Strategic Planning Research Unit

For and on behalf of
Cheltenham Borough Council
Cotswold District Council
Forest of Dean District Council
Gloucester City Council
Stroud District Council
Tewkesbury Borough Council

Gloucestershire Economic Needs Assessment

Prepared by
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0.0 EXECUTIVE SUMMARY

0.1 DLP Planning were commissioned by the Gloucestershire Councils to undertake an Economic Needs Assessment (ENA) for Gloucestershire.

0.2 This ENA provides a high-level assessment of the Gloucestershire economy, investigating the economic potential of Gloucestershire and identifying realistic yet aspirational growth scenarios based on economic forecasts and modelled scenarios for the delivery of employment land (B class uses).

0.3 The main tasks of this ENA include the following:

1. Identify the Functional Economic Market Area (FEMA) for planning purposes.
2. Provide a review of the context in neighbouring areas and the wider region.
3. Provide an assessment of the economic performance and characteristics and commercial property market.
4. Consider a range of scenarios for future economic growth in Gloucestershire and for each of the authorities, including scenarios aligning with the housing need identified in the Local Housing Needs Assessment (LHNA).
5. Identify future employment land requirements for Gloucestershire and for each of the authorities.

a) Defining the Functional Economic Market Area (FEMA)

0.4 The analysis in this section considered a range of factors to identify the FEMA or FEMAs which cover the six Gloucestershire authorities.

0.5 The largest commercial market in Gloucestershire is along the M5 corridor which broadly includes the majority of the county's largest employment areas and the settlements of Cheltenham, Gloucester, Tewkesbury, and Stroud. While the TTWAs show two distinct TTWAs focussed around Cheltenham and Gloucester the wide range of other evidence and further analysis of commuting flows suggests that there are significant overlaps between these areas and the data does not support separate FEMAs.

0.6 A detailed analysis of commuting flows and self-containment rates shows that all of the Gloucestershire authorities combined have a self-containment rate of 83%/84%. This represents a high level of self-containment, and is higher than any other combinations of these authorities. This provides a strong case for identifying a single FEMA covering the whole of Gloucestershire.

0.7 A similar analysis undertaken between each Gloucestershire authority and neighbouring areas outside of the county shows lower levels of self-containment with surrounding areas. This suggests that there is less justification for including any of the Gloucestershire authorities within an alternative FEMA.

0.8 Cotswold and Forest of Dean, as well as the more rural parts of Tewkesbury borough and Stroud district fall outside of the broad M5 corridor area. However, these are largely rural areas and the location of employment activities and other services is disaggregated across a number of smaller settlements but none of which are of a scale to be identified as a FEMA in their own right. The commuting flows and other data shows stronger linkages between these areas and the rest of Gloucestershire than to surrounding areas.

0.9 As with any FEMA, there are overlaps with neighbouring areas particularly at the edges of the county. In particular there are links identified between Cotswold and Swindon/Wiltshire;

Forest of Dean and Herefordshire; Cheltenham and Tewkesbury and South Worcestershire; and Stroud with South Gloucestershire/West of England.

0.10 On the balance of evidence, and adopting a 'best fit' approach to local authority boundaries, it is concluded that the six Gloucestershire authorities can be considered to form a single FEMA.

b) Policy Review

0.11 This section provides an overview of the national, regional, and local policy context affecting economic growth and employment land issues. It considers the following:

- Building a Britain Fit for the Future
- A Powerhouse for the West
- South West and South East Wales Science and Innovation Audit
- GFirst LEP Strategic Economic Plan 2018
- GFirst LEP Draft Local Industrial Strategy (LIS)
- The Gloucestershire Growth Deal
- The 'Cyber Resilience Alliance' - A Science and Innovation Audit
- Glos 2050 study
- Planning Framework for Gloucestershire County to 2050
- A range of current local planning policy and borough/ district economic strategies

0.12 At a Gloucestershire wide level, future growth is expected to particularly focus upon its existing industrial strengths including:

- Manufacturing – Gloucestershire is home to an important cluster of product manufacturing businesses including hydraulics, valves, pumps and associated electronic components.
- Aerospace – The presence of major aerospace companies co-located in the Tewkesbury Borough offers opportunities for companies to draw on a cluster of technical expertise.
- Agri-tech – Gloucestershire has various strategically important Agri-Tech assets in the region including the Royal Agricultural University, Hartpury University and College, and the Agri-food Campden BRI. The LEP seeks to build upon these in part through the creation of an 'advanced Agri-tech' hub.
- Cyber-tech – Further explore opportunities to build upon the presence of GCHQ and align with the governments *'Grand Challenge for AI & the Data Economy'*. Specific ambitions include expanding the successfully established 'Growth Hub Network', to deliver a "cyber centric" business park adjacent to GCHQ (Golden Valley Development) and to further develop workforce skills to support this.
- Green Growth – The LEP seeks to establish Gloucestershire as a leader in sustainable growth through a focus on the natural capital assets of the county.

c) Neighbouring Areas

0.13 This section provides an overview of the growth priorities and prospects of neighbouring LEP areas and South East Wales. There are a number of conclusions to be drawn from the data. Firstly, there are significant overlaps in the priority sectors for each LEP, and significant overlap with the growth sectors for Gloucestershire identified by GFirst LEP:

- Advanced manufacturing
- Aerospace manufacturing

- Agri-tech
- Cyber-tech
- Green Growth

0.14 Advanced manufacturing, and in particular aerospace manufacturing, are priorities for the majority of the LEPs. Cyber security is a priority sector for Swindon and Wiltshire LEP and Worcestershire LEP. Worcestershire LEP is also prioritising Agri-tech and Low carbon energy, while the West of England cites Low carbon industries as a priority sector.

0.15 The second point to note is the difference between priority sectors and the growth sectors for each LEP. In most cases these are different. The largest growth sectors commonly includes sectors such as Construction, and Health and social care and, for the larger city regions Financial and Professional services.

0.16 This highlights the reality that when planning for economic growth, it is these sectors – rather than the priority sectors – which are still expected to see the largest quantum of workers and the largest net growth in workers over the next 20 years.

d) Economic Baseline

0.17 This section provides a baseline assessment of the local and regional economic dynamics in Gloucestershire. The Gloucestershire economy currently supports around 339,000 jobs. In recent years Gloucestershire has experienced above average productivity growth.

0.18 Gloucestershire has particularly high proportions of jobs in the Manufacturing and Accommodation and food service sectors Manufacturing shows notably higher proportions of jobs than national or regional averages, accounting for 11.8% of jobs in Gloucestershire, compared to 8.2% nationally. Manufacturing jobs are particularly high in Tewkesbury (21.7%), Stroud (18.4%), and Forest of Dean (16.7%). In terms of productivity, the Manufacturing sector contributes 15% of Gloucestershire's total GVA – more than any other sector.

0.19 There is a particular prevalence of advanced manufacturing sub-sectors within the Gloucestershire economy – manufacture of machinery and equipment; transport equipment; computer, electronic and optical products; motor vehicles; and electrical equipment. Together, these sub-sectors account for 46% of all manufacturing jobs in Gloucestershire.

0.20 Gloucestershire is a diverse county and Cheltenham and Gloucester have a very different jobs profile. Location quotient analysis shows Cheltenham has strength in many predominantly office-based sectors such as Public administration and defence; Information and communication; and Financial and insurance activities. Gloucester has strength in Public administration and defence and Financial and insurance activities and Electric power generation.

e) Commercial Property Market

0.21 This chapter provides a qualitative and quantitative assessment of Gloucestershire's commercial property market. The first part provides a qualitative assessment based on feedback received from stakeholder engagement. The second part provides a quantitative assessment based on a range of data sources. The final part of this chapter looks at the future employment land requirement for each authority based on a past completions trend and interprets this in the context of the commercial market signals.

0.22 Interest in industrial space in Gloucestershire is focussed primarily along the M5 corridor, and most strongly at the junctions between J9-J11a spanning Tewkesbury Borough and serving Cheltenham and Gloucester; and J12 in Stroud district, which serves the Gloucester and Stroud markets. J13 is also a popular location although the distance from Gloucester and Cheltenham means this is a slightly market area. The M5 corridor is also the most significant location for distribution uses in Gloucestershire.

0.23 One of the key determinants of location being a desire to retain existing staff, and as such most occupiers considering relocation are keen to stay within easy commuting range of their existing staff. Gloucestershire has a very skilled workforce – particularly relating to certain high-end manufacturing sub-sectors, and other highly skilled sectors such as nuclear energy, other forms of energy, and cyber security. For this reason the majority of occupiers would not generally seek to move beyond the M5 corridor into other locations within Gloucestershire.

0.24 Beyond the M5 corridor, the Stroud Valleys along the A46 and A419 principally comprise more traditional employment sites which are generally smaller sites and units comprising more dated stock. In the Forest of Dean the majority of demand for employment space is for local and indigenous businesses and most enquiries come from businesses within the district. Demand in these areas is mostly from local businesses with agents reporting larger businesses in these areas generally seeking to relocate to larger premises

0.25 In Cotswold commercial interest is focussed around Cirencester and South Cerney in the south of the district. This area forms a very different market to the other Gloucestershire authorities along the M5 corridor, and while these areas are considered distinct to the M5 corridor they benefit from strong links to the south and east with access to Swindon and the M4 corridor.

0.26 Demand for office space is principally focused in Gloucester, Cheltenham, and neighbouring businesses parks. Gloucester City Centre and Cheltenham Town Centre are the most sought-after locations due to the proximity to town centre retail, leisure and amenities and public transport links. Cheltenham Town Centre is the most attractive location due to the higher quality of the environment and regency stock proving popular. Other desirable factors are the proximity to town centre retail, leisure, and amenities. This is reflected in significantly higher prices in the town.

0.27 Gloucester City Centre is another popular office location, with the Gloucester Quays are considered the most popular location for office occupiers. Beyond the city centre, Quedgeley and the area around J12 in Gloucester/Stroud district provides a business park type offer which is a popular location.

0.28 Cirencester is seen as an attractive office location albeit much smaller market than Cheltenham or Gloucester. Gloucester and Cotswold have also seen a considerable quantum of office space lost via permitted development rights to residential uses.

0.29 It will be important to provide sufficient land to provide for the natural growth and expansion of indigenous businesses, as well as to cope with future inward investment opportunities. However, it is not clear at present the scale of what this might be. It is therefore necessary to include flexibility in the supply to adapt to changing requirements. The nature of the distribution sector is also rapidly evolving meaning a flexible approach would be beneficial to support future growth and the changing demands of the sector. It would also be beneficial to

provide supporting ancillary uses at employment locations – retail, leisure, and amenities – to ensure employee's needs are met.

0.30 Since 2011 across Gloucestershire there has been a net gain of 88,165 sqm of industrial floorspace since 2011. The majority (75%) of this has been in Tewkesbury borough. Cheltenham and Forest of Dean have seen an overall net loss of industrial floorspace over this period, this is due to relatively low levels of gross completions rather than particularly high levels of loss.

0.31 The rate of gross completions of industrial floorspace compared to stock levels in each authority shows that since 2011 Tewkesbury has seen the highest rate of growth relative to stock at 1.2% per annum and is the only authority with a growth rate above 1% per annum, while Cotswold has seen a growth of 1.0%. For the Forest of Dean this likely reflects the relatively high levels of historic floorspace in the district compared to relatively low levels of current demand and low rental values. The same is true for parts of Stroud such as the Stroud Valleys where there is significant traditional stock and relatively constrained opportunities for new development. For Cheltenham and Gloucester the trend likely indicates a constrained supply of industrial land which has seen the majority of industrial development serving the towns taking place beyond the local authority boundaries.

0.32 For industrial units, the size band with the highest number of completions was smaller units 100-1,000 sqm (roughly 1,000-10,000 sqft). These constituted over half (54%) of the total developments and were spread relatively evenly across all areas. In terms of overall floorspace, the most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a third of all floorspace delivered within this range.

0.33 The vacancy data shows a vacancy rate for industrial units across Gloucestershire of just under 7% which is very slightly on the low side but not drastically so. Some of the main markets – Gloucester and Stroud having rates over 10%.

0.34 There has been a total of 102,300 sqm of office floorspace delivered across Gloucestershire since 2011. This is an average of 12,800 sqm per annum, equivalent to 1.4% of current total stock levels. Stroud saw the highest level of office floorspace gained with 39,000 sqm – this is equivalent to a 5% growth of the office stock per annum, which is very high. Conversely, the level of delivery in Gloucester is notably low with only 1,200 sqm delivered per annum – equal to a growth rate of 0.5% per annum. This reflects the very constrained nature of Gloucester's supply which has resulted in the delivery of office space in neighbouring areas such as Tewkesbury (Gloucester Business Park) and Stroud (Quedgeley).

0.35 The most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a quarter of all floorspace delivered within this range and a further 25% in larger space. However, it's clear than in terms of the number of units taken up the smaller units are more popular with 40% of take up being for units sized 100-500 sqm and a further third of all take up being for units under 100 sqm. Combined this accounts for over 70% of all units completed.

0.36 The data shows a vacancy rate for office units across Gloucestershire of around 2.6% which represents a low vacancy rate and represents a relatively constrained market. Most of the authorities have a vacancy rates broadly around this level with only Stroud deviating from the trend with a healthier 7.8%.

0.37 The completions data has been used as a measure of future employment land needs, assuming development in each authority were to continue at the same rate as seen since

2011. This approach has the benefit of being straightforward and transparent. However, there are disbenefits of this approach in that it has potential to models forward historic supply-side and market constraints.

0.38 Overall, for Gloucestershire the past completions trend identifies a need for 70.9ha of B1a/b office space, 61.5ha of B1c/B2 industrial space, and 76.9ha of B8 warehouse/distribution space. This provides a total demand for 209.3ha of employment land for the period 2021-41.

f) Economic Forecasts

0.39 This section sets out the future employment growth identified by the econometric forecasts. Three econometric forecasts have been assessed:

- Cambridge Economics (CE) forecasts
- Oxford Economics (OE) Baseline forecast
- Oxford Economics Medium-High forecast

0.40 For Gloucestershire as a whole, the CE forecast shows a growth in total employment of just over 36,000 jobs over the period 2021-41 (an average annual growth rate of 0.50% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 23,240 jobs (0.32% per annum) while the OE Baseline shows a growth of only 2,700 jobs (0.04% per annum) due to several of the authorities having a forecast negative jobs growth in the OE Baseline forecast.

0.41 The historic rate of jobs growth in Gloucestershire is considerably higher than that shown in the forecasts. Past growth rates are shown as averaging just over 1.0% per annum for the period 1996-2009, and 0.73-1.1% per annum for 2009-19.

0.42 The 2019 forecasts were compared against the forecasts from the Councils' previous employment land evidence documents – forecasts with a base date of 2014. The BRES data shows that almost all of the authorities have seen stronger jobs growth over the period 2011-18 than was predicted in the 2014 forecasts. This notwithstanding, the 2019 CE forecast does not show any significant uplift on the 2014 version in terms of overall jobs growth, and for the majority of authorities the OE MidHigh forecast is more negative. The OE Baseline forecast in particular shows very negative growth much lower than the 2014 iteration.

0.43 One of the reasons for this is the forecasters' views of how the sectors will perform following the UK's withdrawal from the EU. However, another key reason for this is the forecasting companies' view of how the different sectors are expected to perform in the future, which in effect portrays the changing structure of the national economy from one focussed on manufacturing, to more focus on financial and businesses services. This is then disaggregated to a local level based on the relative strengths of these sectors in the Gloucestershire economy. However, there is a risk that this does not take account of local trends and growth drivers in the local economy.

0.44 The section therefore considers the growth sectors in the Gloucestershire economy and the extent to which growth in these sectors is indicated in the recent trend data from ONS, how this is captured in the forecasts historical data, and how this compares to the future forecast performance for each sector.

0.45 Within the manufacturing sector there has been strong performance in the advanced manufacturing sub-sectors which all demonstrate a particular strength in the Gloucestershire economy and have supported strong and steady jobs growth across the county over the past

ten years. This is reinforced by the wider market evidence, or the recent completions data showing new sites are required.

0.46 However, this is not reflected in the econometric forecasts which show an overall decline of between -0.4% and -0.6% per annum in employment in the Manufacturing sector over the period 2009-18. Moreover, looking forward the forecasts show a worsening rate of decline of between -0.9% to -1.8% per annum. This results in a net loss of between 5,400 and 10,900 manufacturing jobs over the forecasting period – equivalent to a loss of 15-30%.

0.47 Similarly, the energy sector is particularly well represented in Gloucestershire with more than twice the national average number of jobs in the sector. Since 2009 the sector in Gloucestershire has seen a growth of 3,000 jobs – more than doubling the number of jobs in the sector. The vast majority of these additional jobs have been in Gloucester and Stroud.

0.48 This level of growth is implicit within the CE forecast which recognises the strong growth in the sector and forecasts forward a jobs growth of a further 3,000 jobs over the period 2021-41. Both of the OE forecasts however show the recent jobs growth but then forecast a decline of 700-900 jobs over the period 2021-41.

0.49 The Computer programming and IT services sector includes a range of sub-sectors including cyber security. These sectors show a particular strength in Cheltenham and to a lesser extent in Cotswold. All three forecasts show a strong rate of growth in the sector in recent years, showing an annual growth rate of 4.2-5.2%.

0.50 However, looking forward, none of the projections show these trends continuing. The CE and OE MidHigh forecasts show future jobs growth of 1,500 and 1,200 jobs respectively equating to much more modest annual growth rates of 0.5% and 0.3%. The OE Baseline actually shows a net loss of 660 sectoral jobs over this period.

0.51 In response to this we have modelled alternative growth rates for these sectors based on the past performance of the sectors since 2009. This captures the positive growth in these sectors seen within the Gloucestershire (and individual authorities) economy. These alternative growth rates have been used to inform two Growth forecasts, which are set out in detail in Section i) below.

g) Implications of Brexit

0.52 This section considers the potential impacts of Brexit on Gloucestershire's economic prospects and growth, identifies the sectors which are considered most at risk, and considers the impact this might have on Gloucestershire's overall economic growth.

