a detailed analysis not only of development land, but also of existing premises and employment areas to ensure a holistic approach to future needs of the business community.

2.29 PPG also seeks that wider uses are considered, and the ELS looked at a range of uses that could impact on employment land. Recommendations made by the ELS were acted upon by Stroud District Council and the Draft Local Plan widens some employment areas to include a mix of uses.

2.30 Sites other than allocations were taken in to account, through windfall sites recognised in the Employment Land Availability Report 2014 and through sites identified through the public consultation process.

2.31 The forecasting methods adopted by the ELS also follow the PPG Note on Housing and Economic Development Needs Assessment. There is no single method of forecasting proposed, rather like the ELS process, the different evidence strands from employment, labour supply, and historic trends are all assessed to provide a reasoned outcome on future needs.

2.32 Thus it is considered that the process followed by the ELS meets the requirements of the NPPF and the more recently published PPG.

3.0 JCS REVIEW

3.1 The Inspector in his Initial Conclusions on Stage One of the Examination makes reference to the JCS authorities in his assessment of the Duty to Co-operate. He also considers it necessary to ensure that when assessing employment land needs for Stroud, the Council considers the relationship with the wider economic strategy for Gloucestershire, including the latest Strategic Economic Plan (SEP). The JCS authorities of Gloucester Cheltenham and Tewkesbury are at an advanced stage in plan preparation, having prepared a pre-submission Joint Core Strategy. Therefore this section revisits the approach taken by JCS authorities in assessing land needs and considers the relationship with Stroud.

3.2 Nathaniel Litchfield and Partners (NLP) prepared the Employment Land Review for Cheltenham, Gloucester and Tewkesbury in March 2011 for the Authorities' Joint Core Strategy (JCS). The method adopted by NLP to assess future land needs followed the established ODPM Employment Land Guidance Note to review the existing stock and assess future needs based on one or more of three methods of assessment, employment growth, labour market change and historic land take up. All were reviewed as part of the JCS Employment Land Review, and NLP used employment growth as the principal method.

3.3 In April 2014 NLP were instructed to undertake a review of the employment forecasts used in the 2011 Employment Land Review. The main reason for this was that the accuracy of forecasting data used from a single source, namely, Cambridge Econometrics was put into question following the Examination in Public into the South Worcestershire Development Plan. Consequently, NLP assessed future land needs comparing and using the three principal forecasting sources, of Experian, Cambridge Econometrics and Oxford Economics.

3.4 This NLP update provides a good benchmark to review the forecasting method used by AECOM/BE Group to assess both employment change and historic trends in Stroud District. The review considers the methods used, taking account of:

- Overall approach
- Reliability of Oxford Economics data in comparison with the other sources
- Estimation of employee densities
- Estimation of site densities

- Other influencing factors.

JCS Employment Land Review 2011

3.5 The method adopted by NLP in assessing the future land requirements for the three JCS authorities was based on the forecasted change in employment numbers across different sectors for the period 2006 to 2026. This assessment used data provided by Cambridge Econometrics which gave estimates of changes in employment in 41 different sectors. The data was produced in April 2009. The method used by NLP closely reflects the process used by AECOM/BE Group to assess land needs based on jobs in the Stroud Study.

3.6 NLP assessed the employment change for the different sectors for each authority to calculate a total net increase in jobs for each area. Like Stroud, the majority of sectors showed growth in projected job numbers over the Plan period, although certain sectors, in particular, manufacturing showed reductions in jobs over the period.

3.7 Overall jobs were forecast to grow by 6.3 percent for all three authorities, against a projected increase in population of 14.4 percent and an increase in the working population of 8.4 percent.

3.8 The jobs created or lost in each sector were then translated into land requirements or losses by estimating the density of jobs per sqm of floorspace for different business types, and in turn the floorspace assessment was translated into land. These are explained further below.

3.9 **Jobs to Floorspace ratio** – The ratios used to estimate the number of jobs for each sector were based largely on ratios set out in the ODPM guidance, together with adjustments made from NLP's own research into B8 floorspace densities. The research pre-dated the Guidance provided by HCA in 2010 which AECOM/BE Group used, and which is considered to be more appropriate for current business.

3.10 The HCA ratios do differ, particularly for B1 space. NLP used 1 job per 20 sqm, HCA suggest 1 job per 12 sqm. B2 and B8 ratios were also slightly different, thus this translates into differing land need estimates.

3.11 **Floorspace to land needs ratio** – NLP assumed that the plot ratio of building to land was 0.4:1 which meant each hectare of land will accommodate 4,000 sqm of floorspace, irrespective of building type. The exception to this was B1 offices where an assumption was made for built up urban areas that the plot ratio would be 1:1.

3.12 AECOM/BE Group use a density of 3,900 sqm per hectare, so again there is some difference in final land needs. However, no adjustment has been made for B1 space in built up urban areas. The JCS area may well see higher density town and city centre development, particularly in Gloucester and Cheltenham, but Stroud is unlikely to see any significant town centre office development and so no such adjustment needs to be made.

3.13 **Adjustments** – NLP have assumed that some 10 percent of all new B1 (a/b) and B8 sector jobs will be capable of being accommodated within existing occupied premises, and thus the land needs are adjusted accordingly. It was also assumed that where sectors record a reduction in jobs over the Plan period that reductions should not be fully reflected by a corresponding reduction in land need. Instead, NLP have assumed that 25 percent of the lost jobs will not result in any land needs reduction.

3.14 AECOM/BE Group have taken a different approach to these two factors.

3.15 With regard to existing occupied premises, it was assumed that there is a continuing recycling of property as companies move in and move out. The reasons for movement are varied as companies grow, downsize and move for qualitative reasons. Vacancy rates were reviewed and the view taken was that unless there is a substantial over-supply of vacant premises, which could accommodate significant inward investment, no adjustment to the land supply was necessary.

3.16 In 2013, the vacancy rate by floorspace across the whole district was around 6.5 percent. NLP in their study suggest a 10 percent vacancy rate to allow for normal turnover of space is a reasonable level. From work undertaken elsewhere we would concur with that view, and that a figure below 10 percent represents potential under-supply where there will not be the quantity or choice of space available to businesses seeking new premises. Therefore, the lower rate of just 6.5 percent within Stroud reflects this potential shortage of premises relative to demand. As a result of this

shortfall in supply, the ELS did not consider it possible for any significant element of B1 (a/b) and B8 sector jobs to be accommodated within existing premises.

3.17 Where there was a net reduction in jobs in a sector such as manufacturing, AECOM/BE Group translated this loss directly as a reduction in land needs. This is now considered to be a material matter that should be reviewed, and is dealt with in more detail in our review of the forecasting for Stroud District.

3.18 NLP and AECOM/BE Group recognised that in addition to the forecasts to reflect growth, there is also a need to build in an element for choice and other unforeseen events, and both have applied an additional five year supply to allow for this.

JCS Forecasting Update 2014

3.19 The need to update the original forecasts was partly as a result of the Inspectors comments in the South Worcestershire, and in part as a result of economic forecasts prepared in 2012 for the JCS Core Strategy from both Experian and Cambridge Econometrics, where one estimated a rise in jobs of 8.9 percent, and the other 14.9 percent over the period 2011 to 2031.

3.20 Employing the same methodology as above, NLP undertook forecasting for the three JCS authorities using data from Experian, Cambridge Econometrics and Oxford Economics.

3.21 The updated figures highlighted a difference in outputs, with overall projections showing the following jobs growth over the Plan period:

Table 2 – Percentage Change in Employment Numbers

	Percentage
Experian	14.8
Oxford Economics	11.6
Cambridge Econometrics	16.8
Average	14.7

Source: Nathanial Litchfield & Partners, 2014

3.22 It was evident that there had been a significant change in the Experian figures which were 85 percent up on the previous forecasts used for the Core Strategy which was cited as a result of revision in ONS data on jobs growth.

3.23 When the three forecasts were assessed on a sector by sector basis, it was evident that where sectors were showing growth over the period, Oxford Economics data showed a greater growth than the other two forecasts, but also showed a greater degree of job reduction in manufacturing, particularly advanced engineering.

3.24 When those jobs figures were translated into land requirements, the difference was much less pronounced between the three data sources, and in fact Oxford Economics predicted the greatest need for land across the three authorities.

Table 3 – Land Needs to 2031

	Hectares
Experian	61.4
Oxford Economics	62.1
Cambridge Econometrics	45.5
Average	56.3

Source: Nathanial Lichfield & Partners, 2014

3.25 One reason was that jobs predictions for the sectors making up the traditional B class categories which will influence employment land needs are much closer together. Oxford Economics predicted a growth of 8,539 jobs against the triangulated average of the three data sources of 8,688. The other reason is that different sectors generate different jobs to floorspace densities.

3.26 Clearly there is a variance between the forecasting of the three principal organisations providing the data. NLP has addressed this by taking an average of each data source to apply to land take-up assessments. That does not necessarily provide a more accurate method of forecasting rather, it removes extreme differences and anomalies.

3.27 For Stroud, the three sources in the neighbouring authorities are used as a benchmark, to identify any clear anomalies in the forecasting data, and make any adjustments accordingly. Further direct comparisons have been made using up to date forecast data for both Cambridge Econometrics and the Oxford Economics data to ensure that there is a robust assessment of growth relying on more than one source as recommended by the Inspector in the South Worcestershire Examination.

3.28 Overall the B class sectors align closely across the three data sources, and Oxford Economics is seen as representative for the neighbouring JCS area. There is an anomaly in the manufacturing sector, and for Stroud a similar reduction in job numbers was predicted over the Plan period. All data sources showed some reduction in the manufacturing sector and this is possibly a reflection of national predictions, and also a change in manufacturing processes rather than an economic loss for the sector. Jobs may be lost but that does not mean the sector is shrinking locally, and this is borne out by the market appraisal.

3.29 This correlation between forecasted reduction in jobs and land reduction should be re-associated. NLP make an adjustment of 25 percent whereas no adjustment in Stroud was made at all. The fact that the feedback from businesses in the manufacturing field was that they did not anticipate any reduction in business was one factor that led AECOM/BE Group to discount the employment growth method in favour of historic take-up, and this review addresses this anomaly.

Summary

3.30 The Gloucestershire authorities are at different stages of preparation and agreement of their land needs. Like Stroud, the JCS authorities have undertaken detailed employment land reviews, and have recently reviewed and updated their forecasting, whereas the other authorities of Forest of Dean and Cotswold have not yet prepared their employment land evidence base to the same level of detail.

3.31 Therefore to determine whether the Inspectors requirements that there is consistency across Gloucestershire can only be assessed by way of a comparison with the JCS authorities.

3.32 NLP, consultants to the JCS authorities, have addressed future land needs by adopting employment growth as he principal forecast method, and this was the basis of their 2011 ELR.

3.33 The methodology used by the JCS authorities, whilst having some difference in interpretation in approach and in applying detail, is largely consistent with the approach taken in the Stroud ELS 2013. Both methodologies assess jobs change on a sector by sector basis and apply a formula that translates job changes over the plan period into premises and in turn, land.

3.34 The 2014 update of the JCS authorities ELR addressed concerns that a single forecasting data source may be unreliable, and drew together forecasts data from the three main data providers. This review did show the inconsistencies and potential short comings of the three different methods. Rather than attempt to identify the most appropriate or accurate data source, NLP chose to average out the figures.

3.35 The reliance on employment forecasting alone is where the JCS authorities and the approach by BE Group/AECOM differ in their approach. The Stroud ELS sought to understand and interpret the market signals from the extensive market assessment and consultation, which, as section 7.0 of this report re-iterates, shows short comings in the use of employment change alone.

3.36 Subsequent analysis by BE Group where we also have reviewed the forecast data, and compare Oxford Economics latest data with Cambridge Econometrics data, reviewed in Section 7.0, also shows up anomalies. However, the approach taken is not to average out the forecast outcomes, rather to understand why there are differences, and to address these through an understanding of what the locally researched market assessment is showing.

4.0 REVIEW OF THE LEP STRATEGIC ECONOMIC PLAN

4.1 The Inspector stated that there is some uncertainty about the relationship between the LEP's latest Strategic Economic Plan and the Stroud Local Plan.

4.2 The Strategic Economic Plan for Gloucestershire (SEP), produced by GFirst LEP sets out the growth strategy for Gloucestershire to 2025. A number of priorities and targets are set. Most relevant to the forecast of future employment land needs for Stroud are the projected jobs growth for the County and the Growth Zone which identifies the priority locations for employment land going forward.

4.3 It is important that the Stroud Local Plan is aligned to the Strategic Economic Plan in terms of priority outputs and growth targets. This section reviews those priorities and targets set by GFirst LEP in the SEP.

4.4 **Employment growth forecasts** – The LEP's Growth Statement, published in March 2013 sets a jobs target of 33,800 new jobs between 2012 and 2025 and a growth rate of 0.8 percent/annum. There is no specific breakdown of employment growth by District.

4.5 Based on the JCS updated jobs forecasts estimated by NLP, net jobs created in those authorities from 2011 to 2031 is 27,349. This equates to 14.7 percent growth, or 0.74 percent/annum.

4.6 AECOM/BE Group in its 2013 Employment Land Study estimated 5,200 net increase in jobs for the period 2012-2031 for Stroud , which is a 9.3 percent increase or 0.49 percent/ annum.

4.7 Stroud District Council updated their figures for the Local Plan estimating a net increase in jobs of 6,200 (2006-2031), which is an 11.07 percent increase for the Plan period or 0.58 percent/ annum.

4.8 Using the latest forecasts from Oxford Economics and Cambridge Econometrics, for the same period the increase in jobs are forecast as follows:

- Oxford Economics – 6,800, representing a 12.78 percent increase, or 0.63 percent/annum

- Cambridge Econometrics – 12,500 representing a 23.2 percent increase or 1.16 percent/annum.

4.9 The differences in the latest figures are discussed in more detail in section 5.0, but assuming the more conservative Oxford forecast, the growth figures whilst below the LEP and JCS forecasts, are closer to those levels.

4.10 **Sectoral Contributions** – A breakdown of sectoral contributions for the Gloucestershire economy by GVA and employment shows that manufacturing is currently the largest sector in terms of GVA output (19.7 percent) and the second largest after health in terms of employee numbers (11.7 percent). The LEP reports that Gloucestershire has the highest proportion of businesses in high and medium technology manufacturing at 6.75 percent.

4.11 The SEP recognises that the manufacturing sector in employment terms has shrunk, but output has continued to grow through productivity gains. Stroud has an even higher level of manufacturing with 22.3 percent of the workforce in this sector. Thus the sector will remain an important part of the economy.

4.12 This is a key factor when reviewing the forecasts for employment change for both the County and Stroud District. Whilst over the period to 2025 for the SEP and 2031 for the Stroud Plan manufacturing jobs are shown to reduce, on the current performance of the sector this does not necessarily translate to land reduction.

4.13 Other growth sectors identified in the SEP are knowledge intensive services, professional, scientific and technical sectors, and also business services, but all are under-represented when viewed in terms of employment and output.

4.14 Similarly, Stroud has seen growth in these sectors, but is under-represented, and is weak on high value service business and professional services. Its strengths lay in advanced manufacturing, in particular computers, electronics and optical products, and also machinery and equipment and environmental technologies. Thus Stroud does represent a significant element of the growth sectors identified in the wider County and in planning for growth the Council and the LEP do have similar goals.

4.15 **Priority land needs** – The SEP sets out a Growth Zone for Gloucestershire as one

of the flagship projects. This zone is aimed at providing space for business expansion through making development land available in good locations in the County. The priority location for the Growth Zone is the M5 corridor. The development of the Growth Zone is considered a priority by the LEP to ensure sites are provided to meet the needs of the high growth employment sectors. These sites will provide for business space expansion by ensuring the availability of employment land in locations with good transport links and close to the areas of population.

4.16 To inform the SEP, a number of studies have been undertaken.

Employment land Availability Report by Alder King and Bruton Knowles (November 2013)

4.17 This report was prepared in November 2013 and provided a brief overview of occupier activity over the past fifteen years at the four motorway junctions along the M5 from J9 to J13. It also identified current land availability at those motorway locations set against the companies' estimate of take-up since 1999.

4.18 The figures produced were not a comprehensive assessment as they looked at a limited number of business parks and also they do not adhere to local authority boundaries, rather they are aligned to the junctions. Hence, Stroud had an identified supply of 7 ha which the report stated are at Stonehouse and Sharpness, whilst the land around Junction 12 at Quedgeley was described as being in Gloucester, although much of the land identified is in Stroud District.

4.19 The report concluded that there is a potential shortfall of land in the County. It pointed in particular to insufficient land in the JCS area, suggesting an allocation of 64 ha is too low, based on slow economic growth. But this was not supported by empirical evidence, apart from an estimate of take up in Tewkesbury and Gloucester of 128 ha over the last 15 years. As this includes land in Stroud, it is not a reliable estimate for comparison.

M5 Growth Zone, Strategic Economic Plan inputs – Report by Arup (December 2013)

4.20 Arup were appointed by the LEP to review the opportunity sites in the M5 corridor that make up their M5 Growth Zone to inform an application for Local Growth Fund monies in 2014. The report identified those opportunities that would best meet the

LEP's priorities and reviewed them through a series of consultations. The output from the study was the potential GVA that could be generated from the development of the opportunity sites.

4.21 The review concentrated on the areas identified in the SEP, around junctions 9 and 10, and also Sharpness in Stroud District, although the report recognised that the whole of the M5 corridor is an area for growth.

4.22 Sharpness was identified, both the docks and the adjacent Severnside Distribution Park. Development will extend beyond employment uses, and Arup recognised the potential for a new settlement, and also heritage and tourism based around the docks and the railway.

4.23 Arup estimated GVA generated could be £11 million, but would need infrastructure of up to £5 million.

4.24 Reference was also made to an array of smaller sites around J12 and 13, but these were not considered in any detail as they are not the focus of the SEP.

4.25 In line with the findings of the Arup report, the Council has included additional allocations of employment land both at Sharpness Docks and Severnside Distribution Park, responding to the recommendations of the ELS and the ambitions of the two landowners there, the Canals and Rivers Trust and Howard Tenens. Future opportunities at Sharpness will be considered during the five year review of the plan

Employment Needs in Gloucestershire LEP – Report by Nathaniel Lichfield & Partners (March 2014)

4.26 The report aimed to establish issues relating to employment land across the LEP area.

4.27 NLP undertook a consultation exercise with a small sample number of businesses, and property professionals from across Gloucester to understand business needs, their future property and land requirements and their views on the level of employment land currently provided in the LEP area. Responses were obtained from 13 businesses out of 33 approached, and the views of a further 12 property related businesses attended a workshop. The consultations did involve two Stroud

businesses, Ecotricity and Robert Hitchens.

4.28 The report also reviewed employment modelling, but this was based only on the work undertaken by NLP for the three JCS authorities of Tewksbury, Cheltenham and Gloucester, and no reference is made to any economic modelling undertaken in any of the other Gloucestershire authorities. This work has already been reviewed in the section relating to the JCS authorities.