0.53 At the macroeconomic level, Brexit will inevitably have numerous implications for the UK's economy. However, the nature of the political arrangement between the UK and the EU following Brexit remains unclear, and therefore forecasting the economic implications of Brexit is a difficult process.

0.54 This notwithstanding, CE and OE have both incorporated the implications of Brexit into their forecasting approaches. For the purposes of forecasting, the macroeconomic impacts of Brexit are considered in terms of three main factors:

- Import / export
- Migration / labour force
- Inward investment

0.55 These factors will have differing impacts on each sector of Gloucestershire's economy. The risks of each factor has been identified for each sector and this shows that the following sectors are the most at risk sectors due to Brexit:

- Transport, distribution, retail and wholesale trade
- Accommodation and food service
- Administrative and support services

0.56 This analysis has been used to identify the scale of risk in the sectoral jobs growth forecasts for Gloucestershire. This shows that Gloucestershire's economy is not particularly reliant on the sectors identified as a high risk due to Brexit. However, accommodation & food services is forecast the largest quantum of growth in a high risk sector and this particularly features in the Cotswold and Stroud economies. However, in terms of employment land requirements this sector has a relatively small impact on overall needs.

h) Implications of COVID-19

0.57 This section considered the potential impacts COVID-19 might have on Gloucestershire's economic prospects and working patterns. It identifies the sectors which are considered most at risk and considers the impact this might have on Gloucestershire's overall economic growth.

0.58 COVID-19 is likely to have a significant negative impact on all sectors of the UK's economy, and there are indications where this can be expected to have greater impact in Gloucestershire:

- Prominence of the Accommodation and Food Services sector – particularly in Cotswold and Cheltenham.
- Prominence of the Manufacturing sector – particularly in Tewkesbury, Stroud, and Forest of Dean.
- High levels of self-employment – in all areas except Gloucester.
- High levels of small businesses – particularly in Forest of Dean.
- Prominence of sectors which have low capability to work from home, including Manufacturing and Accommodation and Food Service, but also Construction and Utilities – which will particularly impact on Gloucester and Stroud.
- A higher proportion of elderly population – particularly in Cotswold and Forest of Dean.

0.59 Overall, for Gloucestershire the sectors at highest risk due to COVID-19 are Accommodation and Food Services; Arts, Entertainment and Recreation; and Transport and Storage. These sectors account for 16% of Gloucestershire's existing jobs and 20-23% of forecasts jobs. Manufacturing; Construction; and Wholesale and Retail trade are considered moderate risk, accounting for 32% of current jobs and 0-17% of forecast jobs in Gloucestershire. All other sectors are considered lower risk and in Gloucestershire these account for 52% of current jobs and 63-88% of forecast jobs.

0.60 The economic downturn is the result of a planned partial shutdown of the economy rather than due to imbalances in the private sector or public sector policy mistakes, which are more usual causes for entering a recession. This means there is optimism among the emerging forecasts that the impacts will be short and sharp with a very steep drop in employment followed by a relatively swift return to steady growth.

0.61 However, forecasting future economic performance remains highly uncertain, due to the unprecedented nature of the lockdown in modern times and is subject to a wide range of

factors, including the risks of a second wave, government policy responses, long-term changes to market confidence and consumer behaviour, and the impact on post-Brexit negotiations.

0.62 Similarly, lockdown restrictions have necessitated changing working practices which has shown most predominantly office-based sectors have a much higher capacity to support home working. However, further post-lockdown data will be required before making long-term assumptions regarding future working practices.

0.63 At this stage the risk factors remain highly uncertain. The forecasting houses are working at updating their forecasting models, but these rely on assumptions on the above factors which are rapidly changing week by week.

i) Labour Demand Scenarios

0.64 This section considers the level of employment land needed to support the level of employment growth shown in each of the econometric forecasts. The labour demand approaches should be considered alongside other approaches and economic and contextual data set out in the other chapters of this report.

0.65 Labour demand scenarios have been developed based on the three jobs forecasts:

- Cambridge Econometrics (CE)
- Oxford Economics (OE) Baseline
- OE MidHigh

0.66 In addition, a Growth Forecast has been developed which seeks to reflect the local drivers of growth in the Gloucestershire economy. This is because analysis of the forecasts highlighted that there are several sectors where the recent, current, and expected future performance is not reflected in some or all of the forecasts.

0.67 The Growth Forecast applies uplifts to the Manufacturing, Energy, and Information and communications sectors to reflect the trend of jobs growth in seen in each sector in each local authority over the past 10-year period.

0.68 An alternative Growth Forecast has also been developed where the additional jobs in Information and communications sector is met in Cheltenham to reflect the plans for the Cheltenham Cyber Technology Park.

0.69 The next step is to model the implications of each forecast in terms of the requirement for future employment land. This is done through a process of modelling to capture a range of inputs:

- Full time equivalent (FTE) jobs
- The proportion of jobs in each sector is divided by the type of employment (B Class) use class and non-employment use classes.
- Employment densities reflecting the quantum of floorspace required for each job.
- A plot ratio to convert floorspace requirements to land requirements.
- A conversion of net need (as shown in the forecasts) to gross development requirements. This is done by accounting for the quantum of losses of existing stock which will be expected to be lost over the forecasting period.
- The addition of a margin of flexibility.

0.70 Outputs are provided in terms of hectares required for each type of employment use. The use classes have been combined in terms of B1a/b office, B1c/B2 industrial, and B8 distribution.

0.71 This results in the total employment land needs in hectares for each of the authorities:

Summary of Labour Demand Scenarios by Local Authority, 2021-41 (2020-40 for Stroud)

	OE Baseline	OE MidHigh	CE	Growth Scenario 1	Growth Scenario 2
Cheltenham	15.1	32.3	29.6	43.8	56.5
Cotswold	32.2	44.8	43.1	52.1	48.6
Forest of Dean	-1.0	8.7	10.9	21.9	21.4
Gloucester	38.2	52.7	44.6	53.6	49.1
Stroud	11.3	34.0	41.1	71.8	69.5
Tewkesbury	16.8	38.9	48.6	98.4	96.2
Gloucestershire	**112.6**	**211.5**	**217.9**	**341.6**	**341.3**

j) Labour Supply Scenarios

0.72 The outputs of the labour supply scenarios in terms of total employment land needed in each authority are summarised in the table overleaf. All three scenarios are based on the labour supply arising from the population growth arising in the Gloucestershire LHNA. This has been used as a starting point to calculate the number of jobs arising in Gloucestershire as a result of demographic growth. This has then been used to estimate the level of employment land needed so as to ensure this level of growth is not constrained by a lack of land.

0.73 The scenarios make differing assumptions regarding the sectoral composition of the identified level of jobs growth. In the CE based scenario and OE based scenario the increase in jobs has been calculated on the proportion of jobs growth in the growth sectors in each forecast. For the Labour Supply Growth Scenario, the composition of additional growth (i.e. that above the jobs growth shown in the CE forecast) reflects the LEP growth sectors.

0.74 Overall the CE based and OE based labour supply scenarios show a need for 221ha and 249ha of employment land across Gloucestershire respectively. The Labour Supply Growth Scenario shows a need for just over 300ha of employment land. The greater need for B Class land is due to a larger proportion of jobs being supported being in sectors requiring B class employment space – most notably in the manufacturing sector.

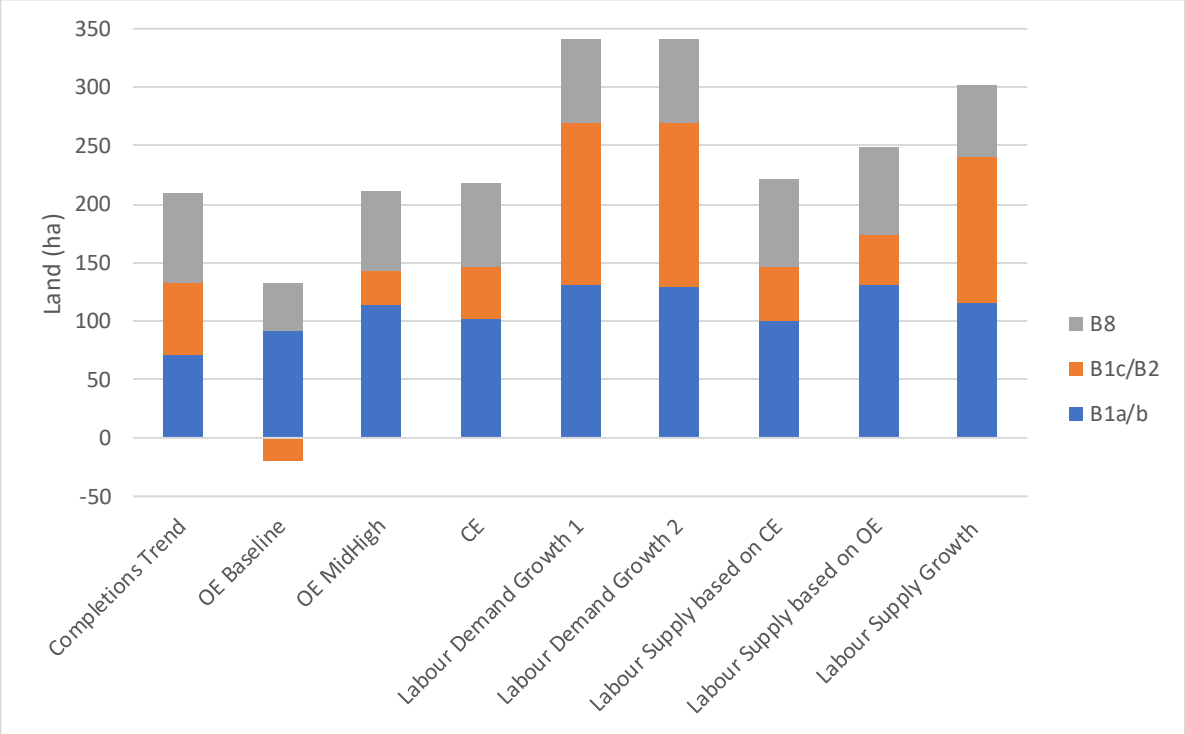
Total Employment Land Needs (ha) – Comparison of Labour Supply Scenarios by Local Authority, 2021-41 (2020-40 for Stroud)

	Labour Supply - CE based	Labour Supply - OE based	Labour Supply - Growth Sectors
Cheltenham	29.8	38.2	38.4
Cotswold	39.5	45.1	44.3
Forest of Dean	13.2	16.8	22.4
Gloucester	44.9	59.8	50.2
Stroud	44.5	45.5	62.5
Tewkesbury	49.3	43.5	83.8
Gloucestershire	**221.1**	**248.8**	**301.6**

k) Comparison of Scenarios and Conclusions

0.75 A range of scenarios for estimating future employment land needs in Gloucestershire have been considered and developed in the previous sections of this report. A comparison of the outputs for each of these scenarios for Gloucestershire is shown in the figure below. Scenario outputs for each local authority are set out in Appendix A of the main report.

Comparison of Employment Land Scenarios – Gloucestershire



0.76 The assessment of Gloucestershire's commercial property market made clear that the supply of employment land has been constrained in recent years. For many of the authorities, and for Gloucestershire overall, the scenario based on the completions trend forecast models forward the considerably constrained supply situation.

0.77 The labour demand scenarios based on the OE and CE forecasts show growth well below the completions trend and includes a net negative need for industrial land. The OE MidHigh and the CE labour demand scenarios show a level of growth lower than any of the labour supply scenarios. This suggests that planning for this level of growth would likely constrain the employment demand arising from the demographic growth. The labour supply approach is therefore considered a more appropriate measure of future employment land needs.

0.78 The labour supply scenarios based on the CE and OE forecasts identify very low future needs for industrial (B1c/B2) land – around 45ha across Gloucestershire, and only 7.5-12.5ha across the JCS area. This reflects the sectoral profile of growth in the CE and OE forecasts.

0.79 However, these forecasts do not reflect the strong recent performance seen in key growth sectors of Advanced manufacturing, Energy, and Cyber security and related IT services. These sectors have all seen strong growth in Gloucestershire in recent years and were identified by many stakeholders as strong areas of growth. They are also priority sectors identified by the LEP's Local Industrial Strategy.

0.80 The labour supply growth scenario is modelled on the assumption that the profile of jobs growth shown in the growth forecast which is based on the strong 10-year performance in the growth sectors. These sectors generally take place on B Class employment sites, and as such the higher jobs growth in these scenarios translates to considerably higher employment land requirements. This results in a need for 124ha of B1c/B2 industrial land across the FEMA. However, this is lower than the 140ha identified in the labour demand growth scenarios.

0.81 For B8 uses, the range between the scenarios is not as significant as for industrial uses, with the scenarios showing a need for 60-75ha of land across Gloucestershire, with the labour supply growth scenario at the lower end of this range. One of the key findings arising from the commercial property market assessment was that flexibility should be applied in terms of the uses permitted at employment sites and policies should not differentiate between B2 and B8 uses. Therefore, considering B2 and B8 requirements together, the labour supply growth scenario identifies a need for 185ha compared to the other labour supply scenarios which show a need for around 120ha.

0.82 For the office sector the range between the scenarios is not so significant, showing an overall need for office space ranging from 100-130ha across Gloucestershire. The labour supply growth scenario shows a need for 115ha – representing the mid-point of this range.

0.83 The labour supply growth scenario is therefore considered to provide a realistic yet positive estimate for future employment land needs in Gloucestershire. It aligns with demographic growth and takes account of recent growth trends, stakeholder feedback, and the LEP's Local industrial strategy. It is therefore considered to provide a positive basis for planning to ensure that future business needs of Gloucestershire are provided for.

0.84 The labour demand growth scenario provides a slightly higher figure which would support the continued growth in key sectors of the Gloucestershire economy and support the aims of the GFirst LEP and Local Industrial Strategy.

0.85 The employment land needs for each local authority, the JCS area, and Gloucestershire as a whole are set out in the table below:

Employment Land Needs by Local Authority, 2021-41 (Stroud 2020-40)

	B1a/b		B1c/B2/B8	
Source	**Labour Supply Growth**	**Labour Demand Growth 1**	**Labour Supply Growth**	**Labour Demand Growth 1**
Cheltenham	22.9	26.2	15.4	17.6
Cotswold	19.7	23.5	24.6	28.6
Forest of Dean	3.1	2.9	19.3	19.0
Gloucester	31.1	33.7	19.2	19.9
Stroud	18.0	20.9	44.4	50.8
Tewkesbury	20.7	23.0	63.1	75.5
JCS Area	**74.7**	**82.9**	**97.7**	**113.0**
Gloucestershire	**115.5**	**130.2**	**186.0**	**211.4**

1.0 INTRODUCTION

1.1 DLP Planning were commissioned by the Gloucestershire Councils to undertake an Economic Needs Assessment (ENA) for Gloucestershire. The Gloucestershire Councils comprise of:

- Cheltenham Borough Council
- Cotswold District Council
- Forest of Dean District Council
- Gloucester City Council
- Stroud District Council
- Tewkesbury Borough Council
- Gloucestershire County Council

1.2 This ENA provides a high-level assessment of the Gloucestershire economy, investigating the economic potential of Gloucestershire and identifying realistic yet aspirational growth scenarios based on economic forecasts and modelled scenarios for the delivery of employment land (B class uses).

1.3 The Gloucestershire local planning authorities are in the process of reviewing Local Plans to identify land to meet future growth requirements to 2040/41. The ENA has been prepared alongside the Gloucestershire wide Local Housing Needs Assessment (LHNA) and the findings of the LHNA were considered in the preparation of the ENA. By commissioning the preparation of the ENA the Gloucestershire authorities have sought to develop a co-ordinated approach to identifying future economic growth opportunities and employment land requirements across the county.

1.4 The work will seek to identify the future economic growth and employment land requirements for each of the authorities up to 2040/41. The study will inform the creation of Local Plans and planning decisions in each of the authorities, as well as feed into, and reflect, wider strategy and policy development work, including the Local Industrial Strategy being prepared by GFirst LEP.

1.5 The main tasks of this ENA include the following:

1. Identify the Functional Economic Market Area (FEMA) for planning purposes.
2. Provide a review of the context in neighbouring areas and the wider region.
3. Provide an assessment of the economic performance and characteristics and commercial property market.
4. Consider a range of scenarios for future economic growth in Gloucestershire and for each of the authorities, including scenarios aligning with the housing need identified in the Local Housing Needs Assessment (LHNA).
5. Identify future employment land requirements for Gloucestershire and for each of the authorities.

1.6 Throughout this document local authority areas are referred to by their shortened name, for example ‘Tewkesbury’ refers to the local authority area of Tewkesbury Borough Council. Where we make reference to the town of the same name we refer to this as ‘Tewkesbury town’.

1.7 This document has been prepared in accordance with the latest national planning policy and guidance as set out in the National Planning Policy Framework (NPPF) and Planning Practice guidance (PPG).

a) National Planning Policy Framework

1.8 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied. The original NPPF was published in 2012 and has since been revised in July 2018 and again in February 2019.

1.9 The overarching purpose of the NPPF and the planning system itself is to encourage sustainable development. The policies set out in the NPPF set out the Government's position on what sustainable development means in practice including the three core dimensions to achieve this. These core dimensions are considered interdependent and should therefore be pursued in mutually supportive ways:

a) An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and

c) An environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

1.10 Paragraphs 80 to 84 of the NPPF set out how the Government is committed to supporting the economy stating that "significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development".

1.11 Policies set out within Local Plans should:

a) "set out a clear economic vision and strategy which positively and proactively encourages sustainable economic growth, having regard to Local Industrial Strategies and other local policies for economic development and regeneration;

b) set criteria, or identify strategic sites, for local and inward investment to match the strategy and to meet anticipated needs over the plan period;

c) seek to address potential barriers to investment, such as inadequate infrastructure, services or housing, or a poor environment; and

d) be flexible enough to accommodate needs not anticipated in the plan, allow for new and flexible working practices (such as live-work accommodation), and to enable a rapid response to changes in economic circumstances".