4.29 The findings of the consultation was that all but one company felt that they anticipated expansion in the future, although only six expected this to translate into additional premises in the next few years. The view on employment land was that there is a shortage of employment land across the County, and in particular in Cheltenham and Tewkesbury. Figures for take-up and land availability were quoted, but these do not appear to be based on the findings of the various employment land studies, and the figures for Stroud do not align with the ELS findings. Instead they take the figures provided in the Alder King/Bruton Knowles Report which confuses land around Junction 12 stating it is Gloucester, when some of the land is actually in Stroud.

4.30 Reference is made to the SEP and the consultees all felt that the M5 corridor will play a key role in the LEP areas economy and there is logic to the Growth Zone, but comments were also made about the continuing importance of the county's smaller towns.

4.31 Limited benefit can be drawn from the report, as the consultation sample is small with a total of 13 telephone consultation across the County and is based on opinion rather than fact. In comparison, the ELS consulted with around 130 businesses and stakeholders through a mix of telephone and face-to-face interviews and a number of postal responses. The overall economic assessment covers only a part of the LEP area, and there is only passing comment to the whole of Gloucestershire.

SEP Priorities

4.32 The Growth Zone is the clear priority within the SEP with development around the M5 Junctions 9 and 10. Arups includes land at Sharpness in its assessment of the geographic extent of the Growth Zone, although the SEP does not identify Sharpness in its description of the Growth Zone. The Council has allocated and protected sites

at Quedgeley, Stonehouse and adjacent to Sharpness, Severnside Distribution Park which all fit with strategy of focussing on the M5 corridor. The Stroud ELS and Local Plan both reflect the priority area around Sharpness and identify land development opportunities there.

4.33 The SEP also recognises the opportunity to retain and develop skills in the nuclear industry, and to address this, supports the development of the existing site around the decommissioned nuclear power station at Berkeley as the Gloucestershire Renewable Energy, Engineering and Nuclear Centre. AECOM/BE Group recognised Berkeley as having potential to develop a nuclear function, but the ELS predated the publication of the SEP and this proposal was not looked at specifically. However, there is an opportunity for any proposed changes to the Local Plan to recognise this initiative and to support proposals at this location.

4.34 A written response from the LEP has confirmed the priorities around the Growth Zone and Berkeley. Whilst the LEP has focussed on Junctions 9 and 10 of the M5, the work undertaken by Arup recognises that the SEP Growth Zone does extend along the M5 corridor through Stroud.

4.35 For Stroud District, the allocations around Junctions 12 and 13 at Quedgeley and Stonehouse will provide the focus for future growth in the sectors identified in the SEP and also highlighted in the ELS economic overview. Maintaining these sites will ensure that the current land allocations are fully in line with the SEP.

4.36 An exchange of correspondence with the Deputy Chief Executive of GFirst LEP confirmed that the priorities relevant to Stroud for the SEP fall into three areas:

- Support for the development of the training centre of excellence for engineering and nuclear skills at Berkeley
- Opening up of employment land in The Growth Zone, i.e. the area around junctions 9 and 10 of the M5 (which falls outside Stroud District)
- Working with the Council to deliver the housing provided for in the Local Plan, and the belief is that there is no need to go beyond the current planned housing allocations.

Summary

4.37 Both the LEP and The Council have identified growing employment sectors that will

contribute to the economy up to 2031, where provision needs to be made to support this growth. These include the scientific, professional and technical sectors.

4.38 Although overall manufacturing is set to shrink in terms of job creation, the manufacturing sector will remain strong, with particular emphasis on advanced manufacturing in Stroud. The LEP has set ambitious growth targets to support these high growth businesses, and Stroud similarly makers provision through strategic land allocations to meet these needs.

4.39 When considering future employment land and premises needs for Gloucestershire, the LEP Strategic Economic Plan focuses on one of its flagship projects, the Growth Zone. Whilst the advice that came forward from the LEP's consultants to the Plan identified the whole of the M5 corridor through Gloucestershire as the Growth Zone, and the SEP accepts this, sites around Junctions 9 and 10 are singled out as the two priority opportunities.

4.40 Sites that Stroud are promoting along the M5 corridor are Quedgeley, Stonehouse, Sharpness and Severnside all fall within and support the wider description of the Growth Zone.

4.41 A further priority of the SEP is to retain and develop skills within the nuclear industry. The ELS recognised the importance of Berkeley as a location and identifies a development site there. The LEP support this through the creation of a Renewable Energy, Engineering and Nuclear Centre at Berkeley and there is an opportunity for proposed changes to the Local Plan to reflect this project.

5.0 FORECASTING METHODS

5.1 This section considers the relevance of the different forecasting methods used in the ELS. It follows a query raised by the Inspector as to whether historic take-up is the most appropriate. As part of the analysis historic trends for both land take-up and employment change is compared to see what relationship might exist between the two forecasting methods. The third method which adopts population growth follows the same methodology as employment change, but provides labour supply figures, rather jobs.

5.2 When the ELS was prepared, the projections of employment land needs estimated by AECOM/BE Group were based on historic land take up trends. Employment based forecasts and labour based forecasts were also assessed as a means of calculating employment land needs, but in view of the market appraisal it was considered that the net growth from both these methods did not adequately reflect the projected economic activity which was outlined in the strategic economic overview within the Employment Land Study. The use of past trends and future forecasts in this way does accord with the PPG.

5.3 The employment forecasts prepared by Oxford Economics suggested that manufacturing would see a reduction in number of jobs, but this was not borne out by the economic review which highlighted a continuing strong sector locally, and also through the business consultations held with a range of businesses operating in the advanced manufacturing field. None of these consultations suggested a downturn in business, nor a reduction in jobs numbers.

5.4 The long term trend in land take-up recorded from 1991 to 2012 showed an annual average of 2.81 ha, based on a total take-up of 58.996 ha. A more recent review of take-up the 'Employment Land Availability in Stroud at 1st April 2014', suggests that the long term trend has been only marginally affected by the recession. The report shows that take-up for the period 2006 to March 2014 was 19.44 ha for all land which equates to 2.43 ha/annum and 14.06 ha based on B class land only.

5.5 The accepted method of assessing land needs using employment change, is based on calculating the net change in jobs in different employment sectors, defined by SIC codes over the plan period. It is common to see certain sectors grow whilst others

see job reductions over the period. Where a particular sector is forecast to shrink, then using this approach the land requirement shrinks accordingly.

5.6 In reality this does not happen in the market place. A reduction in future employment numbers does not mean land and premises will automatically be given up. Companies may reduce numbers for different reasons, and often this will not lead to a reduction of floorspace. Automation is one such reason. Also businesses may need to reduce a workforce, but will not want to give up their premises. Historically, traditional inefficient manufacturing facilities have been replaced by more efficient factory space. But today, much of Stroud's manufacturing base is located in modern efficient factory accommodation and relocation merely to accommodate a reduction in the workforce is rare, as the cost of relocation may far outweigh the savings made in lower property costs. There will always be some companies that need to move for a variety of reasons, but the low vacancy rate, referred to in paragraph 3.16 is evidence that companies are satisfied with their current premises, and that there is not a surplus of obsolete premises that have been vacated.

5.7 Whilst this analysis of using a forward projection of employment change is considered to be a reasonable method of estimating land requirements when considered alongside historic trends, other ELR's rely on changes in employment forecasts alone, although in some cases there is an adjustment made to allow for some job reduction not translating directly to a land loss.

5.8 This is the approach taken by NLP for the JCS calculations and assume that where there is a net jobs loss over a period of time, then only 75 percent of the jobs reduction translates into land loss.

5.9 A fundamental question must be asked whether using employment change alone does provide an accurate basis for assessing future needs. The conclusion made by BE Group/AECOM in the ELS is that employment change alone does not provide an accurate forecast and whilst the trends within different employment sectors are important to indicate where growth may come from, for the reasons set out in more detail in section 7.0, the translation of jobs loss into land loss does not happen in reality. To try and demonstrate this premise, we have undertaken further analysis to determine whether there is a direct relationship between employment change and land needs by comparing historic take up with jobs change during the same period.

5.10 In this way it is possible to benchmark land take up against employment change historically with what the forward looking data is suggesting.

5.11 The recent direction given by the Inspector at the South Worcestershire Examination in Public suggested that more than one data source should be used to ensure a degree of accuracy when forecasting future employment change.

5.12 To enable this comparison to be made BE Group has used Oxford Economics (OE) data from 1991,and has also been provided with additional forecasting figures from Cambridge Econometrics (CE) for the Stroud District to provide a second source of historic data.

5.13 Whilst historic figures should take account of actual jobs data, there is some variance between OE and CE as can be seen in Table 4, but both provide a good benchmark from which land requirements can be assessed as can be seen in the following comparison of the historic employment data.

Table 4 – Employment change in Stroud 2002-2011 (net increase)

Source	No. of Employees
Oxford Economics	6,800
Cambridge Econometrics	4,500

Source: BE Group, 2014

5.14 It should be noted that these are the net change in jobs numbers rather than total jobs created during that time, as some sectors have grown, whilst others have reduced.

5.15 By analysing employment change on a sector by sector basis, and identifying those sectors that fall into the B1, B2 and B8 Use classes it is possible to translate those jobs into potential employment land needs. Furthermore, by excluding the sectors that reflect a jobs reduction over the period, it is also possible to assess an upper gross land requirement for the period. Actual land take-up can be compared with these figures.

5.16 For the period 2002-2006 Stroud District Council were unable to provide a year by year figure. Therefore, we have assumed the long term average of 2.81ha/annum. Table 5 sets out the findings of this analysis.

Table 5 – Employment land take-up estimates for the period 2002-2011 (hectares)

Period 2002-2011	Hectares
Historic take-up of land	28.1
Oxford Economics:	
Growth only	33.98
Net change	32.88
Cambridge Econometrics	
Growth only	35.5
Net change	30.87

Source: BE Group, 2014

5.17 Drawing conclusions from a single period needs to be done with some care. During that period there was significant growth with limited jobs loss, and as a result the net change does not differ significantly from the growth only figures, but it is evident that there is a relationship between the actual take-up and jobs growth.

5.18 With the growth and net change figures being quite closely aligned, it is not possible to draw firm conclusions whether the jobs change forecasting method is accurate and results in delivering the land needs, or if it is the growth figures alone that deliver the land needs. To test this further the same exercise has been applied to the more recent recessionary period where jobs loss had a much greater effect on net change.

5.19 The following table shows that despite a much reduced increase in jobs during a period of recession, actual take-up of land remained at a level consistent with the longer term trend and was higher by almost a factor of three than the level that would have been projected by jobs growth and was five times greater than the figure generated by net change in jobs numbers. This seems to reinforce the view taken in the ELS that jobs change alone should not be relied on.

Table 6 – Employment land take-up estimates for the period 2006-2011 (hectares)

Period 2006-2011	Hectares
Historic take-up of land	14.37
Oxford Economics:	
Growth only	5.63
Net change	0.92
Cambridge Econometrics	
Growth only	8.56
Net change	4.95

Source: BE Group, 2014

5.20 Applying the same methodology for 2011 to 2031 using the updated OE data and also CE data, this shows that the difference between historic take up and jobs projections show a not dissimilar ratio, with historic take-up between1.67 and 4.40 times greater than the growth only based projections, whereas for both sources, the net change shows a negative land need.

Table 7 – Employment land take-up estimates for the period 2011-2031(hectares)

Period 2011-2031	Hectares
Historic take-up of land	39.34
Oxford Economics:	
Growth only	8.9
Net change	-15.56
Cambridge Econometrics	
Growth only	23.59
Net change	-6.55

Source: BE Group, 2014

5.21 The difference between the two forecasting sources and also a difference between the net and gross figures are considered in more detail in Section 7.0.

5.22 However, with both forecasting sources, when the projections forward are compared with the historic trends, it is clear that reliance on net change alone can provide unsafe forecasts of future land needs.

Summary

5.23 The ELS considered the three different methods of forecasting land needs, before adopting historic land take-up as the most relevant method for determining Stroud's future lands needs. However, the Inspector questioned whether historic take-up is the most appropriate, and as Section 3.0 of this report explains, other consultants including the consultant for the JCS Authorities have chosen to adopt employment change as the preferred method.

5.24 Further analysis has been carried out that seeks to establish how accurate using jobs change alone is. A comparison was made for two periods of time from 2002-2011 and 2006-2011 of historic land take up against land needs that would have been generated during those periods using jobs change as a basis.

5.25 The period 2002-2011, which had a period of sustained growth showed that the needs based on jobs change produced figures close to the actual take-up. However, when the shorter period which was primarily during a period of economic downturn was assessed, and where jobs losses were much more pronounced, there was a significant difference in the figures. The land needs based on net jobs change was up to 5 times less than actual take-up. This suggests that a reduction in jobs numbers does not directly translate in to a reduction in land needs.

5.26 When growth alone is considered for the shorter period, the suggested land needs figure is still significantly below the actual take up. The inference here is that in periods of downturn, when business growth is more limited, there is still a land need. Indeed looking forward, the gap between historic take-up and land needs from growth only forecasts are similar to the historic trend during 2006-2011.

5.27 The figures are only a snapshot from two moments in time, but the most consistent historic trend does appear to be historic land take-up, thus supporting the methodology used in the ELS.

5.28 When forecasting future needs the Council needs to have regard to the analysis of historic trends, and as the ELS found, there are factors beyond the simple increase or decrease in jobs numbers that will influence how much land is required in the future.

6.0 EMPLOYMENT LAND

2013 Position

6.1 The ELS assessed the land commitment within Stroud using a base date of 31st March 2012. It took account of land allocations, and other commitments including unimplemented planning permissions and part developed commitments. Any consents granted after that date were not taken into account.

6.2 The starting point for calculating the employment land supply was the previous Local Plan and the Council's Employment Land Availability Survey. This provided a series of listings, in addition to the allocated sites, and comprising land with planning consent, change of use for premises to employment use, and losses from the previous schedule. From that data it was possible to calculate the net land area available at that time for employment use. In addition proposed allocations were included to give a forecast of land supply for the plan period to 2031.

6.3 The ELS concluded that there was 51.95 ha from the allocated Policy EM5 sites and a further 5.96 ha from sites with unimplemented planning consents, giving a total supply of 57.91 ha. Those sites were assessed and a number of the allocations and commitments were considered to be potentially unavailable or undeliverable as employment sites to meet business requirements. This gave a net supply of 32.78 ha.

6.4 Using the evidence base of the ELS, the Draft Local Plan (December 2013), was prepared to reflect the need for new allocations and provide a more flexible approach to some of the District's employment areas. The ELS identified a need of between 9.53 ha, based on all allocations being deliverable, and up to 34.66 ha where the land supply was adjusted to exclude land deemed to be potentially undeliverable during the Plan period. The Draft Local Plan included new allocations of 25.00 ha to meet this shortfall. In addition, a number of employment areas were protected to retain employment uses, whilst others were re-designated as mixed use sites reflecting local need.

Employment Land Availability Survey 2014

6.5 The Council's latest Employment Land Availability Survey covers the period from April 2013 to April 2014. Whilst the schedule is an update from the previous year the

Council has re-based the Survey to October 2006 to ensure it is in line with the current draft Local Plan.

6.6 Similar to earlier versions, the survey outlines the changes, in terms of additions and losses of employment land to give an up to date supply of allocated and commitments. Table 9 includes the net land supply figure for employment land only.

Table 9 – Position at 31 March 2014

	Area (ha)
Land developed 2006 – 31/03/2014 (B Uses only)	14.06
Commitments at 31/03/2014 (B Uses only)	25.62
Local Plan Allocations to 2014 – without permission	60.96
Gross Land Supply	**100.64**
Losses 2006 to 31/03/2014 (B Uses only)	18.09
Net Land Supply	**82.55**

Source: Stroud District Council

6.7 The gross land supply is made up of a number of elements:

6.8 **Land developed since 2006** – which makes up the annual take-up figure referred to above, and which by its very nature does not form part of the forward supply. The gross figure is split down in the Land Availability Survey to show both B class and non B class uses (Table 10):

Table 10 – Employment Land Gain within the B Use Classes

Use	**Area ha**
Employment land gain with B use classes (2013-14)	0.75
Employment land gain with other use classes (2013-14)	0.50
Employment land gain with B use classes (2006-13)	13.31
Employment land gain non B class uses (2006-13)	4.88
Total all (2006-14)	**19.44**
Total B uses only (2006-14)	**14.06**

Source: Stroud District Council, 2014

6.9 **Commitments as at 1st April 2014 –** This comprises proposed developments on non allocated land and is mainly either very small sites or existing buildings with consent for a change of use, neither of which fell within the definition of land assessed under the ELS. In total the land take identified in the draft survey is 44.10 ha, with the largest non B use class commitment being 25.00 ha for the motorway service area at Ongar Farm on the M5. Northbound is complete and Southbound under construction. This, along with other non B class uses, is excluded from the take-up figures.

6.10 Therefore, excluding all non B class land, Table 11 shows those commitments as at 1st April 2014 which were granted consent for B class uses and thus provide a net figure that should be included in the overall take-up figures

Table 11 – B Class Commitments on Non-Allocated Sites as at 1 April 2014

Parish	Site Address	Development Description	Use class	Area, ha
ALKINGTON	Matford Cottage, Matford Lane, Woodford, Berkeley	Barn conversion to live/ work unit	B1a	0.05
ALKINGTON	Agricultural Building at Damery Lane, Wotton Under Edge	Change of Use under Class M of agricultural building to business	B8	*0.01
ALKINGTON	Land Adjacent To Chapel Hill, Newport, Berkeley	Outline application for 3 industrial units	B8	0.46
ALKINGTON	Pickwick Farm, Berkeley Heath, Berkeley	Notification of a Change of use from agricultural to a small business workshop for renovation of touring caravans. (B1 use)	B1	*0.01
ARLINGHAM	The Mill House, Westend Farm, Church Road, Arlingham	Change of use of agricultural building to office with storage	B1	*0.01
CAM	Upper Upthorpe Farm, Upthorpe, Cam	Conversion of former dairy to provide kitchen and service accommodation for catering business.	B1c	0.09
CAM	33B Springfields Court, Cam Dursley	Adaptation of existing 3 bedroom house to form 2	B1a	0.02

Parish	Site Address	Development Description	Use class	Area, ha
		x 1 bedroom flats, conversion of existing 2 garages to form new offices for Stroud District Council scheme manager and support staff		
CAM	Land south of Draycott Mills	Outline application for Employment (B1 use)	B1c	1.91
EASTINGTON	John Stayte Services Ltd, Puddlesworth Lane, Eastington	Proposed commercial units	B1a/B1c	0.09
HAM AND STONE	Berkeley Nuclear Power Station, Hamfield Lane, Berkeley	Erection of office accommodation and workshop - Temporary permission for 10 years	B1a/ B1c	0.74
HORSLEY	Gate Willow Livery Yard, Wallow Green, Horsley	Change of use of barn and adjoining building to live-work	B1	* 1.35
KINGSWOOD	New Mills, Wotton Road, Kingswood	Erection of building for research and development	B1a, B1b	4.91
LONGNEY	Land Adjacent To Scotch Firs House, Longney	Notification of change of use of building A and Building B from agricultural to office use	B1	0.29
MISERDEN	Barns at Camp Farm, Calf Way, The Camp, Miserden	Conversion of Barns to B1 Office use along with provision of new access point.	B1	0.02
NAILSWORTH	Land Opposite Waterside Garden Centre, Avening Road, Nailsworth	Provide additional B1 Units to land.	B1	0.39
RODBOROUGH	Farm Building Butterrow Lane, Stroud	Notification of change of use of agricultural building to B1 office.	B1	0.01
STONEHOUSE	Land to south of Albion Terrace , Downton Road, Stonehouse	Erection of 6 light industrial units	B1c	0.11
STONEHOUSE	Land Lying To The South Of Albion Terrace, Downton Road,	Erection of office building.	B1a	0.03

Parish	Site Address	Development Description	Use class	Area, ha
	Bridgend Stonehouse			
STROUD	17 Archway Gardens, Stroud	Change of use of first floor from residential to office accommodation	B8	0.02
WOTTON UNDER EDGE	17 Synwell Lane ,Wotton Under Edge	Change of use from residential outbuilding to vending machine repair place	B1c	0.01
			Total	**10.53**

Source: Stroud District Council, 2014

6.11 **Commitments on allocated sites as at 1st April 2014** – These are sites that have received planning consent on allocated sites and thus have been extracted from the allocated land total (Table 12).