1.12 Paragraph 120 of the NPPF sets out how planning policies and decisions should reflect changes in the demand for land. This requires regular reviews of both the land allocated for development and of land availability. When Local Planning Authorities (LPA's) consider there is no reasonable prospect of an application coming forward for the use allocated in a plan, the NPPF advises that they should:

a) "as part of plan updates, reallocate the land for a more deliverable use that can help to address identified needs (or, if appropriate, deallocate a site which is undeveloped); and

b) in the interim, prior to updating the plan, applications for alternative uses on the land should be supported, proposed use would contribute to meeting an unmet need for

development in the area".

b) Planning Practice Guidance

1.13 Planning Practice Guidance (PPG) regarding 'Housing and economic needs assessment' was published by the government in March 2015 and last updated in July 2019.

1.14 The guidance explains how LPA's can determine the type of employment land needed in their area by producing a robust assessment of the needs of existing businesses. National economic trends will be used to understand future needs, however the PPG notes that these national trends may not translate to all areas, due to local distinctions in the employment base. To understand, prepare, and maintain evidence around both current and future business requirements, the PPG outlines the process that LPA's ought to undertake:

- Consider the best fit functional economic market area (FEMA)
- Assess the quality and quantity of the existing employment land
- Consider recent trends in employment supply
- Liaising with the business community to understand market demand
- Taking account of the Local Industrial Strategy
- Assess wider market signals relating to economic growth
- Assess reasons behind market failure

1.15 As set out in the PPG Policy makers should use a range of data when considering employment need including:

- sectoral and employment forecasts and projections (Labour Demand)
- demographically derived assessments of future employment needs (labour supply techniques)
- analysis of past employment land take-up and/or future property market requirements
- consultation with relevant organisations and review of relevant studies to understand business trends and changing business models

1.16 As also highlighted in the PPG it is important to consider whether there are specific requirements in the local market which affect the types of land or premises needed. Consideration of clustering certain industries can be beneficial to encourage collaboration, productivity and innovation as well as in driving the economic prospects of that area.

2.0 DEFINING THE FUNCTIONAL ECONOMIC MARKET AREA

2.1 Planning Practice Guidance (PPG) sets out that authorities should identify the Functional Economic Market Area (FEMA) and provides the following guidance on how this should be undertaken:

"Since patterns of economic activity vary from place to place, there is no standard approach to defining a functional economic market area, however, it is possible to define them taking account of factors including:

- extent of any Local Enterprise Partnership within the area;
- travel to work areas;
- housing market area;
- flow of goods, services and information within the local economy;
- service market for consumers;
- administrative area;
- catchment areas of facilities providing cultural and social well-being; and
- transport network."

a) Existing Evidence and Previous Studies

2.2 As the starting point for defining the FEMA, we have undertaken a review of the existing economic evidence base for the Gloucestershire authorities and the surrounding authorities to identify the existing functional economic links between authorities.

2.3 The Functional Economic Market Areas and Economic Linkages in the South West (SQW, 2010) provided a high level of consideration of FEMAs. However, this study pre-dates the publication of the original NPPF and PPG. It identifies seven 'Functional Economic Zones' including the 'North East Triangle' which is described as the area covering the West of England; Swindon and the adjacent M4 corridor; and Gloucester, Cheltenham and the adjacent M5 corridor.

2.4 We have undertaken a review of the more recent evidence base reports which have been produced by the local authorities, a summary of which is set out in the table below. These identify a number of economic linkages between areas, however none provide a definitive view or definition of the FEMA or FEMAs which cover Gloucestershire wither in part or whole.

Table 1. Summary of Previous Studies Relating to the FEMA

Area	Identified Functional Links	Source
Cheltenham	Identified strong functional links with Gloucester in terms of business location, labour market, and economic and social function. Significant links with Bishop's Cleeve in Tewkesbury Borough. Cheltenham has good rail links with Birmingham, Bristol, and Gloucester.	Cheltenham Economic Strategy, 2015; South West FEMA, 2010; Connecting Cheltenham 2019
Cotswolds	Although primarily 'self-contained' in terms of labour, the Cotswolds has identified commuting flows between Stroud, Wiltshire, Swindon, Cheltenham and Wychavon.	Cotswold Business and Industrial Trends Report, 2015
Forest of Dean	Labour market links with Gloucestershire.	The Objectively Assessed Housing Needs of Stroud,

		Forest of Dean and Cotswold, October 2014
Gloucester	Has strong functional links with Cheltenham with regard to business location, labour market, and economic and social function.	Cheltenham Economic Strategy, 2015; South West FEMA, 2010
Stroud	Does not explicitly identify a FEMA. The population of Stroud is relatively self-contained, with two thirds of the resident population also working in the District. Strong labour flows with Gloucester, Cheltenham, Tewkesbury and Bristol.	Stroud District Employment Land Study, 2013
Tewkesbury	Does not explicitly identify a FEMA. Strong Travel to Work Flows with Cheltenham and Gloucester.	Tewkesbury Borough Employment Land and Economic Development Strategy Review, 2016
JCS Area	Strongest commuting flows between the three JCS authorities but also strong flows with Herefordshire, Cotswold, and Swindon. Identified links between Gloucester and Tewkesbury, Stroud, and Forest of Dean.	Assessment of Cheltenham, Gloucester and Tewkesbury Employment Land Reviews, 2011

2.5 A similar exercise has been undertaken for neighbouring authorities to the principal study area. While studies for neighbouring areas show various links with parts of Gloucestershire, none suggest FEMAs which cover or include any of the Gloucestershire authorities.

2.6 The evidence shows that the neighbouring areas have traditionally organised around alternative FEMAs and none of these identify overlap with any of the Gloucester authorities.

Table 2. Summary of Studies from Neighbouring Areas Relating to the FEMA

Neighbouring Gloucestershire Authorities	Functional Links / FEMA	Source
South Gloucestershire	Forms part of the West of England FEMA with North Somerset, Bristol, and Bath and North East Somerset. The WoE study does not identify any particular links with Gloucestershire.	Bristol's Local Economic Assessment March, 2011; West of England Economic Development Needs Assessment, 2015
Stratford-on-Avon	Identified as falling within the Coventry and Warwickshire sub-region. Identifies strong functional links with the rest of the Coventry and Warwickshire authorities to the north.	Coventry & Warwickshire Joint Strategic Housing Market Assessment, 2013; Coventry & Warwickshire Sub-Regional Employment Market Signals Study, 2018
West Oxfordshire	The spatial area of Oxfordshire approximates to a functional economic area identified as an Oxford City Region, which also includes Cherwell, Oxford, South Oxfordshire and Vale of White Horse. It identifies strong links across its boundaries to neighbouring centres including London, Swindon, Reading, Aylesbury and Milton Keynes in particular.	Oxfordshire Economic Assessment, 2011
Malvern Hills and Wychavon	It provides a very brief review of the FEMA characteristics. It is concluded that the primary FEMA for the South Worcestershire area can be approximated by the Worcestershire County area. A broader area extending to Stratford-upon-Avon, Cotswold, Tewkesbury and Cheltenham local authorities in the south and east and Birmingham in the north would be an approximation of a secondary FEMA for South Worcestershire.	South Worcestershire Economic Development Needs Assessment, 2018
Swindon	A Swindon/M4 Corridor FEMA is identified which extends beyond the Swindon Borough administrative boundary. The area includes parts of northern Wiltshire, the southern reaches of the Cotswold District and	The Swindon Employment Land Review, 2017; Swindon and Wiltshire Functional Economic Market Area Assessment, 2016

	parts of the western reaches of Oxfordshire and Berkshire. However, the core is clearly within the Swindon and Wiltshire administrative area. The M4 and Great Western Mainline means greater flows east-west, and there are relatively strong eastward focus towards Oxfordshire and the Thames Valley.	
Wiltshire	There are three FEMAs broadly covering the County: • The North-East part of Wiltshire falls within the Swindon/M4 Corridor; • An A350 Corridor and West/Central Wiltshire Towns FEMA looking westward towards Bath; and • A Salisbury/Amesbury/A303 Corridor FEMA in the south and east of the area.	Swindon and Wiltshire Functional Economic Market Area Assessment, 2016
Herefordshire	As well as with Shropshire, Herefordshire has strong links to other neighbours. Ross-on-Wye in the south has links to Gloucestershire, Powys, and Worcestershire.	Economic Development Strategy for Herefordshire, 2011-16
Monmouthshire	Doesn't identify FEMAs but identified Monmouthshire falls within a wider "Larger than Local" region comprising Blaenau Gwent, Caerphilly, Monmouthshire, Newport and Torfaen local authority areas; and as one of the ten districts in the Cardiff Capital Region.	Monmouthshire ELR, 2020

2.7 The existing evidence suggests that the commissioning Gloucestershire authorities form a FEMA, and whilst there is some overlap, as is expected with any FEMA, the neighbouring authorities are broadly identified as part of alternative FEMAs, and limited overlap with Gloucestershire is identified.

2.8 The strongest identified links with neighbouring areas are Swindon and Wiltshire, where the Swindon/M4 FEMA covers the southern parts of Cotswolds, and a broader South Worcestershire FEMA which extends into Cotswold, Tewkesbury, and Cheltenham.

b) Local Enterprise Partnerships (LEP)

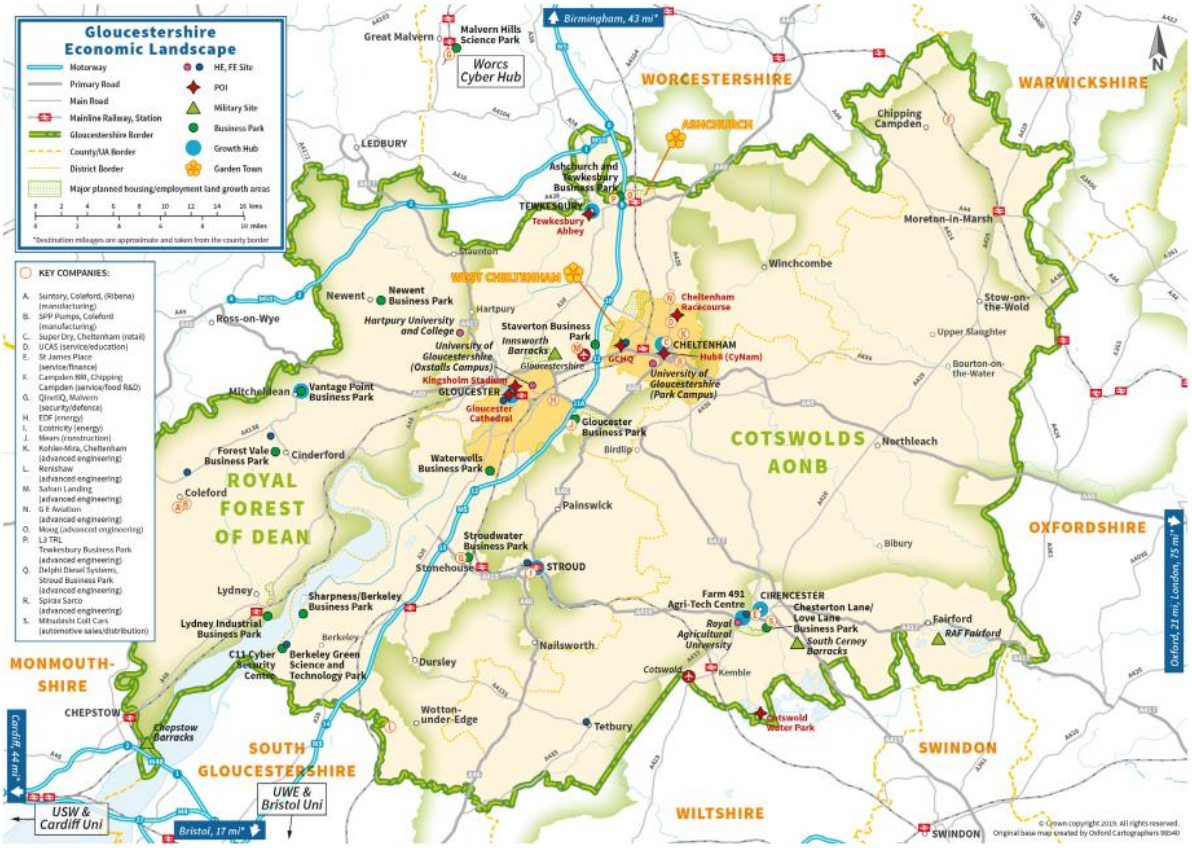
2.9 The GFirst LEP covers all six Gloucestershire authorities in their entirety. Unlike many areas, there is no overlap with neighbouring LEP areas.

2.10 The GFirst LEP is in the process of producing its Local Industrial Strategy (LIS) which is currently at draft stage. The draft LIS sets out a map (Figure 1) of the LEP area showing the location of key economic assets, transport links, and key companies and contributors to the

Gloucestershire economy. While, this is an indicative map and doesn't show all the economic assets across the county, it is useful for providing an overview of the LEP area's economic geography.

2.11 This shows the highest concentration of economic assets focussed in the centres of Cheltenham, Gloucester, and Cirencester. In addition, there is a cluster of assets in south west Stroud district.

Figure 1. GFirst LEP Map of Key Local Assets



Source: GFirst LEP

c) Transport Links

2.12 The maps above and below show the major transport links across Gloucestershire. The M5 runs through the centre of Gloucestershire linking many of the county's main settlements and key economic assets.

2.13 The M50 runs across the north of Forest of Dean linking Ross-on-Wye and the M5. However, this does not provide strategic road access to any of the LEP's key sites.

2.14 The geography of the River Severn means transport links to Forest of Dean come through Gloucester along the A40 and A48 which joins the M48 at the south of the district providing motorway links into South Wales and over the Severn Bridge to Bristol and the M4. Similarly, the area is served by the Gloucester to Newport rail line providing an hourly service between Cardiff and Cheltenham.

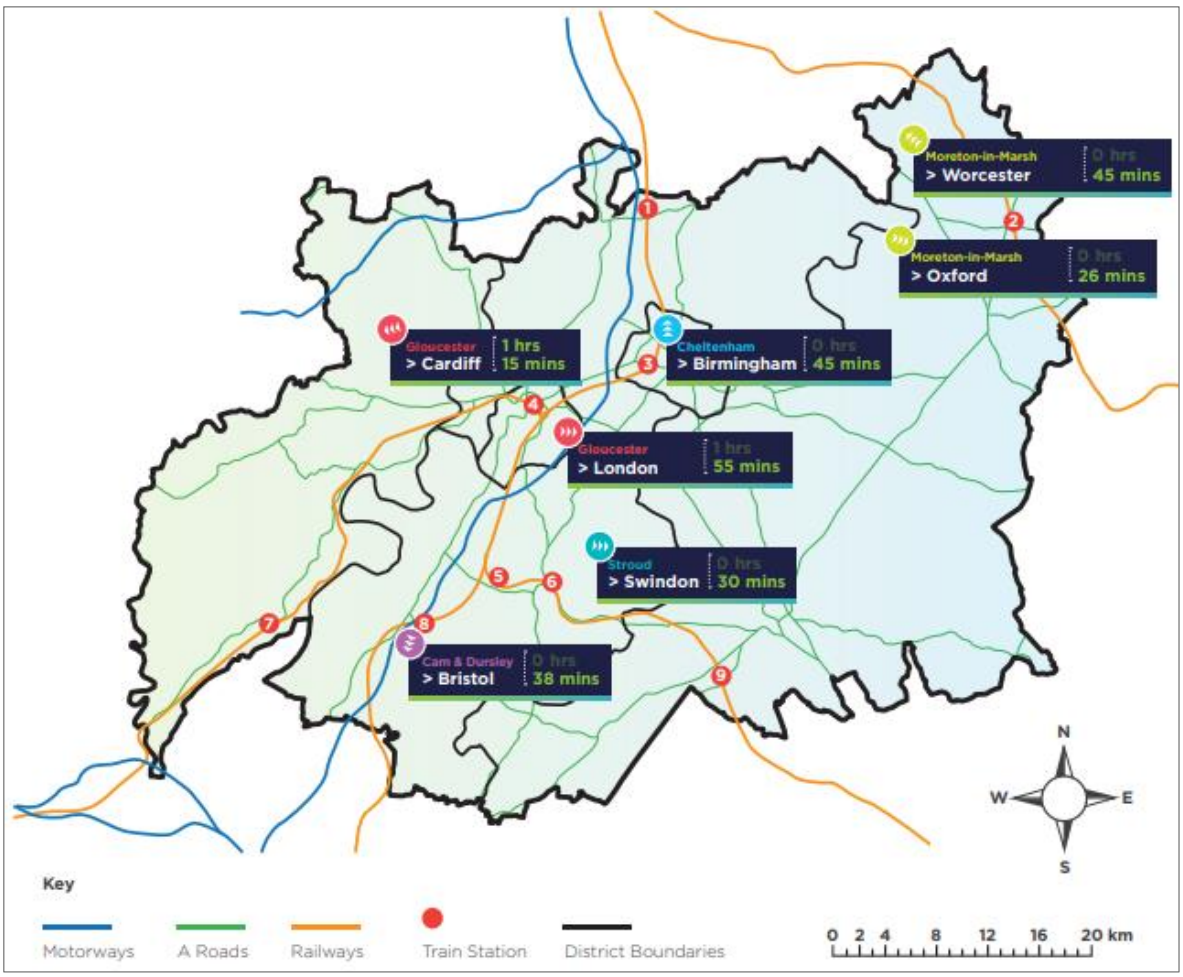
2.15 The map below also shows the railway network which spans Gloucestershire showing good rail links with Birmingham, Bristol, and Swindon.

2.16 In the east of the county Cirencester is the main service centre without good access to the M5. It is linked to Gloucester by the A417, Stroud and Swindon by the A419. The area is

served by the Gloucester to Swindon rail line which stops at the village of Kemble which serves passengers from nearby Cirencester.