Table 12 – Commitments on Allocated Sites April 2014

Heading site	Area, ha
Land East of disused railway, Draycott EA1	9.34
Hunts Grove Hardwicke, part of a mixed use application	5.75
Total	**15.09**

Source: Stroud District Council, 2014

6.12 The land at Hunts Grove now has consent for 5.75 ha and thus the larger figure is included in the total land supply, as shown in the commitments table in the Survey rather than the original allocation of 5.2 ha.

6.13 **Allocations in the 2005 adopted Plan** – This comprises 13 allocations, and as Table 13 shows, is split between land where consent has been granted, and is already counted, land within allocations that is developed, and the net land still available for development which equates to 35.16 ha.

Table 13 – Allocations in Adopted Local Plan (Nov 2005) to 2014

	Site	With Permission - not completed (ha)	Area completed (ha)	Area remaining (ha)	Total area (ha)
EA1	Land east of Draycott Mills	9.34	0	2.26	11.6
EA2	Meadow Mill, Eastington	0	0	2.2	2.2
EA3	Sharpness Docks, Rear of Dock Road	0	0	9.2	9.2
EA4	Sharpness Docks, Land east of Dock	0	0	2.8	2.8
EA5	Sharpness Docks, Tidal Basin	0	0	4	4
EA6	Sharpness Docks, land between Bridge Road and Oldminster Road	0	0	3.4	3.4
EA7	Land off Charfield Road, Kingswood	0	0	0.3	0.3
EA9	North of Stroudwater Industrial Estate	0	6.70	9.00	15.7
EA10	Stroudwater Business Park, Stonehouse	0	1.5	0	1.5
EA11	Land adj ABB Kent-Taylor, Oldends Lane, Stonehouse	0	0	1.4	1.4
EA12	Land adj Ham Mills, A419 London Road, Thrupp	0	0	0.6	0.6
MU1	Hunts Grove, Colethrop Farm, Hardwicke	5.2	0	0	*5.2
MU3	Land at Lister-Petter, Long Street, Dursley	1.7*	4.15	0	5.85
	Total	**16.24**	**12.35**	**35.16**	**63.75**

Source: Stroud District Council, 2014

**Excluded from allocations*

6.14 The land at Lister- Petter, whilst shown in Table 10 is not allocated in the draft Local Plan as it is a replacement for existing employment uses, thus is not a net addition.

6.15 The draft Local Plan (December 2013) makes three new allocations to meet the need identified in the ELS (Table 14). These are sites at East Quedgeley on land adjacent to the existing employment area, an additional site at Sharpness Docks that is being actively promoted as dock related B class development, and the area of land immediately to the South of Severn Distribution Park, Sharpness.

Table 14 – Additional Allocations in Draft Local Plan (Dec 2013) to 2014

	Site	Total area (ha)
SA4a	East Quedgeley	13.00
SA5	Sharpness Docks	3.00
SA5a	South of Severn Distribution Park	9.80
	Total	**25.80**

Source: Stroud District Council, 2014

6.16 Therefore the current gross land supply as at 1st April 2014 is shown in Table 15.

Table 15 – Gross land supply April 2014

	Ha
Commitments on non allocated sites	10.53
Commitments on allocated sites	15.09
Land remaining on allocations in 2005 Plan	35.16
Additional allocations in draft plan	25.80
Total	**86.58**

Source: Stroud District Council, 2014

6.17 The ELS reviewed the baseline supply to ascertain whether the commitments at the time were realistically deliverable. Table 16 provides an up to date reassessment of the baseline supply at 1st April 2014.

Table 16 – Employment Land Supply – Stroud District, current

Ref	Site	Size, ha	Comment	Estimated Availability, years
EA1	Land East of Draycott Mills, Cam	11.60	Bathurst and Springfield Investments own. Greenfield land, partly in agricultural use. Separated from existing industrial estate by disused railway. Outline permission for 7,500 sqm of B1(a), 10,246 sqm of B1(c), 10,405 sqm and 6,739 sqm of B8 accommodation on 9.34 ha. An application to extend the time limit of this permission has recently been submitted – decision awaited. The site has been allocated in the draft Local Plan as part of a larger mixed use allocation. The Plan	3-5

Ref	Site	Size, ha	Comment	Estimated Availability, years
			strategy is to cross subsidise the development of employment on site with residential development on the rest of the allocation. The Council is working with the owners to prepare an agreed masterplan for the site. The site is considered deliverable in the Plan period	
EA2	Meadow Mill, Eastington	2.20	Industrial Sales Ltd own. Vacant, greenfield site at entrance to existing trading estate. The site is accessible and should be deliverable without major infrastructure cost. However, the site was identified as expansion land for the existing industrial estate with no plans to bring forward to the market. This puts into question the allocation identified in the adopted Local Plan which has not been taken forward into the new Draft Local Plan (December 2013).	5+
EA3	Sharpness Docks, Rear of Dock Road, Sharpness	9.20	Canal and River Trust own. The discussions at the time of producing the ELS suggested that future development was likely to be for port related uses only. It is unlikely that this land at the Docks will be released for general employment use and will remain linked to development of the dock. The Local Plan supports the protection and rejuvenation of the Docks. The draft Local Plan (December 2013) has removed the site as a specific employment allocation	5+
EA4	Sharpness Docks, Land East of Dock, Sharpness	2.80	Canal and River Trust own (on a long lease to Victoria Group Holdings). Brownfield site within the secure dock area. In use for skip storage. The discussions at the time of producing the ELS suggested that future development was likely to be for port related uses only. It is unlikely that this land at the Docks will be released for general employment use and will remain linked to development of the dock. The Local Plan supports the protection and rejuvenation of the Docks. The draft Local Plan (December 2013) has removed the	5+

Ref	Site	Size, ha	Comment	Estimated Availability, years
			site as a specific employment allocation	
EA5	Sharpness Docks, Tidal Basin, Sharpness	4.00	Canal and River Trust own. Cleared brownfield site (former rail infrastructure). Includes Canal and River Trust workshop, water pumping station and small secure storage site. The discussions at the time of producing the ELS suggested that future development was likely to be for port related uses only. The Canal and Rivers Trust is actively promoting the development of this vacant site and adjoining land for future development as dock related B class development. The draft Local Plan (December 2013) has identified the site as a specific employment allocation. The site is considered deliverable in the Plan period	5+
EA6	Sharpness Docks, Land between Bridge Road and Oldminster Road, Sharpness	3.40	Canal and River Trust own (on a long lease to Victoria Group Holdings). Brownfield/greenfield land. West is in use for open storage, east extends into woodland. The discussions at the time of producing the ELS suggested that future development was likely to be for port related uses only. The Local Plan supports the protection and rejuvenation of the Docks It is unlikely that the various plots of land at the Docks will be released for general employment use and will remain linked to development of the dock. The draft Local Plan (December 2013) has removed the site as a specific employment allocation	5+
EA7	Land off Charfield Road, Kingswood	0.30	FTC South West own. Developed for three terraced industrial units. Therefore, not future land availability.	0-1
EA9	North of Stroudwater Industrial Estate, Stonehouse	9.00	Gloucestershire County Council (GCC) and Schlumberger own. West is greenfield agricultural land. East has been developed for multiple employment uses, including accommodation for Schlumberger. The site provides an important extension to the Stonehouse employment area and can deliver a	3-5

Ref	Site	Size, ha	Comment	Estimated Availability, years
			mix of B1, B2 and B8 development. GCC have previously marketed the remaining land, but a combination of access costs (the need to bridge a watercourse) and topography mean that a purely employment development was not viable in 2012. GCC are now considering other options including a grant funding bid for access. The cross-subsidy of the site through residential development is unlikely to deliver the site in the short term as the adjacent land for housing has been excluded from the Local plan	
EA11	Land adj. ABB Kent-Taylor, Oldends Lane, Stonehouse	1.40	ABB own. Vacant greenfield site. Being held as expansion land and is unlikely to come forward for development on the open market B1/B2/B8 uses. The draft Local Plan (December 2013) has removed the site as a specific employment allocation	5+
EA12	Land adj. Ham Mills, A419 London Road, Thrupp	0.60	Stroud Corporation NV own (along with multiple low quality industrial units to the north). Vacant, wooded brownfield site at entrance to existing industrial estate. Part of a larger investment ownership and the site is not considered to be available for development. The site is also constrained with trees on site, it is in a flood risk area and a Conservation Area B1/B2/B8 uses. The draft Local Plan (December 2013) has removed the site as a specific employment allocation	5+
MU1	Hunts Gove, Colethrop Farm, Hardwicke	5.75	St Modwen own. L-shaped, vacant greenfield site Outline planning consent for 20,439 sqm of B1/B2/B8 accommodation. The land is on the market for design and build options of 465 sqm, or more. The site is considered deliverable in the Plan period. B1/B2/B8 uses.	1-3
MU3	Land at Lister Petter, Long	1.70	St Modwen own. Vacant brownfield site, part of a larger	1-3