2.17 The north of Cotswold is served by the A429 running north-south to Cirencester and Leamington Spa, however this area has less strong transport links with the rest of the county. Moreton-in-Marsh is on the Cotswold Line rail line between Worcester and Oxford but does not provide connections to the rest of the Gloucestershire.

Figure 2. Gloucestershire Strategic Road and Rail Map



Source: GFirst LEP

2.18 As well as existing infrastructure we have assessed the ongoing and future infrastructure schemes in Gloucestershire and the surrounding areas to assess if any projects are likely to increase connectivity between authorities and thereby potentially alter the FEMA.

Table 3. Key Planned Infrastructure Improvements

LEP Area	Infrastructure Improvements	Source
Gfirst LEP	Improvements have been made to the A40 Elmbridge Court Roundabout. The scheme received £9million in Growth Deal Funding and was completed in September 2017. This has helped to cut congestion and improve journeys at peak times through Gloucester City, Tewkesbury Borough and Cheltenham Borough. Improvements are planned for the Gloucester South West Bypass/A430 to widen carriageway to two lanes and thereby improving traffic flow through the city. This scheme has £2million in Growth Deal Funding and planning permission approved, although land acquisition negotiations are still ongoing. The main scheme road works are due to start in 2020/21, and it should improve connectivity within the region. Improvements are planned to the A4173 'missing link' to improve the connection between two dual carriageway sections of the A417 at Brockworth and Cowley, improving links between Stroud and Cirencester. The Growth Zone around Junctions 9 and 10 of the M5 are supported by a number of transport related proposals across the county which will enable the growth to be achieved through release of this employment land. The upgrade of Junction 10 of the M5 will provide a four-way vehicle intersection enabling all vehicle movement on and off the M5. Also proposals to upgrade Junction 9 (signals, widening or perhaps grade separation). There are plans for an improved rail station in Gloucester to create a transport hub with the recently completed bus	GFirst LEP Infrastructure Project Pipeline Gloucestershire County Council Rail Study

	station. This project has £3.75million in Growth Deal Funding and should ultimately improve connectivity within the region. Medium / long-terms goals to deliver half-hourly Bristol-Gloucester train service. Also to increase frequency of Gloucester-London and Stroud-London services.	
Coventry and Warwickshire LEP	No schemes would improve connectivity with the Gloucestershire Area.	CWLEP Projects and Initiatives
West of England LEP	Great Western Railway and Network Rail are reportedly keen on new plans for the MetroWest railway to be expanded to Gloucester. None of the LEP infrastructure projects extend far enough North to provide any increased connectivity with Gloucestershire.	Travel West, Draft Joint Local Transport Plan 4 Summary Document, February 2019
Swindon and Wiltshire LEP	None of the infrastructure projects are aimed at increasing connectivity towards Gloucestershire.	SWLEP Projects
Cardiff Capital Region	None of the infrastructure projects are aimed at increasing connectivity towards Gloucestershire.	Cardiff Capital Region, Industrial & Economic Plan

2.19 This assessment suggests that while the planned infrastructure improvements are likely to improve connectivity between Gloucestershire and the neighbouring areas, this is not considered likely to alter the definition of the FEMA. This reinforces the definition of Gloucestershire as a FEMA, while also recognising the links with neighbouring areas.

d) Travel to Work Areas and Commuting Patterns

2.20 The Office of National Statistics publishes Travel to Work Areas (TTWAs), the latest TTWAs were published in 2015 and are based on commuting data from the 2011 Census. The TTWAs aim to identify self-contained labour market areas in which the majority of commuting occurs within the boundary of the area.

2.21 The TTWAs were developed as approximations to self-contained labour markets, i.e. areas where most people both live and work. As such they are based on a statistical analysis rather than administrative boundaries.

2.22 In terms of self-containment rates ONS's notional target for a Travel to Work Area is for at least 75% of an area's resident workforce to work in the area and at least 75% of the people who work in the area to also live in the area. However, for areas where the working population is in excess of 25,000, self-containment rates as low as 66.66% were accepted. The area must also have had a working population of at least 3,500.

2.23 Using this approach ONS have identified a network of 228 TTWAs covering the country. However, it should be recognised that in practice it is not possible to divide the UK into entirely separate labour market areas as commuting patterns between areas are too diffuse.

2.24 The TTWAs covering Gloucestershire and surrounding areas are shown in the figure below. This shows a relatively low level of correlation between the TTWAs and the local authority and LEP boundaries in Gloucestershire.

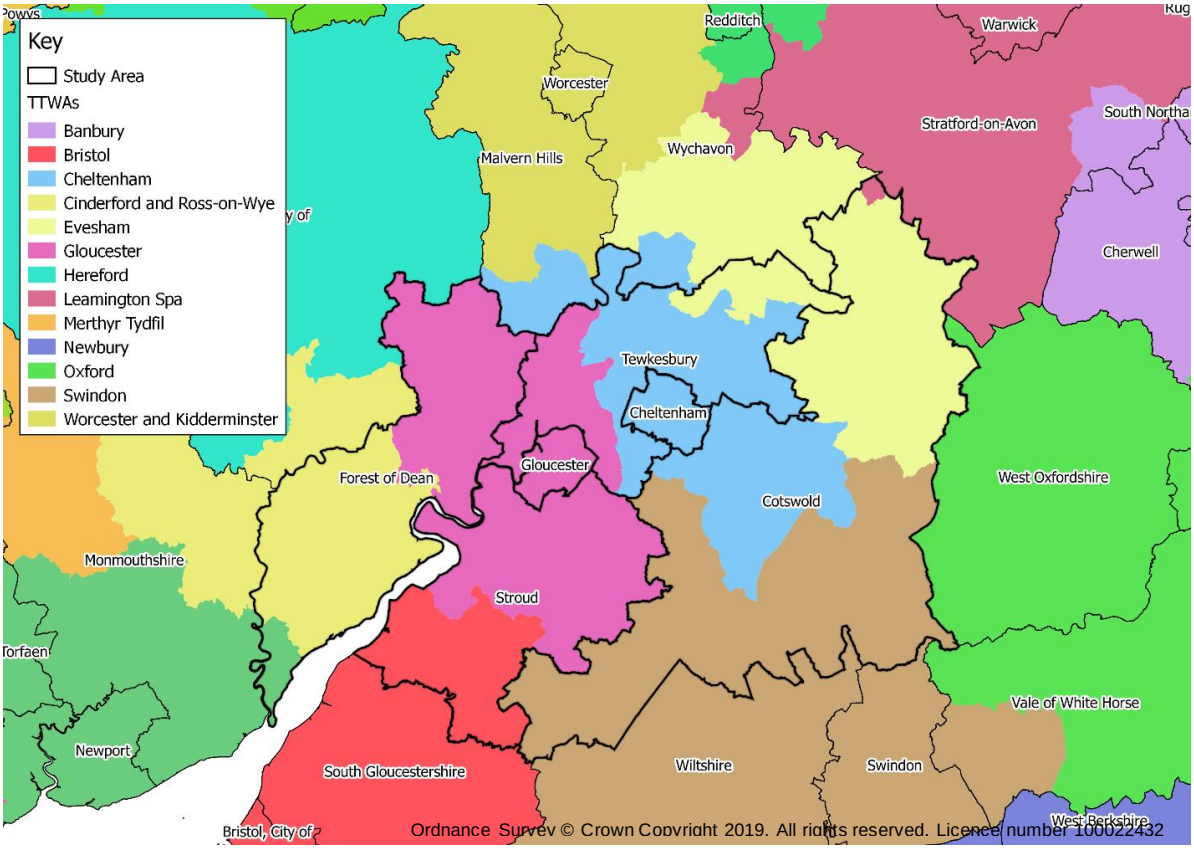
2.25 There are two TTWAs which cover the majority of Gloucestershire:

- There is a Gloucester TTWA centred around Gloucester and extending across the northern half of Stroud and the Forest of Dean, and the western part of Tewkesbury.
- A separate TTWA centred around Cheltenham covers the central part of Tewkesbury and the centre of Cotswold as well as the southern tips of Malvern Hills and Wychavon.

2.26 In addition, there are several parts of Gloucestershire covered by other TTWAs:

- The southern part of Stroud falls within a Bristol TTWA.
- Cotswold is split with the south of the district within a Swindon TTWA and the north of the district falling within the Evesham TTWA, which also covers part of Tewkesbury.
- Most of the southern half of Forest of Dean is within the Cinderford and Ross-on-Wye TTWA, with the southern tip within the Newport TTWA.

Figure 3. Travel to Work Areas



Source: SPRU analysis of ONS data

2.27 The TTWAs are based on commuting flow data from the 2011 Census. SPRU have used this data in order to assess commuting patterns in greater detail. This allows a range of more detailed analysis:

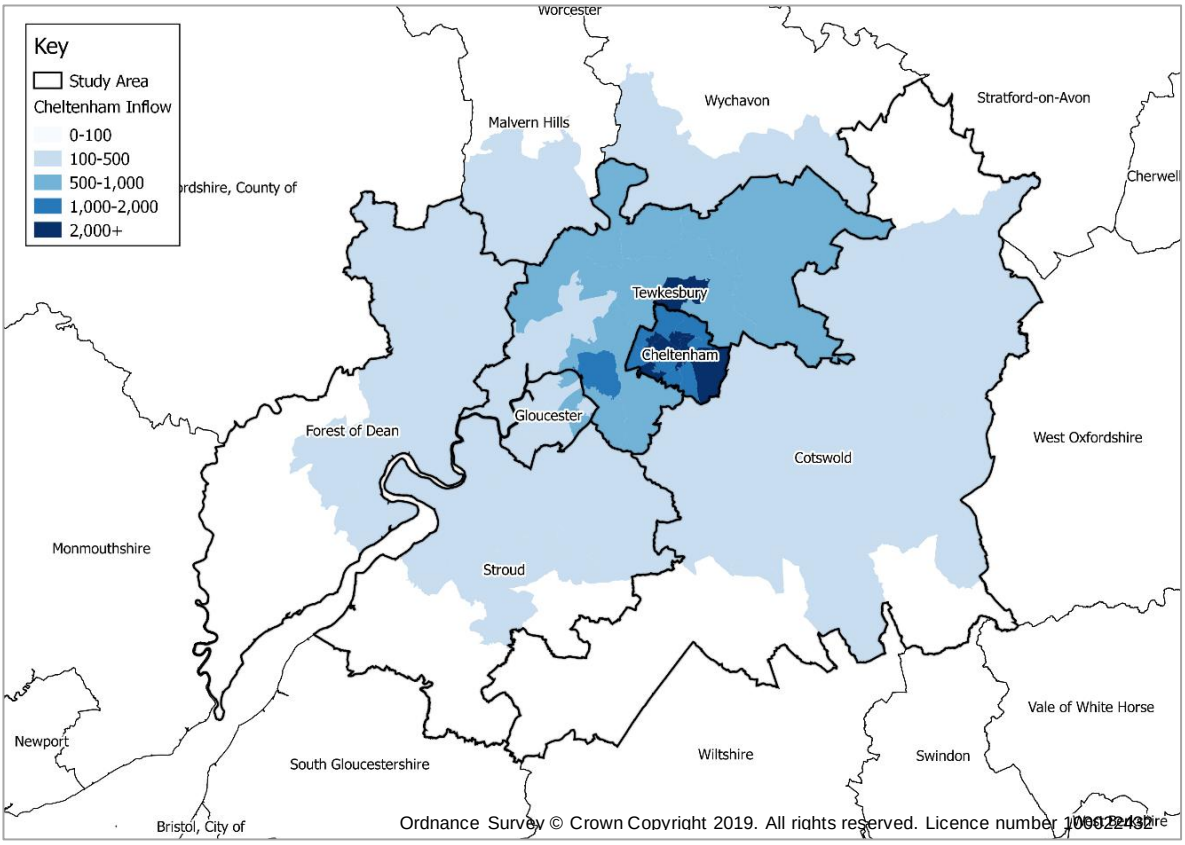
- It shows the extent to which TTWAs overlap – this is of particular importance with regard to the Gloucester and Cheltenham TTWAs;
- It also takes account of settlements which are not identified as the centre of a TTWA in their

own right, such as Stroud, Cirencester, and Tewkesbury;

- It shows the strength of flows within a TTWA.

2.28 The following figures have been produced by SPRU based on the 2011 Census data which underpins the ONS TTWAs. Each figure shows the commuter catchment areas of the main settlements within Gloucestershire and the neighbouring areas. The analysis shows the total number of people commuting into each settlement from surrounding areas.

Figure 4. Cheltenham Commuter Catchment



Source: SPRU analysis of 2011 Census data

Figure 5. Cinderford Commuter Catchment

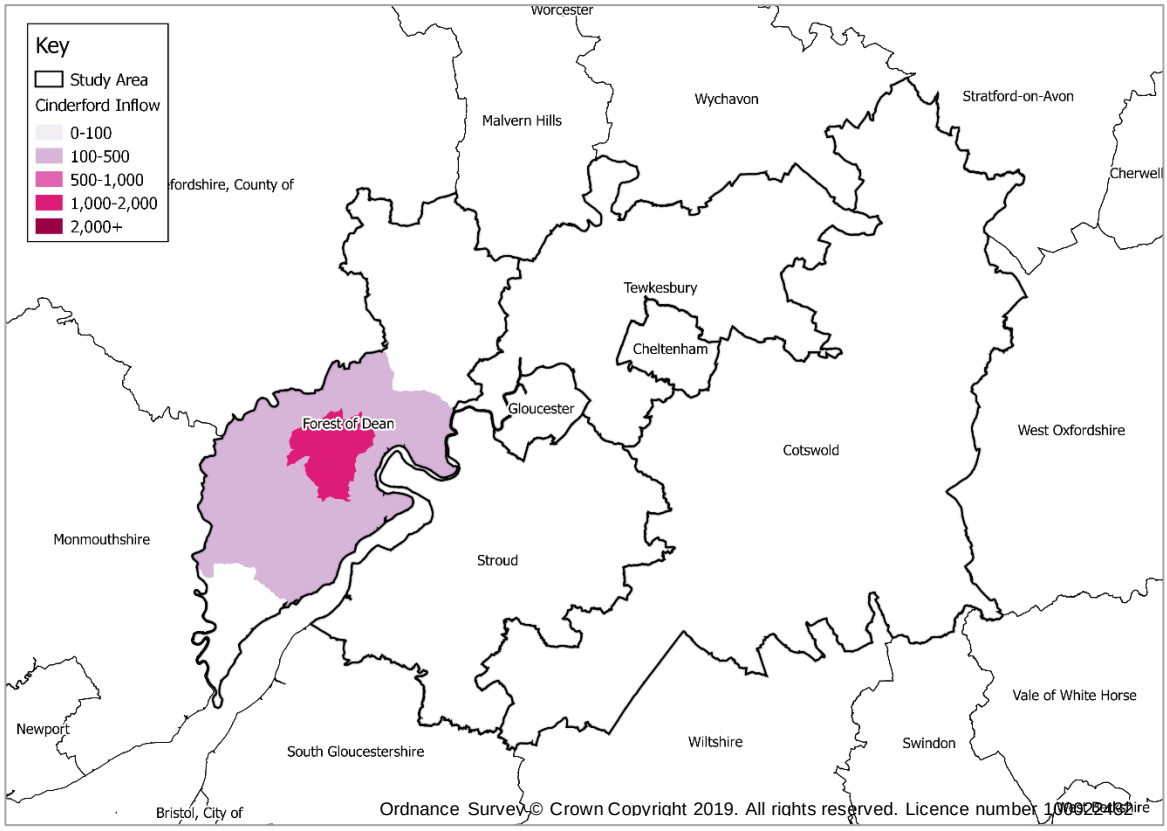


Figure 6. Cirencester Commuter Catchment

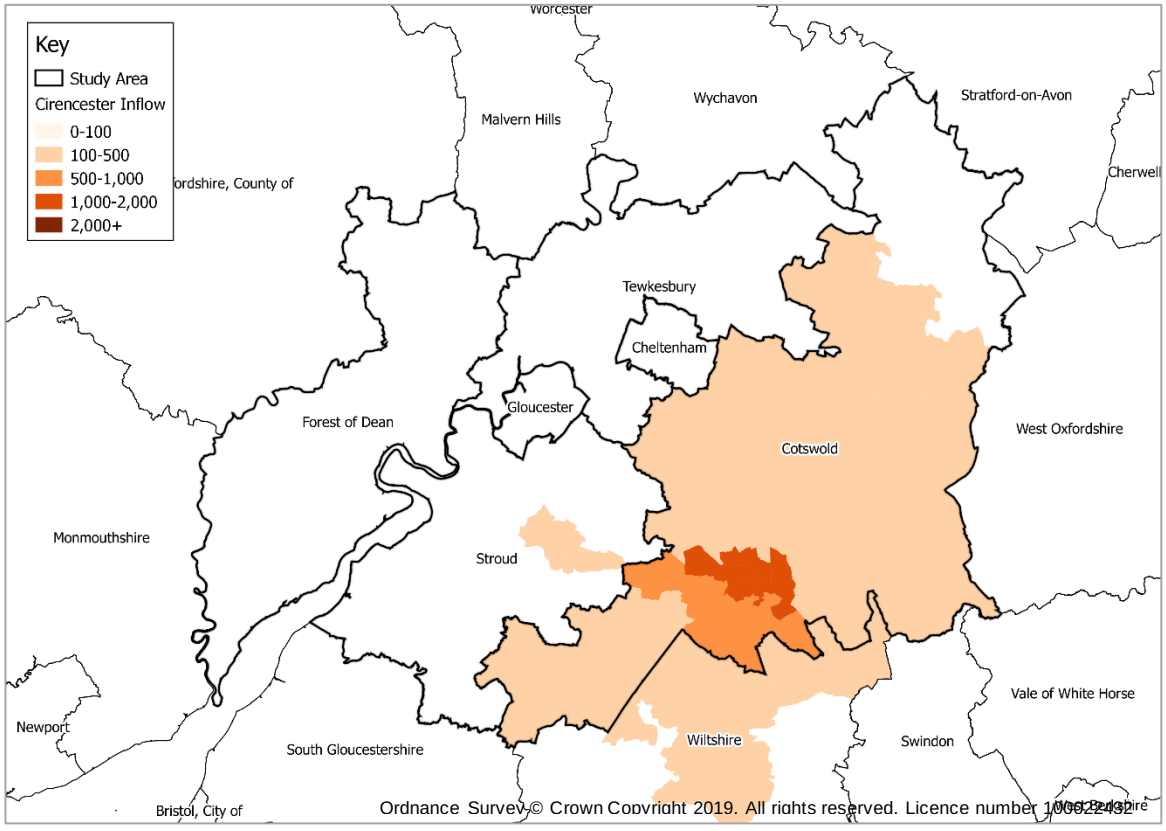


Figure 7. Gloucester Commuter Catchment

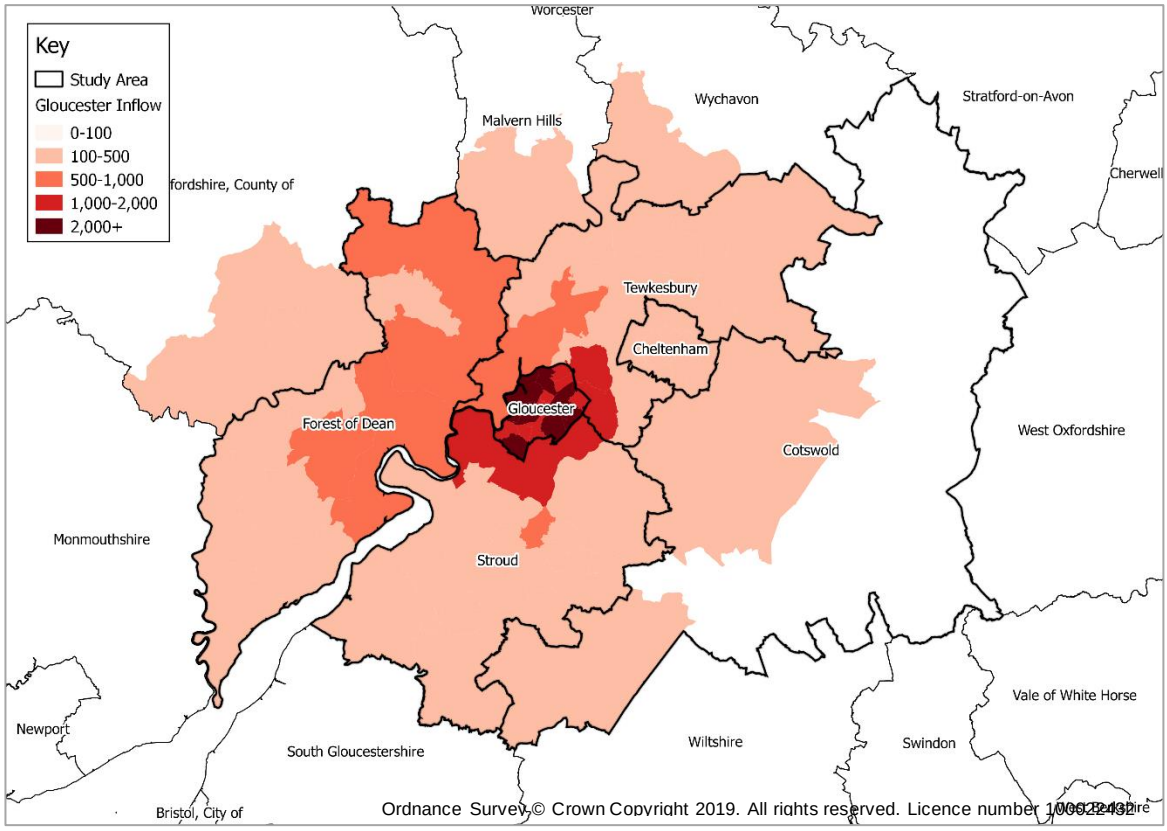


Figure 8. Stroud Commuter Catchment

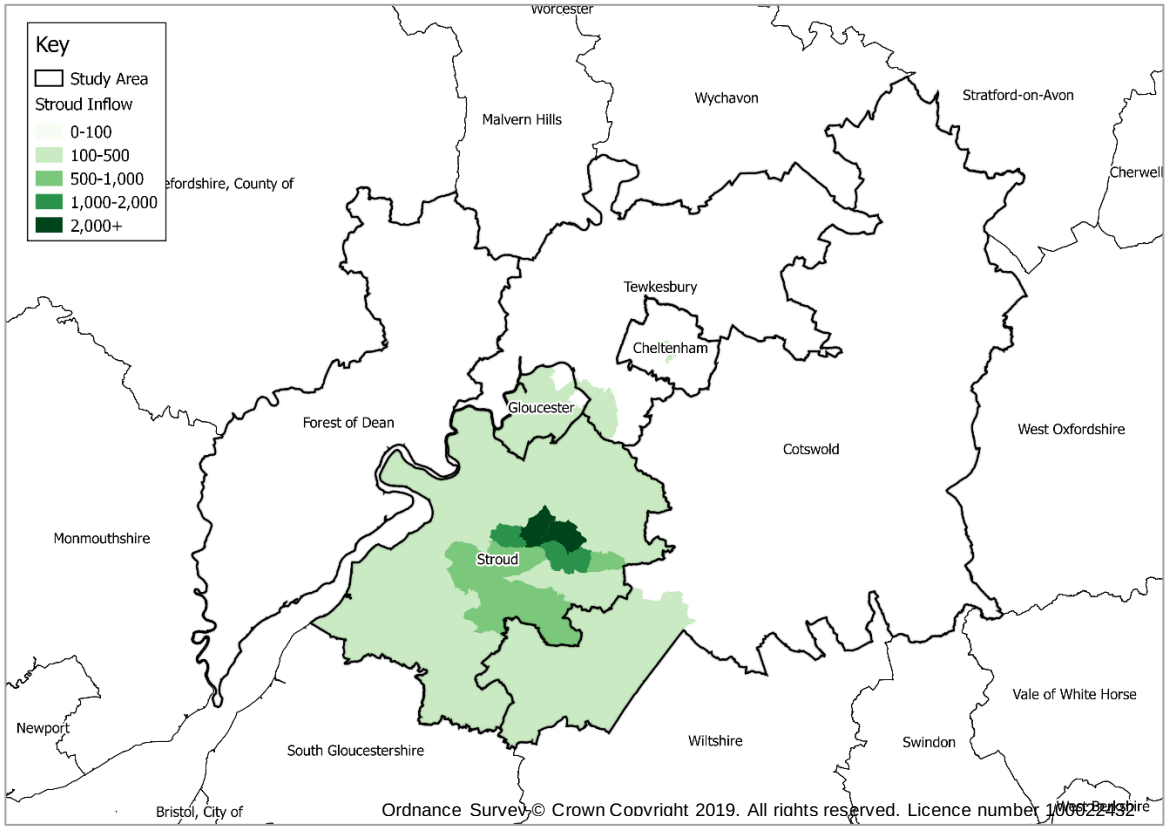


Figure 9. Tewkesbury Commuter Catchment

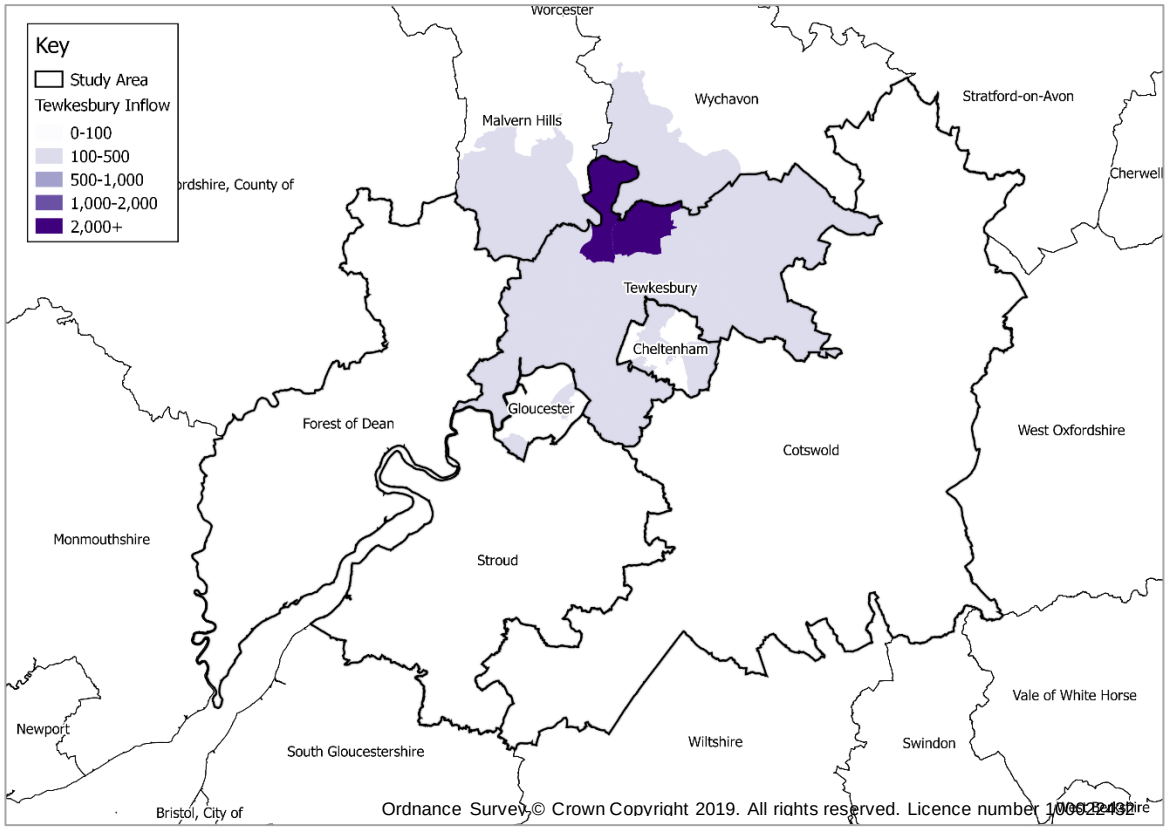


Figure 10. Surrounding Settlements Commuter Catchments

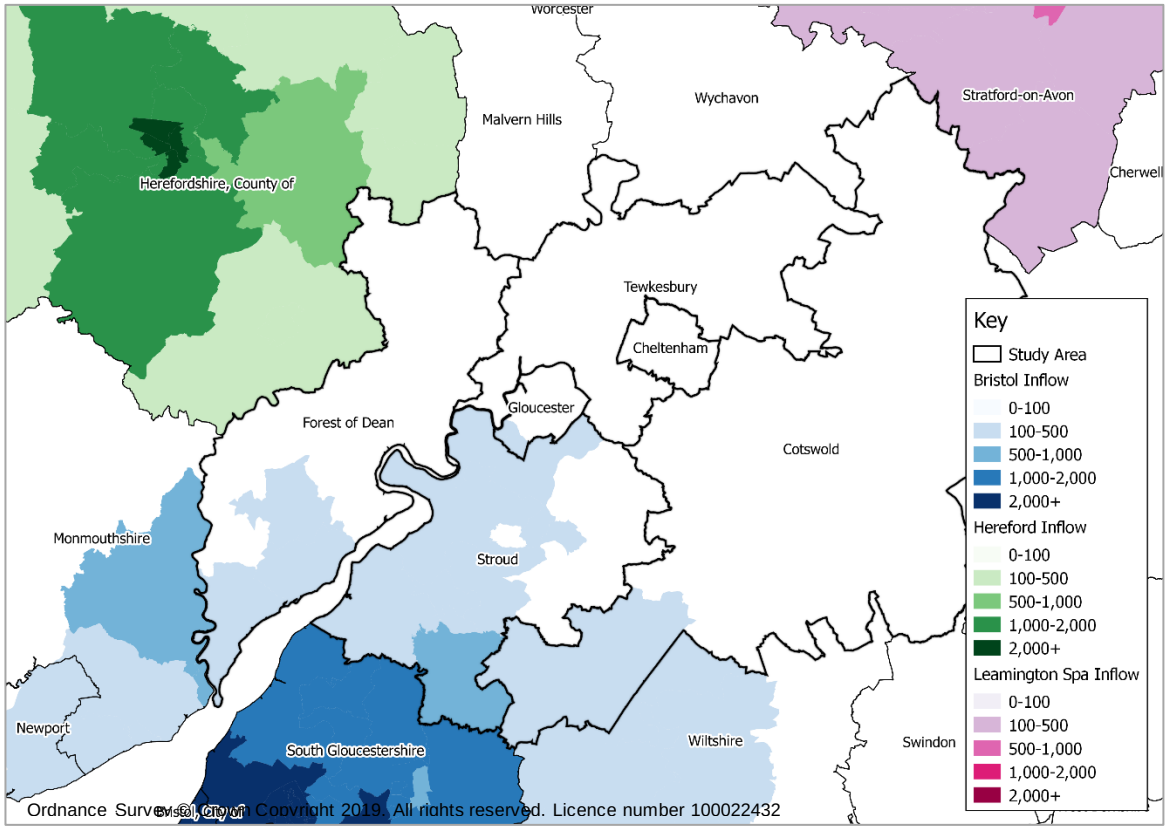


Figure 11. Surrounding Settlements Commuter Catchments

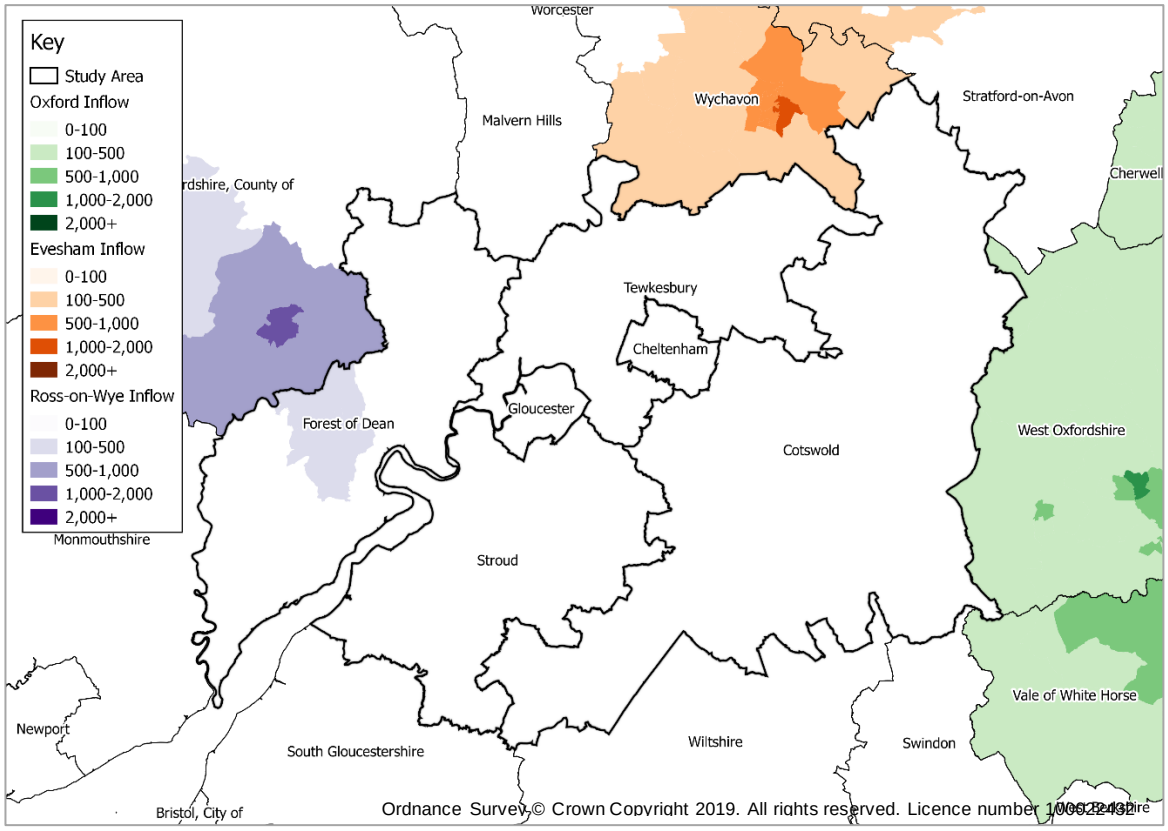
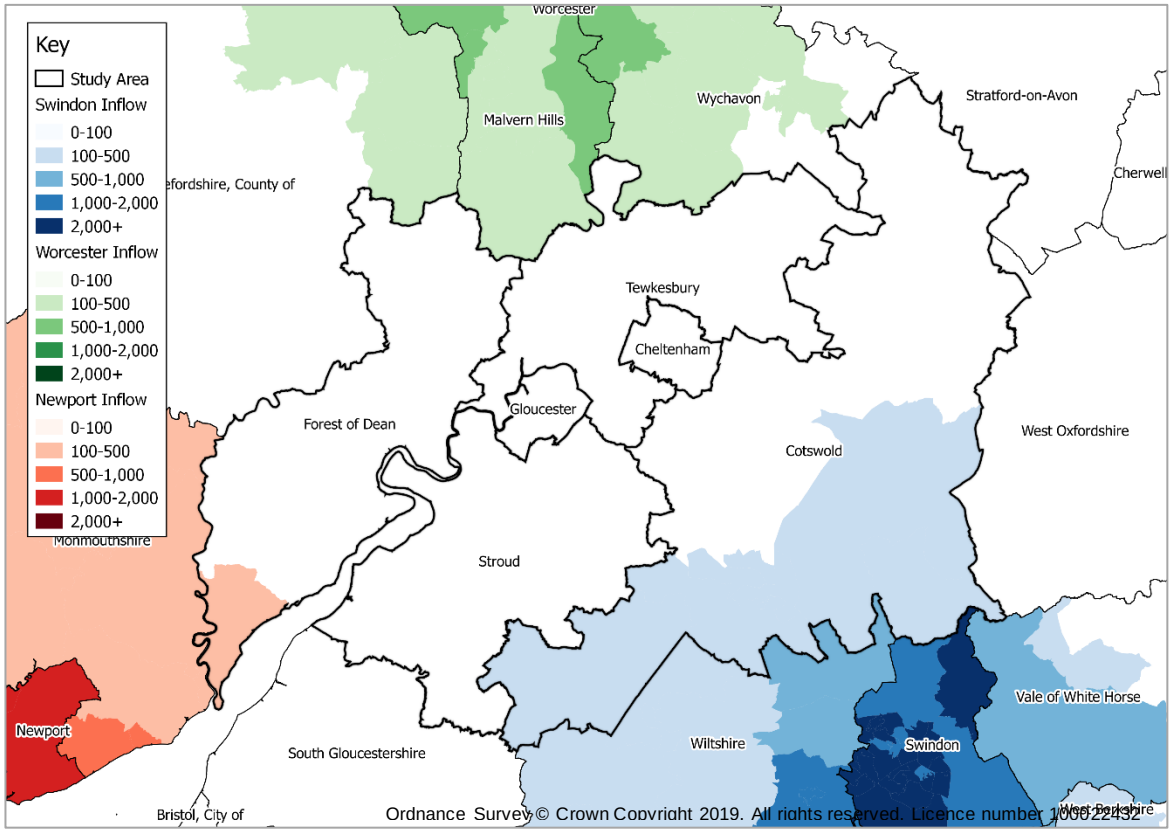