Ref	Site	Size, ha	Comment	Estimated Availability, years
	Street, Dursley*		mixed-use scheme (residential, hospital and employment). delivery of the access road difficult. Partly in flood risk area B1/B2/B8 uses. The Council is expecting a revised masterplan and application with a redesigned layout and mix of uses. Although 1.7 ha remains to be developed for employment uses, this replaces previous employment land and therefore is not counted as new employment land provision in the Council's annual Employment Land Availability reports	
SA4a	East Quedgeley	13.00	St Modwen own Additional site allocated in the Local Plan (2013) as an extension to the Quedgeley East Business Park. The site is currently agricultural, but is adjacent to Junction 13 of M5 and no major infrastructure constraints have been highlighted. The site is considered deliverable in the Plan period.	
SA5a	South of Severn Distribution Park	9.80	Howard Tenens own. The site is seen as an extension to the Severn Distribution Park which is largely developed out. The site has been allocated in the draft Local Plan (December 2013) and a planning application has been submitted for employment uses. There are outstanding matters to be resolved relating to flooding, archaeology and ecology. The site is considered deliverable in the Plan period	

Source: BE Group, 2014

6.18 Table 17 sets out the net land supply for the Local Plan period when the constrained and unavailable sites are deducted from the total land supply.

Table 17 – Stroud District's Employment Land Supply 2006-2031

Scenario	Cumulative Total Land Supply, ha	Comments
Baseline commitments (2014)	86.58	Allocated and existing consented employment sites.

Scenario	Cumulative Total Land Supply, ha	Comments
Baseline commitments less land at Sharpness Docks	71.18	*EA3,EA4,EA6*:Likely to be developed for dock infrastructure only totals 15.4 ha
Baseline commitments less land at Sharpness Docks, and less other long term allocations which may be potentially unviable/unavailable and unimplemented planning permissions, intended solely to provide expansion space for existing firms. Also exclude employment land that has consent for alternative uses, but not yet implemented	55.86	*EA2: Meadow Mill, Eastington* – 2.2 ha no evidence of any owner/developer intentions to ever bring forward. *EA7: Land off Charfield Road, Kingswood* – developed with two units 0.3 ha *EA11: Land adj. ABB, Oldends Lane, Stonehouse* – 1.4 ha likely to be held as expansion land. *EA12: Land adj. Ham Mills, A419 London Road, Thrupp'* – 0.60 ha no evidence of any owner/developer intentions to ever bring forward. *Berkeley Nuclear Power Station, Hamfield Lane, Berkeley* – 0.74 ha a temporary office for use by the Nuclear Decommissioning Authority but unlikely to be released for future development. *New Mills, Wotton Road, Kingswood* – Development for company's own use - 4.91 ha Employment land granted consent for alternative uses- 5.17 ha Total – 15.32 ha
Add Completions(2006-2014)	69.92	Total B class developments completed since 2006 - 14.06 ha
Deduct Losses (2006-2014)	51.83	Total B class losses to other uses 2006-2014 – 18.09 ha
TOTAL DELIVERABLE SUPPLY	**51.83**	

Source: BE Group, 2014

6.19 Table 17 above shows a total net land supply of **51.83ha**, which is considered available and deliverable during the Plan Period.

Summary

6.20 This section is aimed at providing a true picture of land available for the Plan Period to 2030. The figure of 51.83 ha which is considered available and deliverable, differs from the figure in the ELS, as it is based on activity since the commencement of the

current Local Plan Period in 2006 and projects the position forward from now to the end of the period.

6.21 Adjustments have been made to allow for new allocations in the recent review of the Local Plan, and also, the figures have been netted down to ensure that all current commitments and previous take-up is based on B1-B8 employment land only.

6.22 The net land supply also deducts any allocations that in the view of BE Group and the Council are unlikely to be delivered. A number of these allocations have been removed as specific employment allocations in the Local Plan. Therefore, from a baseline commitment of 86.58 ha, some 30.72 ha have been removed to a figure, of 55.86 ha, which is reduced further to the figure of 51.83 ha when the historic take-up and losses from 2006 are taken into account.

6.23 The land considered unlikely to be developed is significant when assessing future needs. At the present time, market conditions and constraints render some or all of this land undeliverable. However, in policy terms, this land is considered suitable for development, and should Stroud's land supply shrink to an extent that choice is limited, then some of this land could become viable in the future. Section 7 deals with forecasting future needs, and builds in a buffer for additional choice. It is reasonable to assume that this land, in part, could provide that buffer.

7.0 GROWTH FORECASTS

7.1 This section reviews the forecast modelling undertaken to inform the ELS. Four alternative models were applied to the assessment of employment land allocations for the Local Plan period. The four models were:

- Historic land take-up forecast
- Policy off – employment based forecast
- Policy off – labour supply forecast
- Policy on – linked to target industry sectors of advanced engineering and environmental technologies.

7.2 Both the 'policy off' and 'policy on' forecasts are based on data commissioned for the study from Oxford Economics. As such they represented up to date forecasts that reflect the impact of the recession.

7.3 The 'policy on' forecast sought to take account of the estimated impact on employment in the advanced manufacturing and environmental technologies sectors, which Stroud, and Gloucestershire LEP, have highlighted as a focus of policy and investment. However, the forecasts showed that in the targeted sectors, no additional growth was predicted.

7.4 Similar to the description of the modelling for the JCS Authorities, for each model the implications in terms of the volume of land required was stated.

Historic Land Take-Up Forecasts

7.5 Employment land take-up is recorded by the District Council. Table 18 shows the schedule of completions between 1991 and 2012 used in the original ELS. The 58.99 ha of land developed over this period equates to an annual average take-up of 2.81 ha. Total land take-up was categorised between B Use classes (B1 offices; B1 industrial; B2 industry and B8 warehousing) and employment land gain with other use classes. However the available data only detailed annual performance figures for the five and half most recent years. Prior to that an average figure was provided. As outlined in the previous section, the most recent Land Availability Survey shows a reduced take-up figure for B class land of 1.08 ha/annum, for most of that period the UK was in recession, and thus the longer period from 1991 is adopted.

Table 18 – Stroud Employment Land Take-Up 1991-2012

Completion Period	Total (ha)	B Use Land (ha)					Employment Land Gain with Non-B Use Classes (ha)
		Total	Office	B1	B2	B8	
April 1991 – Oct 2006	42.25	39.31	2.26	26.62	4.57	5.86	2.94
Nov 2006 – April 2007	4.71	3.06	0.23	0.16	-	2.67	1.65
April 2007 – March 2008	0.88	0.88	0.64	-	-	0.24	-
April 2008 – March 2009	2.30	2.25	0.45	0.05	0.66	1.09	0.05
April 2009 – March 2010	5.79	2.95	0.40	2.05	-	0.50	2.84
April 2010 – March 2011	0.69	0.56	0.23	0.33	-	-	0.13
April 2011 – March 2012	2.376	1.056	0.86	-	-	0.196	1.32
Total	**58.996**	**50.066**	**5.07**	**29.21**	**5.23**	**10.556**	**8.93**

Source: Stroud DC, 2012

7.6 The rebased figures for the 23 year period from 2006 to April 2014, using the gross land figure, shows a slight change to the annual historic take-up of 2.68 ha/annum, and a B use class only figure (which excludes land losses to other uses) of 2.32 ha/annum (see Table 19).

Table 19 – Take-Up 1991-2014

Completion period	Total Land (ha)	B Use Land
April 1991 - October 2006	42.25	39.31
April 2006-March-2014*	19.44	14.06
Total	**61.69**	**53.37**
Take-up/ha	**2.68**	**2.32**

Source: Stroud DC, 2012

**Rebased results in an overlap April-October 2006*

Employment Based Forecasts

7.7 The original ELS process involved assessing the employment change between the years of 2012 and 2031 in 17 different industrial sectors. These were calculated from

the data provided by Oxford Economics and the change for each sector are shown in Table 20

Table 20 – Projected Employment Change by Industry Sector 2012-2031

Industry Sector	Workforce Change Numbers of Employees	Percentage Workforce Change
Agriculture	(200)	-14.3
Utilities	(300)	-37.5
Manufacturing	(1,400)	-12.0
Construction	1300	+23.6
Transportation & Storage	300	+13.0
Wholesale & Retail	1,200	+16.6
Hotels & Catering	700	+18.9
Information & Communications	200	+12.5
Real Estate	100	+16.6
Finance & Insurance	-	-
Professional, Scientific & Technical Services	1,700	+42.5
Administrative & Support Services	1,400	+45.1
Public Administration	(100)	-12.5
Education	(400)	-9.1
Health & Social Work	(200)	-3.5
Arts, Entertainment, Research	400	+26.7
Miscellaneous Services	100	+7.7
TOTAL	**5,200**	

Source: Oxford Economics, 2014

7.8 This showed a change in the workforce of a net increase of 5,200 employees.

7.9 To assess the future land requirement jobs created or lost in each sector were translated into estimated floorspace based on typical densities of employee per sqm for each industry sector. Floorspace was then in turn translated to land, again using typical densities of sqm per hectare.

7.10 Employment land is only relevant to a proportion of the industry sectors where those uses would seek to occupy B1, B2 or B8 type premises, or acquire land for uses compatible with those business locations. In some sectors only an element of the employment growth can be attributed to floorspace needs. For example transport,

where an element of workers will be warehouse based, but a larger proportion will work away from the premises. Thus, the figures are adjusted accordingly, and the ratios used are industry accepted, sourced from the South East Regional Planning Conference 's 'The Use of Business Space'.