Figure 12. Surrounding Settlements Commuter Catchments



2.29 Consideration of the commuter catchment maps raises the following observations:

- Generally, the commuter catchment areas of the settlements within Gloucestershire show reasonably strong self-containment within the county.
- There is a high level of overlap between Cheltenham, Gloucester, and Tewkesbury which suggests overlapping, rather than distinct, TTWAs for Cheltenham and Gloucester.
- The Cheltenham, Gloucester, and Tewkesbury commuter catchment areas stray into the southern edges of Malvern Hills and Wychavon. However, the commuter catchment areas for Worcester and Evesham show little overlap southwards into Gloucestershire.
- The Cirencester commuter catchment area strays into Wiltshire while is also significantly covered by the Swindon commuter catchment area. It also extends westward along the A419 into Stroud.
- With the exception of the Bristol commuter catchment area, which covers a very large area, the commuter catchment areas for neighbouring areas mostly do not stray across the Gloucestershire County boundary. This is particularly true on the north and west of the County where the commuter catchment areas of Herefordshire, Worcester, Evesham, Leamington Spa, and Oxford all show little overlap with Gloucestershire.

e) Self-Containment Rates

2.30 When assessing the FEMA it is important to consider where people live and work and functional relationship and flows between places. This section considers the commuting self-containment rates for different areas and agglomerations of areas.

2.31 The commuting self-containment rates are shown in Table 4. Self-containment can be calculated two ways:

- Resident self-containment – This is a measure of the resident population of an area. The resident self-containment rate is the proportion of working residents in an area who also work within that area.
- Workplace self-containment – This is a measure of people who work in an area. The workplace self-containment rate is the proportion of workers in an area who also live within that area.

2.32 For example, Forest of Dean has a large difference between the resident and workplace self-containment rates. The high workplace self-containment rate shows that 72% of workers in the district also live there, indicating a predominantly localised workforce and relatively low in-commuting. Conversely the relatively low resident self-containment rate shows there is significant out-commuting to other areas.

Table 4. Commuting Self-Containment Rates – Local Authorities

	Resident Self-Containment	Workplace Self-Containment
Cheltenham	60%	55%
Cotswold	54%	51%
Forest of Dean	51%	72%
Gloucester	56%	53%
Stroud	54%	64%
Tewkesbury	39%	34%

Source: SPRU analysis of 2011 Census data

2.33 This shows that none of the local authorities have self-containment rates above the 70% threshold used by ONS in their TTWA analysis. Tewkesbury in particular has a very low self-containment, due primarily to its strong links with Cheltenham and Gloucester.

2.34 We can therefore consider the self-containment of Cheltenham, Gloucester, and Tewkesbury (the JCS area) which has a resident self-containment rate of 80% and a workplace self-containment of 74%.

2.35 We also consider the strength of linkages between the JCS area and the other Gloucestershire authorities. Adding Stroud and Forest of Dean to the JCS area shows increases to the self-containment rates indicating strong flows between these districts and the JCS authorities, suggesting they form a single market area.

2.36 Adding Cotswold to the JCS area reduces the self-containment slightly to 79%/73%. However, the strong links between Cotswold and Stroud mean that the addition of Stroud and Cotswold combined increases the self-containment. This indicates that Cotswold's links are disproportionately stronger with Stroud than the JCS area.

2.37 Overall, all of the Gloucestershire authorities combined have a self-containment rate of 83%/84%. This is higher than any other combinations of these authorities.

Table 5. Commuting Self-Containment Rates – Local Authorities

	Resident Self-Containment	Workplace Self-Containment
Cheltenham, Gloucester, Tewkesbury	80%	74%
Gloucestershire	83%	84%

Source: SPRU analysis of 2011 Census data

2.38 Table 6 shows the level of resident and worker containment within Gloucestershire for each authority. This shows for example that 89% of Cheltenham residents who work, work within Gloucestershire; conversely, 88% of people who work in Cheltenham live within Gloucestershire.

2.39 This shows that with the exception of Cotswold, all authorities have resident and workplace containments within Gloucestershire above 70% and the majority are above 80%. In Cotswold, the residents containment rate is just below 70% (68%) while the workplace containment is 70%.

Table 6. Commuting Self-Containment Rates – Local Authorities

	% of residents who work within Gloucestershire	% of workers who live in within Gloucestershire
Cheltenham	89%	88%
Cotswold	68%	70%
Forest of Dean	77%	82%
Gloucester	91%	89%
Stroud	81%	87%
Tewkesbury	87%	80%

Source: SPRU analysis of 2011 Census data

2.40 Overall, the analysis suggests a relatively high level of self-containment within Gloucestershire. However, we can also undertake a similar analysis to assess the self-containment with surrounding and overlapping areas, in order to identify if there are any stronger links. This produces the following key findings:

- Stroud and West of England – West of England has a high self-containment of 90% /85%. Stroud and West of England combined has a slightly lower self-containment rate of 88%/85%, indicating that adding Stroud weakens the FEMA's level of self-containment. This is due to only 66% of Stroud residents working within the Stroud and West of England combined area – compared to all other West of England authorities which are over 85%.
- Cotswold, Swindon, and Wiltshire – Swindon and Wiltshire have a self-containment of 78%/83%. Including Cotswold lowers the self-containment slightly to 78%/82% as only 65% of Cotswold residents work within the three authorities compared to 77% of Wiltshire residents and 83% of Swindon residents.
- Forest of Dean and Herefordshire – Herefordshire has a relatively high self-containment rate of 80%/83%. Combined with the Forest of Dean the residents self-containment falls to 74%, as only 57% of the Forest's residents work within the two authorities.
- Forest of Dean and South East Wales – Forest of Dean has links with Monmouthshire, however Monmouthshire has stronger links to many of the other authorities in South East Wales. As a whole, South East Wales has a high level of self-containment at 92%/94%. Adding Forest of Dean lowers these rates as there are relatively small flows to areas other than Monmouthshire.
- Tewkesbury and South Worcestershire – the South Worcestershire authorities of Worcester, Wychavon, and Malvern Hills have a self-containment of 70%/72%. Tewkesbury and South Worcestershire combined has a lower rate of 66%/66% and much lower rates of containment for Tewkesbury than the other authorities.

f) Housing Market Areas

ORS have produced a report on 'Defining the Housing Market Area' for Gloucestershire. The functional market area is described as the area in which much of the population both live and work, and where those moving house without changing employment choose to live.

2.41 The Geography of Housing Market Areas report by CLG (2010) explored a range of potential methods for calculating HMA in England. The study recognised that whilst there was no single approach or data source that could provide a definitive solution to identifying HMA's, migration patterns and commuting flows were the most relevant sources of information when identifying upper tier HMAs, with house prices only becoming relevant at the more local/submarket level.

2.42 As part of this report, two different analyses were conducted to define HMAs. The first analysis suggested that the Gloucestershire authorities are spread across several HMAs centred around Hereford, Gloucester, Cheltenham, Swindon/Wiltshire and Bristol. The second, using two-tiered geography of 50% migration containment within and 77.5% commuting containment, also suggests that the Gloucestershire authorities cut across several HMAs but the main body of Gloucestershire lies within a single HMA.

2.43 Travel to work patterns based on the 2001 census identified two separate TTWAs, one for Gloucester and another for Cheltenham and Evesham, that when combined contain much of Gloucestershire. Using the 2011 census data, the Gloucester TTWA increased in size and includes Stroud, whilst Cheltenham and Evesham forming two separate HMAs.

2.44 An assessment of the travel to work patterns were also conducted. This suggested that a very high proportion of those who live in Gloucestershire also work in the area (87.3%), thereby indicating the county forms a single HMA.

2.45 Migration data was also assessed to aid defining Gloucestershire's HMA. Based on the statistics, it was concluded that a relatively high proportion of household moves are within Gloucestershire, thereby further reinforcing Gloucestershire's position as a single HMA.

2.46 The Broad Rental Market Areas takes in to account local house prices and rents and is based on where a person could reasonably be expected to live taking into account access to facilities and services. Like HMAs, BRMAs are based on functional linkages between where people live, work and access services and so were deemed a useful part of the assessment. In Gloucestershire, two clear BRMA emerged with one centred around Gloucester and the other around Cheltenham. Taken together the BRMA boundaries are closely aligned with the Gloucestershire County Boundary.

2.47 The report concludes, based on the evidence summarised above, that Gloucestershire forms a single HMA. Whilst this does not preclude overlap occurring with neighbouring HMAs, from an administrative point of view, the six Gloucestershire authorities form the most appropriate grouping.

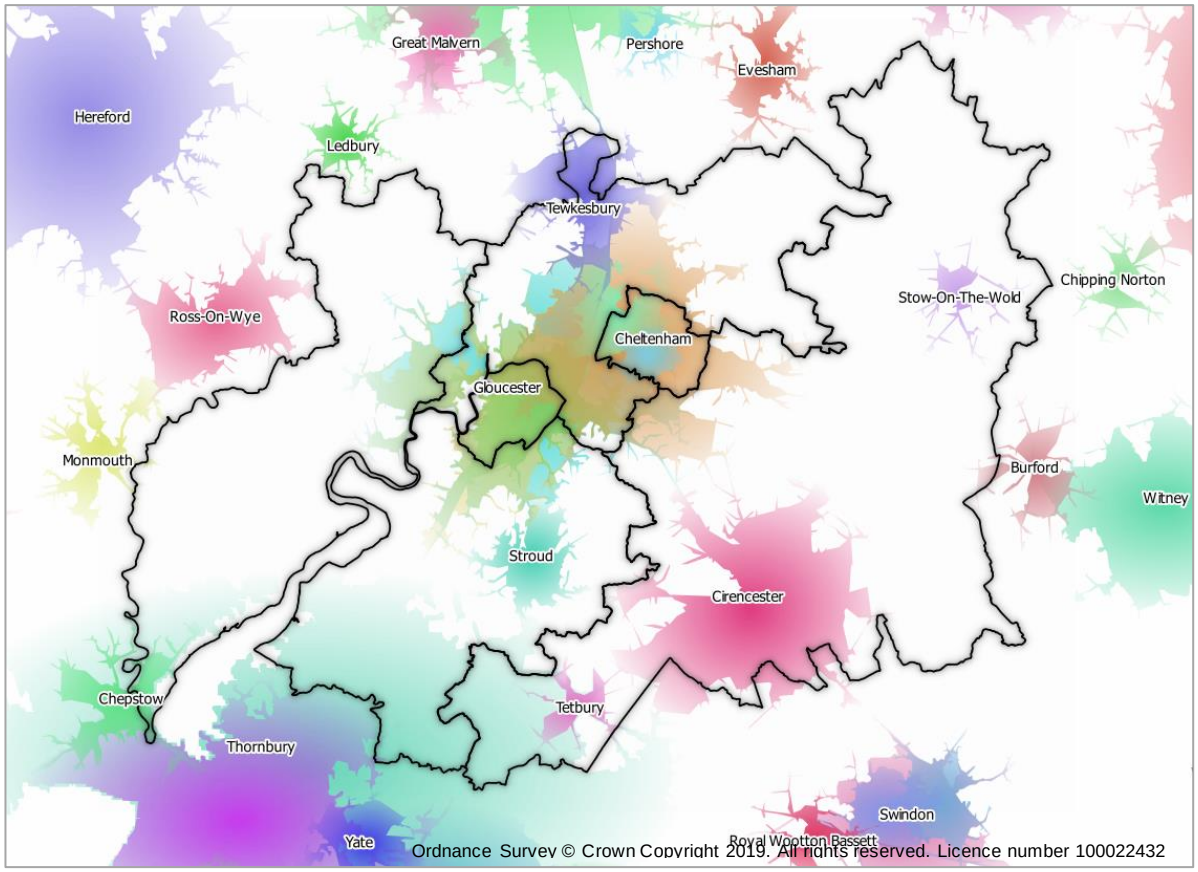
g) Service Market for Consumers and Facilities

2.48 Figure 13 shows the retail (comparison) catchment areas produced by the Consumer Data Research Centre (CDRC). The catchment areas are based on drive time isochrones to various retail centres based on the scale and geographic pull of each centre.

2.49 The retail catchment data shows the catchment areas for Cheltenham and Gloucester significantly overlapping with each other and Tewkesbury Borough. The catchment area for Gloucester extends into Forest of Dean and Stroud while Cheltenham extends into Cotswold and up to Tewkesbury. It also shows Stroud, Cirencester, Stow-on-the-Wold and Tetbury having smaller catchments which do not extend significantly beyond their district boundaries.

2.50 In the south, the catchment areas of Bristol City Centre and Cribbs Causeway spread into Stroud and the southern tip of Forest of Dean. Other than these, the CDRC data does not show significant influence from areas beyond Gloucestershire.

Figure 13. Retail Catchment Areas



Source: CDRC Consumer Data Research Centre

2.51 FEMAs can also be dictated in part by Retail and Leisure destinations. As such, using the existing evidence base, we have assessed the key retail and leisure destinations within and beyond the boundaries for each of the Gloucestershire authorities.

Table 7. Key Retail and Leisure Destinations

	Key Retail and Leisure Destinations Within the Authority	Key Retail and Leisure Destinations Beyond the Authority	Source
Cheltenham Borough	Cheltenham Town Centre; Bath Road; Caernarvon Road; and Coronation Square	Stroud Town Centre; Evesham; and Cirencester	Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Retail Study 2011-2031, Phase 1, 2011; Cheltenham Retail & Leisure Study, 2006
Cotswold District	Cirencester Town Centre; Bourton-on-the-Water; Stow-on-the-Wold; Moreton-in-Marsh; Tetbury; and Chipping Campden	Gloucester City Centre; Cheltenham Town Centre; Oxford City Centre; Tewkesbury Town Centre; Stroud Town Centre; Swindon Town Centre; and Bristol City Centre	Cotswold Retail Study Update, 2016
Forest of Dean District	Lydney; Cinderford; Coleford; and Newent	Cheltenham Town Centre; Gloucester City Centre; Monmouth; Chepstow; Ledbury; and Ross-on-Wye.	Forest of Dean District Retail Study, 2008; Forest of Dean Retail Study Update, 2011;
Gloucester City	Gloucester Town Centre; Abbeydale; Quedgeley; and Gloucester Quays	Cheltenham Town Centre	Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Retail Study 2011-2031
Stroud District	Stroud Town Centre; Cam/Dursley; Nailsworth; Wotton; and Stonehouse	Gloucester City Centre; South Gloucestershire; Bristol City Centre; and Cheltenham Town Centre	Stroud Town Centres & Retailing Study, 2016
Tewkesbury Borough	Tewkesbury Town Centre; Winchcombe; Bishop's Cleeve; Winchcombe; and Brockworth. There is also a planned new retail outlet centre at J9 of the M5.	Cheltenham Town Centre; Gloucester City Centre; Gloucester Quays	Gloucester, Cheltenham and Tewkesbury Joint Core Strategy Retail Study 2011-2031, Phase 1, 2011

2.52 This shows that for the majority of authorities the main retail and leisure destinations are either within the authority area or elsewhere within Gloucestershire – most notably in to Cheltenham and Gloucester centres. This aligns with the CDRC data which shows the retail

catchment areas of these centres extending into the other four Gloucestershire authorities.

2.53 There are also some links beyond Gloucestershire: Cotswolds has links towards Swindon, Wiltshire, and Oxfordshire; Forest of Dean towards Monmouthshire and Herefordshire; and Stroud south towards Bristol and South Gloucestershire. However, the data shows there is no other retail centre with the same level of importance as Gloucester or Cheltenham centres.

2.54 NHS services are organised into Clinical Commissioning Groups (CCGs). There is a CCG covering Gloucestershire which is a clinically led membership organisation (all 74 GP practices in Gloucestershire are members) responsible for commissioning local NHS services to meet the needs of local people.

2.55 The CCG is organised into seven localities, which are broadly aligned with the local authority areas:

- Cheltenham
- North Cotswolds
- South Cotswolds
- Forest of Dean
- Gloucester City
- Stroud and Berkeley Vale
- Tewkesbury, Newent and Staunton

h) Conclusions

2.56 The analysis in this section considered a range of factors to identify the FEMA or FEMAs which cover the six Gloucestershire authorities.