7.11 Floorspace densities for each industry sector are set out in the Employment Densities Guide 2nd Edition which was published in 2010 by the HCA. These can only be a guide, as some businesses will have higher occupation levels when compared to other similar businesses. Office space for example will see a much greater occupation rate for uses such as call centres and customer service centres when compared with a professional body. But without locally sourced data on density, the HCA remains the best guide.

7.12 Out of town site densities have remained fairly stable for many years, and a typical site density is around 3,900-4,000 sqm of building per hectare. This applies to both industrial and office space. This is due to the level of car parking, commercial vehicle parking and circulation that is needed as part of a development.

7.13 Town centre office development will often be developed to a higher density where multiple storeys may be developed and there is a lower car parking provision. In the case of Stroud, the sites allocated are not town centre related so no such adjustment is made.

7.14 The assumptions made are set out in Table 21.

Table 21 – Model Assumptions

Industry Sector	Employees		
	Proportion Occupying B1, B2, B8 Floorspace, percent	Floorspace per person, sqm	Other Comments
Agriculture	5	12	Managerial, admin
Manufacturing	100	36-47	Higher density reflects B2; Lower density B1 light industry
Construction	26	12	Managerial, admin
Distribution	48	70	Warehouses, offices-non large scale/high bay facilities
Transport	48	70	Warehouses, offices-non large scale/high bay facilities

Industry Sector	Employees		
	Proportion Occupying B1, B2, B8 Floorspace, percent	Floorspace per person, sqm	Other Comments
Financial & Business	100	12	
Government & Other Services	22	12	Local Government, Public Administration

Source: SERPLAN and HCA Employment Densities Guide 2nd Edition, 2010

7.15 The application of these assumptions to the employment changes across the sectors relating to employment land showed that the land requirements projected forward to 2031 would be between -3.19 ha and +0.76 ha. This is because the workforce losses in three of the sectors, totalling 1,600 jobs would translate to a loss of floorspace of up to 66,184 sqm.

7.16 However, following the rationale that the loss of employment will not result in a loss of land, which was explored in Section 5.0, the land requirement from growth only was 13.78 ha.

7.17 The calculations for this are shown in Tables 22 and 23.

Table 22 – Employment Based Forecasts 2012-2031 – Growth Sectors

Sector/Jobs	Workforce Growth	Workforce Proportion (%) Occupying B1/2/8 Space	Net Number of Jobs	Floorspace per job, sqm	Floorspace Required, sqm
Construction	1,300	26	338	12	4,056
Transportation & Storage	300	48	144	70	10,080
Information & Communications	100	100	100	12	1,200
Administrative & Support Services	1,400	100	1,400	12	16,800
Professional Services	1,700	100	1,700	12	20,400
Other Business Services	100	100	100	12	1,200
				Total Floorspace sqm	**53,736**
				Divided by Development Floorspace per ha	**3,900**

Sector/Jobs	Workforce Growth	Workforce Proportion (%) Occupying B1/2/8 Space	Net Number of Jobs	Floorspace per job, sqm	Floorspace Required, sqm
				Equivalent Employment Land Needed ha	**13.78**

Source: BE Group, 2014

Table 23 – Employment Based Forecasts 2012-2031 –Sectors with Projected Losses

Sector/Jobs	Workforce Losses	Workforce Proportion (%) Occupying B1/2/8 Space	Net Number of Jobs	Floorspace per job, sqm	Floorspace Reduction, sqm
Agriculture	200	5	10	12	120
Manufacturing	1,400	100	1,400	36-47	50,400-65,800
Public Administration	100	22	22	12	264
				Total Floorspace sqm	**50,784-66,184**
				Divided by Development Floorspace per ha	**3,900**
				Equivalent Employment Land Reduction ha	**13.02-16.97**

Source: BE Group, 2014

Update of Forecast Data

7.18 Reliance on a single data source has been questioned by the Inspector in the South Worcestershire Examination in Public, and this was evidenced in the review of the JCS forecasting update. Also, the forecasting data that was produced by Oxford Economics for the ELS, is now somewhat out of date having been produced in 2012. Therefore, further up to date forecasting data has been commissioned from both Oxford Economics and Cambridge Econometrics for the period to 2031 (Table 24).

7.19 The start date for the forecasting used in the ELS was 2012, being the date that the land supply was assessed. However, that date was at variance with the housing forecasting which ran from the start date of the current Local Plan i.e. 2006, and also the Inspector requested that the forecasting should be aligned with the JCS Reports which used a start date of 2011. The start date can make a considerable difference to the end forecast. As forecasts are based on the change between a start and end date, a particularly high or low figure in one of the sectors at the start date can affect the overall figures. Therefore, some caution is needed when interpreting the results.

Differences Between Oxford and Cambridge Data

7.20 This is evident in Table 24 where the net jobs growth calculated by OE and CE are significantly different. Analysis of the different sectoral change in each of the periods shows that manufacturing jobs are predicted to fall by both organisations, with Cambridge predicting the greater decline, the growth predicted by Cambridge in the public sector far outstrips the manufacturing losses, whereas Oxford does not predict growth at all, except in the later years. Coupled with this, Cambridge predicts different levels of growth in other sectors, in particular financial and business services.

Table 24 – Net jobs Growth to 2031

Data Source	Start date 2006	Start date 2011	Start date 2014
Oxford Economics	6,800	4,800	2,500
Cambridge Econometrics	12,500	8,900	4,400

Source: Oxford Economics/ Cambridge Econometrics

7.21 Oxford Economics provided an explanation for the differences, and one reason that they cite is their reliance on up to date BRES data, which takes evidence from surveys conducted in the District. As a consequence of this, Cambridge seems to rely more on an interpretation of national and regional trends. Therefore, to set the two forecasting methods in a local context, they are considered here in light of the economic evidence in the ELS.

7.22 **Manufacturing** is particularly strong according to the BRES data and this is backed up by the analysis of sector growth and specialisation, using Location Quotients:

- Generally manufacturing is 2.5 times greater than the national average rates, and a breakdown of this sector into specialisms shows that the technical and precision sub-sectors dominate, including computer, electronics and optical products. Environmental technologies also are strong and whilst not as great as the engineering, is a growth cluster.
- Both CE and OE show that during the Plan period manufacturing jobs will fall, and the inference from looking solely at jobs is that it is a shrinking sector. The difference in jobs reduction is just 200 jobs between the two organisations, with OE showing a smaller fall. But when GVA is also looked at, productivity is set to grow, and this is an important economic pointer. Jobs

reduction is possibly more a reflection of changing practices rather than a shrinking of the sector and this seems to be the case in Stroud.

7.23 The feedback from businesses that were spoken to reflect these strong sectors with all companies that we spoke to reflecting either consolidation or growth. This backs up the data that productivity in the sector is set to grow.

7.24 **Financial and business services** – The research carried out in the ELS suggested that this is not a particularly strong sector at present in Stroud. OE suggest there are 7600 people working in the sector, whilst CE put the number 1000 higher. But both suggest it will be a growth sector, and certainly there are businesses that are established and growing in business services.

7.25 It should be noted that the figures quoted by OE are not showing a 70 percent growth in finance and business services, rather 70 percent of new jobs predicted by OE fall into that sector. CE are also showing significant growth in that sector, the two figures are:

- 1700 OE
- 1300 CE

7.26 For CE the overall percentage of the total is smaller, around 30 percent, but that is because CE predict greater growth overall, and that comes in both the government services sector and construction – OE also predict strong growth in construction but 1,100 jobs against CE's prediction of 1,600 jobs.

7.27 Thus the forecasts in actual numbers do not differ greatly, and the main point to draw is that the sector will grow, which in terms of premises, support a need for high quality office space.

7.28 **Government Services** – It is difficult to see where the growth in government services is going to come from. Nationally, both CE and OE suggest that the percentage composition of this sector against other sectors will shrink, but CE show a greater growth nationally. It must be assumed that the model reflects this national trend which is then translated to Stroud, rather than using evidence of any local growth, and as reported, government services in Stroud is proportionally smaller than

the rest of the county and the UK, reinforcing the view that CE may be overstating the position.

7.29 The two areas of the public sector that other regions are suggesting will see growth in are education and health. But Stroud does not have the large NHS presence. Nor are there very large HE/FE colleges. These are more likely to be in Gloucester and Cheltenham, so we would err on the lower side, as suggested by OE.

7.30 It is difficult to draw firm conclusions from these findings, but on balance OE appears to reflect more closely what our research found.

7.31 OE make it clear that they have updated their figures using the latest BRES data, which reflects the current situation as far as that survey data can be considered accurate, being a sample of around 4 percent of all businesses – 82,000 from a business population of 1.9 million. The starting point for OE shows a lower current working population, but also a lower overall growth.

7.32 Again, it is worth stressing that jobs growth does not directly translate into land needs, and that the productivity of an area and the business sectors are as important as a tool when looking at growth sectors and where land will be required. When change in jobs are looked at as actual numbers rather than percentages of the total, the figures for manufacturing and Financial and business services are a difference of 600 jobs over the Plan period. However, for CE the figures are boosted by a big difference in the interpretation of Government services alongside construction (and also food services, although these do not translate to B Class land)

Forecasted Land Needs

7.33 Table 25 shows the resultant land needs from the change in employment for the two forecast sources at the different dates. The differences are somewhat marked due to Cambridge Econometrics reflecting a much higher employment figure in 2031. Both reflect growth in the early part of the cycle, but then tailing off, thus when the start date is moved forward the land needs fall away.

Table 25 – Forecasted Land Needs to 2031

Data Source	Start date 2006 (ha)	Start date 2011(ha)	Start date 2014 (ha)
Oxford Economics	Growth 10.54 Decline (25.94) Net- (15.4)	Growth 8.9 Decline (24.47) Net (15.56)	Growth 6.7 Decline (27.9) Net (21.22)
Cambridge Econometrics	Growth 31.8 Decline (33.74) Net (1.94)	Growth 23.59 Decline (30.14) Net (6.55)	Growth 16.08 Decline (30.14) Net (14.6)

Source: Oxford Economics/ Cambridge Econometrics

7.34 What is clear from the more detailed analysis of the sectors is that the overriding contributing factor to the loss of jobs that result in a potential reduction in land needs, is the loss of manufacturing jobs over the plan period, and as stated above, both OE and CE predict losses of between 1,700 and 2,800 jobs in that sector. This loss is not borne out by a reduction in productivity based on GVA (Table 26), and it is not borne out by the evidence provided by the companies interviewed.

Table 26 – GVA Increase 2011-2031

Data Source	GVA increase – all sectors (Percent)	GVA increase – manufacturing (Percent)
Oxford Economics	51.7	42.6
Cambridge Econometrics	56.6	23.3

Source: Oxford Economics/ Cambridge Econometrics

7.35 OE shows that whilst productivity is lower than the overall growth across sectors, manufacturing is showing a significant increasing in output. CE growth is less so, but still shows a steady growth. Thus the earlier conclusion that jobs loss does not necessarily equal land is supported by this.

Labour Supply Forecast

7.36 The third approach to land needs modelling was to review the population growth figures for the period. Oxford Economics provided a forecasting model for population growth based on a range of factors.

7.37 In the ELS, Oxford Economics' projections suggested a small increase in working population numbers of 1,000 by 2031. It took no account of planned changes to retirement ages, and therefore presented a least case position. Application of the

current economic activity rate of 80.7 percent (mid 2012 figure) indicated an increase of 8,807 residents working by 2031. The following (Table 27) calculation shows the percentage split of employment by all business sectors at 2031, applied to the 80.7 figure. Where relevant, job:floorspace density rates (Employment Densities Guide 2nd Edition 2010) and the proportion of people in each industry sector that occupy B Use Class space (The Use of Business Space, South East Region Planning Conference) have been applied.

Table 27 – Labour Supply Forecast

Sector/Jobs	Sector Proportion of Total Workforce, percent	Workforce Increase	Workforce Proportion Occupying B1/2/8 space	Floorspace per job, sqm	Floorspace Increase, sqm
Agriculture	0.2	2	5	12	-
Manufacturing	16.8	136	100	36-47	4,896-6,392
Utilities	0.8	6	5	12	-
Construction	11.1	90	26	12	280
Wholesale & Retailing	13.7	110	-	-	-
Transportation & Storage	4.2	34	48	70	1,120
Hotels and Catering	7.2	58	-	-	-
Information & Communications	2.9	23	100	12	276
Finance & Insurance	0.6	5	100	12	60
Real Estate		9	100	12	108
Professional, Scientific & Technical Services	9.3	75	100	12	900
Administrative & Support Services	7.4	60	100	12	720
Public Administration	1.1	9	100	12	108
Education	6.5	52	22	12	132
Health & Social Work	9.6	-	-	-	-
Arts, Entertainment & Research	3.1	-	-	-	-

Sector/Jobs	Sector Proportion of Total Workforce, percent	Workforce Increase	Workforce Proportion Occupying B1/2/8 space	Floorspace per job, sqm	Floorspace Increase, sqm
Other Services	2.3	19	100	12	228
				Total Floorspace sqm	**8,828-10,324**
				Divided by Development Floorspace per ha	**3,900**
				Equivalent Employment Land Needed ha	**2.26-2.64**

Source: Oxford Economics, 2014

7.38 Based on these projections in the ELS the employment land provision required was considered to be between 2.26 and 2.64 ha.

7.39 Updated figures provided by Oxford Economics in 2014 shows a reduction in the working population of 1,000 between 2014 and 2031. Whilst no sectoral breakdown has been provided, it is reasonable to assume that the land needs would reduce beyond those set out in Table 17.

7.40 It is felt that these figures are of limited value when assessing land needs. What is more important is that the predicted jobs growth can be matched by the predicted employment growth.

Conclusions

7.41 The three alternative forecast methods have been updated to take account of the current land availability, the adjustments made to the forecasting data and the interpretation of the relationship between employment growth and the consequent land needs.

7.42 In line with the method used in the ELS, a five year buffer is added to allow for choice, potential losses to other uses and any unforeseen increase in demand for land and to ensure a continuation of the land supply after 2031. Whilst this is not a requirement set out in NPPF or PPG, rather the Guidance recommends that the land supply provides choice for the plan period, the buffer is shown in the following calculations.

7.43 Table 28 summarises the findings based on the position today and assumes the net land supply calculated in Table 17 in the previous section.

Table 28 – Land Forecast Models – Summary

Model	Land Stock 2014, ha	Land Need 2014-2031, ha	Buffer (five years take-up rate) ha	Total need	Assumptions/ Comments
Historic Land Take-Up Rate Based on 2.32/annum	55.86	39.44	11.6	51.04	Surplus of 4.82 ha
Employment based	55.86	High(CE) – 16.08 Low(OE) – 6.70	4.73 1.97	20.81 8.67	Based on projected growth sectors, thus an over-supply of between 35.05 and 47.19 ha
Labour Supply	55.86	High -2.64	0.69	3.33	Based on population projections and industry sector changes (growth only) and impact on floorspace (and thus land) need, a 52.53 ha surplus

Source: BE Group and Stroud DC, 2014

7.44 The surplus of 4.82 ha is a worst case position which reflects a range of sites currently identified in the Land Availability Survey 2014 as not being available within the Plan period.

7.45 Using the employment based forecasting, with the figure adjusted to take account of growth sectors only, the land need for the period is a maximum of 20.81 ha and produces a surplus of 35.05 ha. On this basis, Stroud has more than sufficient employment land.

7.46 Using adjusted figures to align with the start of the Plan period in 2006 and the JCS base date of 2011, the forecast land needs are as follows (Table 29):

Table 29 – Alternative forecasting based on start dates of 2006 and 2011

Model	Land Stock 2006-31, ha*	Land Need 2006-2031, ha	Buffer (five years take-up rate) ha	Total need	Assumptions/Comments
Historic Land Take-Up Rate Based on 2.32/annum	51.83	58.00	11.6	69.6	Shortfall of 17.77 ha
Employment based	51.83	High(CE) 31.8 Low(OE) – 10.54	6.36 2.1	38.16 12.64	Based on projected growth sectors, thus an over-supply of between 13.67 and 39.19 ha
Model	**Land Stock 2011-31, ha**	**Land Need 2011-2031, ha**	**Buffer (five years take-up rate) ha**	**Total need**	**Assumptions/Comments**
Historic Land Take-Up Rate Based on 2.32/annum	58.49	46.4	11.6	58	Surplus of 0.49 ha
Employment based	58.49	High(CE) – 23.59 Low(OE) – 8.90	11.8 4.45	35.39 13.35	Based on projected growth sectors, thus an over-supply of between 23.10 and 45.14ha

Source: BE Group and Stroud DC, 2014

7.47 The worst case scenario, if the position from the Local Plan commencement in 2006 is adopted is that there is a shortage of 17.77 ha to 2031. This includes the five year buffer, of 11.6 ha. However, if the position from 2011 is taken there is a surplus of 0.49 ha and if the current position is taken from 2014 until 2031 then there is a surplus of 4.82 ha. If the methodology of translating jobs growth to land needs is adopted, then Stroud would have a surplus of between 35.05 ha and 47.19 ha for the period 2014-2031 depending on which forecasting source is adopted.

7.48 The assumption is that the current land supply excludes all land that is considered undeliverable. With a change of economic conditions, during the Plan period, some

of this land could become viable, and that element of land itself could provide some further choice in the future.

7.49 In line with guidance, it would be prudent to review Stroud's land needs on a five year basis, and should additional land be required, further allocations should be considered at that time. Based on current forecasts, it is considered Stroud has sufficient land supply to meet its needs.

Summary

7.50 The forecast data provided by Oxford Economics has been brought up to date to take account of changing economic circumstances, and as a check against using a single data source which could be deemed unreliable, a second source of forecasting data from Cambridge Econometrics has been used also.

7.51 There are significant differences between these sources, brought about by assumptions made on different industry sectors. Oxford Economics delivers a lower jobs growth overall, but on questioning the company, Oxford suggest that their updating of local BRES data provides a more accurate local picture. Whilst this may be so, both sources are used to provide a range of land needs based on jobs.

7.52 In view of the findings of the historic trends analysis, this range adopts jobs growth as the method of calculation land, rather than the net change.

7.53 Historic take-up is also adopted, as the historic trend analysis suggests that this method is still a reliable approach, but again, the figures are used in conjunction with the other methods to provide a range of land needs.

7.54 The worst case position for Stroud if a historic position from 2006 is adopted is a shortfall of 17.77 ha. However, the actual position today, based on the current land provision, is that by 2031 the District may have a surplus of 4.82 ha. These figures are based on historic take up and also assume that the current land supply is 55.86 ha (as at 2014), which is the net figure after all land that is considered undeliverable at the present time is deducted.

7.55 That figure takes account of an additional 11.6 ha, based on a further five years supply, which is included as a buffer to allow for choice and to ensure there is land to the end of the Plan Period.

7.56 Based on actual need and the potential to draw back some of the undeliverable land in the future, no immediate need to allocate further land is necessary. Stroud should review its land needs on a regular basis, guidance suggests every five years, and this allows the Council to look at actual take-up, the appropriateness of the allocated land and any need for further allocations at that time.

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