2.57 The largest commercial market in Gloucestershire is along the M5 corridor which broadly includes the majority of the county's largest employment areas and the settlements of Cheltenham, Gloucester, Tewkesbury, and Stroud. While the TTWAs show two distinct TTWAs focussed around Cheltenham and Gloucester the wide range of other evidence and further analysis of commuting flows suggests that there are significant overlaps between these areas and the data does not support separate FEMAs.

2.58 A detailed analysis of commuting flows and self-containment rates shows that all of the Gloucestershire authorities combined have a self-containment rate of 83%/84%. This represents a high level of self-containment, and is higher than any other combinations of these authorities. This provides a strong case for identifying a single FEMA covering the whole of Gloucestershire.

2.59 A similar analysis undertaken between each Gloucestershire authority and neighbouring areas outside of the county shows lower levels of self-containment with surrounding areas. This suggests that there is less justification for including any of the Gloucestershire authorities within an alternative FEMA.

2.60 Cotswold and Forest of Dean, as well as the more rural parts of Tewkesbury and Stroud authorities fall outside of the broad M5 corridor area. However, these are largely rural areas and the location of employment activities and other services is disaggregated across a number of smaller settlements but none of which are of a scale to be identified as a FEMA in their own right. The commuting flows and other data shows stronger linkages between these areas and the rest of Gloucestershire than to surrounding areas.

2.61 As with any FEMA, there are overlaps with neighbouring areas particularly at the edges of the county. In particular there are links identified between Cotswold and Swindon/Wiltshire; Forest of Dean and Herefordshire; Cheltenham and Tewkesbury and South Worcestershire; and Stroud with South Gloucestershire/West of England.

2.62 On the balance of evidence, and adopting a 'best fit' approach to local authority boundaries, it is concluded that the six Gloucestershire authorities can be considered to form a single FEMA.

3.0 POLICY REVIEW

a) National Strategies

Building a Britain Fit for the Future

3.1 In November 2017 the government published Building a Britain fit for the future which sets out the overarching industrial strategy for the UK. The first part of the strategy includes a series of policies which impact on all sectors of the economy titled the 'Five Foundations'. These are considered the "essential attributes" for a successful economy and include:

- Ideas (R&D, innovation)
- People (skills and education)
- Infrastructure (broadband, energy, transport)
- Business environment (support for specific sectors and SMEs)
- Places (Local Industrial Strategies)

3.2 One of the key commitments made through the industrial strategy is for the total R&D expenditure to increase. The Industrial Strategy Challenge Fund is a "core pillar" of this commitment and includes a £4.7 billion commitment to businesses seeking funds to research and develop technology or processes related to the aims of the industrial strategy.

3.3 The second part of the report includes details of a series of partnerships with individual sectors and the government including the 'Sector Deals'. These Sector Deals include a bespoke arrangement between the government and industry with each involving three main elements:

1. An industry council to facilitate discussions between industry leaders, government officials and Ministers, and leading academics.
2. Access to a competitively awarded fund for R&D in the sector.
3. Policies to support the development of the skills needed in the sector

3.4 To date a range of Sector Deals have been announced covering the follow key areas:

- Aerospace
- Artificial Intelligence
- Automotive
- Construction
- Creative industries
- Life sciences
- Nuclear
- Offshore wind
- Rail
- Tourism

3.5 The third aspect of the strategy involves a series of challenges facing the economy. Highlighting how solving these challenges will help the whole economy to strengthen and develop. The 'Grand Challenges' identified include:

- AI and the data revolution (how to embed and maximise the advantages of AI and data)
- Clean growth (low carbon technologies across the economy)
- Mobility (low carbon transport, automation, infrastructure)
- Aging society (healthcare and labour market challenges)

b) Regional Strategies

i) A Powerhouse for the West (Metrodynamics, July 2019)

3.6 This report was commissioned by Bristol, Cardiff and Newport City Councils. The report considers a potential 'Powerhouse for the West' which would stretch along the M4 corridor from Swindon and across the Welsh border to Cardiff and Swansea and in the north from Gloucester and Cheltenham to Bath and Bristol. The concept of this powerhouse notion is that through devolution and encouraging regional collaboration the respective Councils could drive inclusive growth at scale.

3.7 The report highlights distinct strengths in three key sectors and also two potential high growth sectorial opportunities:

- Advanced manufacturing and engineering – including specialisms in aerospace (and defence), automotive, robotics, composites, compound semi-conductors and microelectronics with global companies, such as Airbus, TATA and BAE Systems.
- Creative and digital media – with the Creative Industries Sector Deal highlighting Bristol, Cardiff and Cheltenham as high growth creative clusters, and some very strong cyber clusters, including in Cheltenham.
- Finance, business and professional services – with Admiral Insurance based in Cardiff, Zurich in Swindon, and with the 'big four' consultancy firms having major regional offices in Bristol and Cardiff.
- Clean energy and low carbon – the region have particular strengths in renewable energy, tidal and marine energy, as well as nuclear energy, which represent important growth opportunities.
- Health and life sciences – the second Life Sciences Sector Deal refers to 'The Great West' opportunity for growing life sciences, linked to existing technology and digital strengths in AI, high performance computing and quantum technologies.

3.8 The report also covers five key areas of collaboration that can enable the Powerhouse to achieve its potential. These include:

- Industrial Strategy – "Build much better linkages across its areas of sectoral strength in order to deepen specialisms, strengthen supply chains and further accelerate innovation"
- Great Western Crossrail – "Improve transport connectivity, unblocking bottlenecks across the M4 and M5, spreading the benefits of the removal of tolls from the Severn Bridge, and increasing the speed and frequency of trains between the major hubs"
- Internationalisation, trade and investment – The region is losing out "because it does not have a co-ordinated approach to internationalisation and is not leading its own trade missions to key global markets"
- A Productivity and Innovation Observatory "The region is home to strong concentrations of data expertise and capacity. Better use of data is key to both understanding productivity at a more granular level and spreading innovation"
- Inclusive growth – "Whilst the region is generally an economically high performing one, there are significant pockets of deprivation, low skills, and low pay in some of the cities and in rural areas"

3.9 The report reiterates those key economic strengths present in Gloucestershire and provides insight into potential locational growth options should the 'Powerhouse for the West' concept continue to progress.

ii) South West and South East Wales Science and Innovation Audit (Department for Business, Energy & Industrial Strategy, 2017)

3.10 The SWLEP is a party to the South West and South East Wales Science and Innovation Audit (SIA) which has reported to government on priorities for R&D and innovation. Its main theme is maintaining industrial, intellectual, and entrepreneurial capability in digital innovation and advanced engineering. However, the SIA is a cross-regional study and overlooks local nuances; for example in the Swindon and Wiltshire area, our lack of higher education and associated research infrastructure is a R&D and innovation priority and the SIA does not acknowledge the level of R&D and innovation which takes place amongst our businesses.

Aerospace and Advanced Engineering

3.11 The SWW region is renowned for its aerospace sector and strengths in advanced engineering.

3.12 The SIA concludes that a broader strategy to protect and enhance capabilities in the Industrial Value Chain is essential. Specifically, High Value Engineering Design and System Integration skills (e.g. whole structure, sub-structure and propulsion) are core to the region and core to the protection of longer term manufacturing competitiveness. Additionally, the co-location of capabilities around an Advanced Engineering Campus, at the Bristol and Bath Science Park and at Oceansgate in Plymouth, National Composites Materials Centre (Bristol), The Institute for Advanced Automotive Propulsion Systems (Bath)

New Energy Systems

3.13 The SIA highlighted a number of clusters of industrial and R&D activity across the SWW, which have specific geographical requirements, and in some cases important synergies with neighbouring regions. An overriding finding was the need for greater integration of expertise across the diverse elements of the energy sector.

3.14 Marine Renewables – clusters of specialist industrial and academic activity spread across the region, but with significant infrastructure in the far South West. There is an important wider geographical linkage across to Southampton, which is reflected in the development of the South Coast Marine Cluster.

3.15 Hydrogen / Fuel Cells – a corridor of technical expertise, specialism and capacity exists along the M4, from the Hydrogen hub at Swindon through to Cardiff, including the research centres at Baglan (University of South Wales) and Bath.

3.16 Nuclear – activity is centred on the M5 corridor running from Gloucestershire (EDF Energy Generation at Barnwood, Magnox at Berkeley, and Horizon Nuclear in Gloucester), Bristol and Somerset, with the nuclear skills centre at Bridgwater, EDF's national learning and development centre, and new build at both Hinkley C and the proposed site at Oldbury.

3.17 Distributed energy systems and smart grids – The SIA also revealed an emerging cluster of excellence and good practice in underpinning technologies related to distributed energy systems and smart grids, which will have relevance across many new energy technologies. The need for innovation in digital technology capability was also strongly evident in this theme.

3.18 Academic and industrial capabilities in nuclear operation, new build and decommissioning particularly centred on the Bristol-Oxford Nuclear Research Centre, with a strong and complementary industrial R&D capability, as well as significant innovation and skills infrastructure (Somerset Energy Innovation Centre, the approved Enterprise Zone at Huntspill, National College for nuclear at Bridgwater college and the Gloucestershire Science and Technology Park at the old Berkeley nuclear laboratories)

3.19 The Berkeley site in South Gloucestershire is a potentially significant asset for the SIA region. Home of the decommissioned nuclear power station, most of the site has been taken over by South Gloucestershire and Stroud College, and is being developed in partnership with the University of Gloucestershire and GFirst LEP as the Gloucestershire Science and Technology Park. Magnox and Cavendish Nuclear have a presence there, and Growth Deal funding is supporting the development of skills training, business support, and computing/cyber capacity.

Next Generation Microelectronics

3.20 The SWW has a long history of microelectronic, photonic and semiconductor companies, as well as world-leading system integrators such as GE and BAE systems. It is home to the largest silicon design cluster outside of the USA and will shortly host the Compound Semiconductor Applications Catapult (Cardiff)

3.21 The economic importance of the sector is widely acknowledged and forms a key component of the economic strategy of a number of the region's LEPs, including the West of England Skills Strategy and the Heart of the South West's Smart Specialisation Strategy. Similarly, the Welsh Government is co-investing heavily in compound semiconductor R&D

Digital Living Innovation

3.22 Thematic applications areas include digital health, digital creative economy, smart cities and transport. Underpinning technology areas include cloud computing (including communications and Internet of Things), Digital Media (including Virtual / Augmented Reality, Creative media), and Robotics / Autonomous Systems. The need for sustained investment in integration of expertise in digital innovation was clearly articulated in the SIA with a strong industry pull.

Resilience, Environment and Sustainability

3.23 The SIA has surfaced the extensive, vibrant and internationally excellent capability, assets, university and research organisation activity in the region and builds on a broad environmental goods and services sector, alongside regional priority sectors in environmental futures, agri-food / tech, energy, digital, water, low carbon and high value manufacturing.

c) Economic Strategies in Gloucestershire

i) GFirst Local Enterprise Partnership (LEP)

3.24 The GFirst LEP was established in 2011 as one of 38 Local Enterprise Partnerships in England. Its sphere of influence covers the country of Gloucestershire and the local authorities of Gloucester, Cheltenham, Tewkesbury, Stroud, Cotswold and Forest of Dean. The Strategic Priorities set out in the LEP's publication have sought to strongly align to the 'five foundations of productivity' identified in the UK Industrial Strategy, to enable direct responses to Government.

ii) GFirst LEP Strategic Economic Plan 2018

3.25 The GFirst LEP's Strategic Economic Plan for Gloucestershire fully refreshes the initial SEP created in 2014. This is a non-statutory document which sets out a series of Strategic Priorities for the LEP and outlines the achievements following the initial SEP. This is helpful in establishing an economic trajectory driven by the LEP and associated funding. Noted achievements for the LEP area include:

- October 2014 to 2018 - The Growth Hub opens and expands across the County
- August 2016 - Gloucestershire Airport South Camp
- June 2017 and July 2018 - Farm491 opened across 2 sites providing state of the art space

for Agri-tech innovation

- September 2017 - GREEN opens at Berkeley (the Gloucestershire Renewable Energy, Engineering and Nuclear Skills Centre)
- November 2017 - Berkeley Cyber Security centre opens
- September 2018 - Gloucestershire College Cinderford campus opened in the Forest of Dean
- October 2018 - Gloucester Transport Hub opened

3.26 The 2018 SEP sets out a detailed SWOT analysis which highlights the counties strengths, weaknesses, opportunities and threats. This also provides a broad context of the county's economic position and the high-level points included in the SWOT are detailed below:

Table 8. SWOT Analysis of Gloucestershire's Economic Position

Strengths	**Weaknesses**
Emerging Cyber specialism: sector and skills GCHQ & proposed National Cyber Innovation Centre in Cheltenham Above average number of businesses are 'innovation active' Excellent countywide access to business support via The Growth Hub network	Failure to attract and/or retain enough talented young people Under exploited export potential Capacity Constraints in the highways network: • M5 J10 (a restricted junction) • A417 – The 'Missing Link'[1] • M5 J9/A46 (junction at capacity in peak hours) • A40 to west of River Severn • A40 between Cheltenham and Gloucester centres
Opportunities	**Threats**
Cyber security sector of international significance Cross LEP working within key sectors, particularly Cyber Productivity growth improvements Employment and Skills Board strengthening partnerships between education and business	Uncertainty surrounding the impact of BREXIT to the economy locally as well as nationally Lack of suitable premises for high value businesses Businesses unable to fill skilled vacancies Skills gaps and shortages in some sectors

Source: GFirst LEP

[1] There are now plans to improve the connection between two dual carriageway sections of the A417 at Brockworth and Cowley.

iii) GFirst LEP Draft Local Industrial Strategy (LIS)

3.27 The GFirst LEP published their draft LIS in 2019. This sets out the LEP's strategy to boost economic productivity in Gloucestershire and to guide funding investments made through both the LEP and other national schemes.

3.28 The LEP's ambition through this strategy is to promote Gloucestershire as a "magnet county" able to successfully attract and retain talent in the region. The LIS identified Gloucestershire's particular focus for growth surrounding its existing industrial strengths including:

- **Manufacturing:** Gloucestershire is home to an important cluster of product manufacturing businesses including hydraulics, valves, pumps and associated electronic components. According to the LIS, to build upon this, there is a need for an advanced engineering and manufacturing focussed business park. This would support large local companies in these sectors including their supply chains.
- **Aerospace:** The presence of major aerospace companies co-located in the Tewkesbury Borough (including GE Aviation and Safran Landing Systems) offers opportunities for companies to draw on a cluster of technical expertise to produce high value export products with associated services. Also offering the potential for future export expansion.
- **Agri-tech:** Gloucestershire's food and agriculture sector is valued at nearly £1.5bn and supports over 50,000 jobs in the county's wider economy. Gloucestershire has various strategically important Agri-Tech assets in the region including the Royal Agricultural University, Hartpury University and College, and the Agri-food Campden BRI. The LEP seeks to build upon these in part through the creation of an 'advanced Agri-tech' hub.
- **Cyber-tech**: Further explore opportunities to build upon the presence of GCHQ and align with the governments *'Grand Challenge for AI & the Data Economy'*. As set out in Gloucestershire's LIS it is important to build upon the areas internationally recognised status as the 'cradle of cyber-tech innovation in the UK. Specific ambitions include expanding the successfully established 'Growth Hub Network', to deliver a "cyber centric" business park adjacent to GCHQ (Golden Valley Development) and to further develop workforce skills to support this.
- **Green Growth:** The LEP seeks to establish Gloucestershire as a leader in sustainable growth through a focus on the natural capital assets of the county. A focus on 'Clean growth' with clean, modern transport choices and better digital connectivity wherever you live in the county.

3.29 To underpin this strategy, the LIS sets out the importance of investing in people in order to attract and retain a talented workforce and realise the regions ambition as a 'magnet county'. An issue highlighted nationally as a Grand Challenge Gloucestershire also faces challenges surrounding its aging population.

3.30 In order to address this the LEP have considered ways to address issues surrounding affordable housing constraints, the draw of opportunities/ competition from elsewhere, skills training and education (particularly cyber-skills capabilities) to deliver local skills which will meet local business needs. The LIS also sets out the intention to encourage flexibility in the workplace providing an 'Innovative business environment' in which businesses can access funding, and physically and digitally future proof the growth hub. Recently planned growth hub developments supported by GFirst LEP include Workshop Cheltenham; a mixed-use development comprising co-working spaces, office studios and Growth Hub to form a business support ecosystem for Cheltenham's start-ups and SMEs.

3.31 Another important element of this strategy covers the need to improve connectivity across the region, particularly delivering a mass-transit transport solution between Cheltenham and Gloucester, considering investment in cycle links, rail projects and becoming a pilot for

innovative technology driven transport solutions and high-quality digital infrastructure.

iv) The Gloucestershire Growth Deal

3.32 Growth Deals are government schemes that provide funds to LEPs for projects that benefit the local area and economy. The GFirst LEP have successfully been awarded Government funding in three rounds of their growth programme totalling £106.63 million.

3.33 Previously allocated funding has delivered:

- The Growth Hub Network & Expansion;
- Gloucestershire Renewable Energy Engineering and Nuclear Skills Centre (GREEN);
- Blackfriars and Quayside Regeneration;
- Berkeley Cyber Security Centre;
- Digital High Street Hub;
- Farm491 – Agri-tech Innovation Centre;
- Gloucestershire Airport – access for new hangar development;
- Gloucester Transport Hub;
- Advanced Renewable Energy Resource Centre;
- Transport projects
- STEM Centres at Gloucestershire College, Hartpury College and Cirencester College;
- Cheltenham Spa Railway Improvements.

3.34 Funding made available between 2016/17 to 2021 is expected to deliver:

- The development of road infrastructure for a new Cyber Business Park in Cheltenham next to GCHQ;
- A new roundabout and access road on the A40 to release land for housing and employment at Longford;
- Investment in a brand-new Gloucestershire College campus in the Forest of Dean to enhance skills and learning, which was completed in 2018.

3.35 Investment in transport infrastructure projects is often key to unlocking major sites The two road infrastructure projects noted above (on the A40 at Longford, and at GCHQ) are also expected to create access to employment land for a nationally significant Cyber Technology Park that will deliver up to 7,500 high value jobs in a critical knowledge-based sector.

3.36 Investment in the Gloucestershire College campus in the Forest of Dean will improve qualifications and skills in an area of deprivation, and 'kick start' a much larger regeneration programme. This will ultimately provide, alongside housing, 4.8 hectares of employment land to help to drive economic development both locally in Cinderford and more broadly across the Forest of Dean as a whole. The college will encourage investment and will meet the needs of the businesses in the area whose growth has been affected by the lack of access to the right skills.

3.37 The GFirst LEP has also successfully secured other investment packages including £8.5 million from the Growing Places Fund which has resulted in a leverage of £28.2 million and 175 jobs, and €38.1 million from the European Regional Development Fund and European Social Fund. The Growing Places Fund is designed to stimulate local economic growth by targeting investment to deliver the infrastructure needed to unlock constrained and stalled development sites and help to realise potential development value, new jobs, housing and regeneration.

3.38 When the UK leaves the European Union, it will no longer receive such funding.

Gloucestershire is currently allocated funding through the European Regional Development Fund and European Social Fund. The government are proposing to deliver a 'UKJ Shared Prosperity Fund' however details of this are yet to be confirmed.

v) The 'Cyber Resilience Alliance' - A Science and Innovation Audit

3.39 The GFirst LEP is also a central player in the 'Cyber Resilience Alliance' formed in 2017, which is comprised of the LEPs covering Worcestershire, Swindon and Wiltshire, The Marches and GFirst. In combination, this is a region defined as benefitting from a recognised concentration of cyber skills, largely due to proximity to GCHQ. This has in recent years also encouraged a wide range of spinouts and investment from cyber security organisations.

3.40 An audit was undertaken across this broad region with sponsorship from the government. The gap analysis showed that in order to support the sector, the following issues need to be addressed:

- Development and retainment of skills and talent
- Availability and affordability of Grade A office space of all sizes, tackling prohibitive office rental rates
- Provision of Product Testing and Validation Labs
- International investment in UK cyber security is often conflated with London. The region will need to invest in a coherent vision, brand and message to promote the area. This will involve emphasising the strengths of the region as a suitable location for cyber security investment and employment
- Exploring the feasibility of a 'National Cyber Lab'

vi) Glos 2050 study

3.41 Gloucestershire 2050 (G2050) is a vision project being undertaken by Gloucestershire County Council's 'Leadership Gloucestershire' group. The group comprises of public sector organisations (councils, emergency services, health services and business community) which allocate and spend significant resources in Gloucestershire. Its role is to provide vision, leadership and strategic direction to those areas where it is vital for organisations to work together to meet the needs of the people and communities of Gloucestershire in the most cost-effective way.

3.42 The emerging G2050 plan is a non-statutory document considering the long-term future of the area and looking to identify and tackle the key challenges. The major challenges identified for the Gloucestershire region include:

- The shifting demographic, with people living longer and young people leaving. A stark comparison highlights regional difference in this respect considering on average Bristol attracts 4,000 young people every year while Gloucestershire loses 400.
- Gloucestershire has a strong strategic location and competitive economy but is falling behind in terms of productivity and innovation.
- Other challenges cover issues surrounding climate change, sustainable behaviour, social inclusion and educational provision.

3.43 The G2050 sets out 'Eight ambitions' which are largely broad themes against which future ideas for Gloucestershire's growth are assessed. These include becoming a magnet county (retaining the working age population), improving connectivity, driving business led innovation and building on opportunities to develop sustainable resource and energy use.

3.44 Projects include: National Cyber Security Park; this is currently being promoted by Cheltenham Borough Council as part of the Golden Valley Development;'The super city' to create a third centre between Cheltenham and Gloucester; Designating Forest of Dean and

Severn Vale as regional parks; Lydney Sharpness bridge; Cotswold Water Park; and Create stronger strategic links with existing major international airports including Heathrow, Bristol, Birmingham, and Cardiff.

3.45 In 2018 the Gloucestershire Vision 2050 Concordat was agreed which set out that Leadership Gloucestershire are to take forward the Gloucestershire Vision 2050 encompassing the full range of health, social, cultural, community, physical and technical infrastructure projects.

3.46 The Concordat agreed the establishment of three project Boards, although these have now been merged to create one board.

3.47 The following issues are defined as central to this visioning:

a) Increase the area's ability to act as a central magnet and for the Cyber Park to become the UK hub for cyber security, of national and international importance.
b) Ensure the valuable and unique identities of Cheltenham and Gloucester are not diminished through a co-ordinated agenda for a wider area.
c) Ensure that developments are of a high quality and of international standing.
d) Ensure that inclusive economic growth is of equal benefit to both existing and new communities, and that health inequalities are a focus for action.
e) Recognise the critical role M5 junction improvements (9,10 & 11) will have in delivering significant growth (including cyber, wider business and housing).
f) Ensure the approach to transport includes improved connectivity within and to and from the area.
g) To support new and existing communities, strategic development in the area will need to include high quality accessible green infrastructure.

3.48 A key role is to improve the connectivity infrastructure on matters such as rail improvements, M5 corridor junctions 12-14 capacity and the potential to add a bridge across the River Severn. This bridge has the potential to link Forest of Dean and Stroud, as well as a gateway between South Wales, West of England and West Midlands economies.

3.49 A third priority is to deliver a vibrant rural economy including how to take forward regional parks and rural county-wide connectivity issues, which will include roads, rail, public transport, and digital connectivity.

vii) Planning Framework for Gloucestershire County to 2050 (Emerging)

3.50 The six Gloucester local authorities, Gloucestershire County Council, and GFirst LEP are in the early stages of developing a broad Strategic Planning Framework for Gloucestershire to 2050 and beyond. The preparation of a Statement of Common Ground is underway which is expected to be completed by the end of 2020. The aim of this is to secure greater co-ordination of strategic planning matters across Gloucestershire.

3.51 This Statement of Common Ground would be a non-statutory planning document that has regard to strategic matters as defined in Paragraph 20 of the NPPF and accords with Paragraph 27 NPPF which requires joint working between LPAs. The Statement of Common Ground will include consideration of various issues including delivering a spatial portrait and narrative of the geography of the area and the key strategic matters being addressed by the statement (meeting the housing need and economic growth and key environmental issues such as flood protection, climate change impact reduction, air quality etc.) and an understanding of the distribution of housing and economic growth needs in the area as agreed through the plan-making process, or the process for agreeing the distribution of need (including unmet need) across the area.

d) Current Local Planning Policy and Economic Strategies

3.52 The following section provides a brief overview of the planning policy position and emerging economic strategies for each of the Gloucestershire authorities to provide an overview of growth targets and focuses of consideration.

i) Cheltenham Borough Council

New Cheltenham Plan

3.53 The new Cheltenham Plan was sent to the Secretary of State for independent inspection in October 2018. The Cheltenham Plan will be used in combination with the Joint Core Strategy for Gloucester, Cheltenham and Tewkesbury (JCS) adopted December 2017 to guide development in the local area. The Proposed Main Modifications of the Cheltenham Plan were recently consulted on up to 16th December 2019.

3.54 The Cheltenham Plan puts forward a strategy intended to better manage the use of employment land as part of a coordinated approach with the JCS to meet ambitious aspirations for growth, open up opportunities for large companies, SMEs and business start-ups, and create a vibrant, competitive economy. Their ambition is to create an environment that supports economic growth and flexibility within the local economy, whilst recognising the strategic role Cheltenham plays in the wider economy of Gloucestershire and regionally.

3.55 Three primary strands emerged from the key issues identified at the Cheltenham Plan Issues and Options Stage, the findings of the Economic Strategy in 2015 and more recent engagement with local business leaders. These include:

- the need to appropriately manage the use of land and premises
- the need to maximise the opportunities presented by the cyber security industry
- support for business start-ups and SMEs

Cheltenham Borough Council Economic Review 2018

3.56 This document provides a detailed review of Cheltenham's economic performance in terms of growth, key employment sectors and opportunities and constraints which exist within the Borough. The report provides a series of key stats which have largely been summaries as follows:

- economic growth between 1997-2016 was 3.8% annually, just below England at 3.9%. The real annual rate of growth (accounting for inflation) was 1.9% per annum marginally below the rate as for England, at 2.0%.
- GVA estimate forecasts to support the JCS state the GVA in 2015 is estimated at between £4.2 and £5.7 billion.
- Between 2000 and 2015, 10,000 net new jobs were created in Cheltenham (equivalent to 15.2% total growth in jobs)
- Between 2006- 2016, the number of enterprises increased by 1,245 (26.7% growth) compared to 29.9% nationally.
- In 2016, 8.7% of working age people living in Cheltenham were self-employed. this is significantly lower than the England average (10.9%). the rate of self-employment was particularly low in Gloucester, at 4.4%.
- The sectoral composition of employment change in Cheltenham is significantly different to the England average in particular:
    - manufacturing employment increased by 0.3% nationally compared to a 16.7 % (-2,500 jobs) decline in Cheltenham
    - wholesale and retail employment increased by 4.0% nationally compared to a decrease of 4.5% (-500 jobs) in Cheltenham

- Construction employment increased by 6.7% nationally compared to a 30.8 % (+3,000 jobs) increase in Cheltenham
- Finance and insurance services employment decreased by 0.8% nationally compared to an increase of 6.7% (+100) in Cheltenham

Cheltenham Economic Strategy 2015

3.57 The strategy provides a comprehensive overview of the Cheltenham economy and options, ideas and recommendations to inform a future strategy. The report highlighted a series of key opportunities including:

- Growth in defence and public administration industries. Inward investment opportunities from supply chain to GCHQ; innovative growth SME opportunities from GHCQ procurement.
- Interest from GCHQ in supporting an associated business/technology incubator
- Identity as a location for certain industries/niches: brand association with fashion, retailing, cyber-security.
- Improve the strategic management of land and assets. Take advantage of buoyant property market and recovering national economy to introduce new vehicles and tactics for the management of land and development.
- Undervalued town centre sites provide an opportunity for acquisition, land assembly and redevelopment to provide attractive accommodation or offer for business
- Provision of development sites at urban extension and J10 site to offer higher value accommodation.

3.58 The strategy notes a series of threats covering a limited offer of large modern office/ move on space for growing SME's, the impacts on young people retention based on the cost of housing and rental values which is of particular significance in the South West. The report also highlights the lack of land and development opportunities within Cheltenham which results in a reliance on sites in Tewkesbury Borough to provide space for growth. This also means planning decisions and powers are out with Cheltenham Borough

ii) Cotswold District Council

3.59 The Cotswold District Local Plan was adopted in August 2018. Policy DS1 covers the overarching Local Plan Strategy which includes provision for sufficient land to be allocated, which together with commitments and dwellings completed since 2011, will deliver at least 8,400 dwellings and at least 24 ha for B class employment use over the Plan period (2011-2031). These will be delivered within the Councils Principal Settlements.

Cotswold District Council Economy and Employment Land Update (April 2016)

3.60 This report forms part of the evidence base for policies and proposals in the Cotswold District Local Plan Submission Draft. The report suggests a sound assumption would be to plan for an overall B Class employment land requirement of over 24 ha between 2011 to 2031. The current land availability is detailed as in excess of 26 ha.

3.61 It is recommended that the Local Plan provides a positive policy context in relation to safeguarding employment sites, promoting development at the three Special Policy Areas and supports rural diversification. The district should avoid over-allocating employment land given the pressure for change of use to residential and non-employment generating uses. A safeguarding policy is critical to protect existing sites to offer space for new and indigenous businesses to grow. The economic policy and employment land response in the Local Plan needs to reflect a growing and dynamic economy, particularly recognising the need to support self- employed workers. Policies for Superfast Broadband are critical in supporting effective home working and self-employment.

3.62 The NPPF is clear that the planning system should support sustainable economic growth and LPA's should plan positively to meet the economic needs of their areas. The amount and type of proposed B Class employment allocations in the Local Plan alongside safeguarding policies and rural diversification should provide enough flexibility to support a range of employment opportunities to deliver growth and support the implementation of, and align with, GFirst's Strategic Economic Plan.

Cotswold Business Delivery Plan (August 2017)

3.63 The purpose of this report is to set out the key priorities for Cotswold District Council in order to proactively meet the need of business, support competitive town centres, a prosperous rural economy and deliver the spatial economic strategy specified in the Cotswold Local Plan.

3.64 The district has strengths in Finance and Business Services, ICT (incl. science and technology), Retail, and Accommodation and Food Services. The cost of living in the area is high and the affordability of housing is also a key issue, as a result business face skill and labour shortages. The competitive advantage of larger surrounding towns such as Swindon, Cheltenham, Tewkesbury and Gloucester are recognised as key locations for growth however, with a highly skilled population and key business assets, Cotswold can also offer a unique business location with a high quality of life within an internationally recognised outstanding natural environment and built heritage assets.

3.65 Threats to economic output include Cotswolds limited offer in terms of large modern office space, and move-on space for growing SMEs; the loss of employment land to residential; Housing and other locational costs with lower than average resident and work incomes; commercial vacancy rates and attractiveness to graduate workforce and young workers.

iii) Forest of Dean District Council

3.66 The Council are in the process of reviewing their Local plan which will set out how the Forest of Dean will develop over the next 20 years to 2041. The current Development Plan for the Forest of Dean District includes the Core Strategy adopted in February 2012. Policy CSP.7 relates to the Economy and states economic development will be promoted throughout the district in accordance with the spatial strategy and its allocations.

3.67 Core Strategy 2012: The available evidence of local needs for housing within the Forest of Dean suggests 6,200 dwellings over the period 2006-2026. Employment provision should reflect this level of change.

3.68 The location of new development must be justifiable in terms of the Forest of Dean settlement hierarchy. It is intended that priority will be given to: sustaining the development of key economic sectors or clusters (including knowledge based enterprises and tourism); supporting the development of growth sectors; providing the conditions and support for SME's to become established and grow; supporting education/ skills training and facilities to provide it; supporting transport investment that will aid economic development and ensuring secure and safe environments result from any provision.

3.69 In June 2018 Forest of Dean District Council adopted an Allocations Plan covering the period 2006-26 which brings the housing target to 6,600 and contains site allocations to deliver this and supporting development.

iv) Gloucester City Council

3.70 Gloucester's adopted Development Plan includes the JCS adopted in December 2017 (see section vii). The JCS sits alongside the Gloucester Local Plan (1983) – saved policies (although only 2 policies are still considered relevant - A1.a Heights of buildings and protection of views; C1.e Site identified at Abbeydale to provide two Primary Schools).

3.71 The Council are currently working towards the production of a City Plan which alongside the

JCS will provide the development framework to guide the City's future growth up to 2031. The City Plan It will identify where and how new development will take place to make sure requirements are met, and new developments positively contribute to the City's needs. The Council have published a Draft Gloucester City Local Plan (2017): Part 3. Which includes development management policies and the potential site allocations. Responses to the Draft Gloucester City Plan consultation will inform the delivery of the 'Pre-Submission Gloucester City Plan'.

Gloucester City Council Regeneration and Economic Development Strategy 2016 – 2021

3.72 The report published in 2016 sets out Gloucester's strategy and ambitions in terms of jobs and growth with the following objectives:

- Working closely with the University of Gloucestershire's Growth Hub and Business School, targeting high growth key sector companies.
- Develop a business engagement programme.
- Identify key issues impacting businesses, such as broadband connectivity.
- Deliver business grants to assist new start-ups, expanding businesses and those businesses looking to relocate to the city.
- Work towards the delivery of mechanisms supporting growth including a locally defined Enterprise Zone, supporting the establishment of a Business Improvement District.

Strategy Options for the Gloucester Economy (My Local Economy, 2017)

3.73 This report sets out insights and recommendations to inform a new economic strategy for Gloucester. Following a SWOT assessment, the report identifies the following priority options and actions under the headings of business, people and place:

- Business
- Improve business start-up and growth rates
- Consolidate support for the engineering and manufacturing sectors
- Advocacy and partnership in cyber security initiatives
- Creating and promoting the city centre 'rich mix'
- People
- Initiatives for local workforce development
- Engineering and manufacturing skills provision
- Place-making to attract and retain talent should be a significant part of land use and regeneration strategies
- Place
- More clearly articulate the economic priorities for administrative area of Gloucester and the areas close to the city boundary as part of the wider JCS Area
- Prioritising key interventions that will have most impact
- Improving the place making role of the City Plan to provide a regeneration programme
- Improving the intelligence on key sectors and their spatial requirements
- Implementing initiatives to build interest in the city centre

Gloucester Economic Growth Strategy (2019-2022)

3.74 This Economic Growth Strategy builds on the Council's central vision to 'make Gloucester a city that works for everyone' by enhancing levels of prosperity; creating a distinctive economic identity within the city, including developing emerging sectors such as digital, cultural, energy, advanced engineering, aerospace and cyber; developing Gloucester as a successful business location which is attractive to start-ups and inward investors; and ensuring that Gloucester is recognised as a leading smaller city within the UK and an urban core that drives the economic growth of the County.

3.75 The primary objective of the strategy is to generate economic growth in Gloucester to create opportunities for residents and businesses. The key targets for the strategy are to:

- Increase the number of growing businesses and inward investors support by 100 per year
- Increase the number of new jobs created in supported businesses by 500 per year
- Increase the number of new jobs and learning opportunities created in regeneration schemes in which Gloucester City Council has a financial interest by 200 per year

Gloucester City Employment Land Review 'Health Check' (September 2019)

3.76 This review was undertaken to inform the Gloucester City Plan by providing a 'health check' of 75 existing employment land sites and premises within the Gloucester City administrative boundary. The purpose of the review was to understand spatial characteristics, mix of uses, occupancy and vacancy rates and relevant planning history over the past five years. It included industrial estates, business parks and substantial units, but excluded small-scale premises such as those above commercial premises in the city centre.

3.77 The findings of the review demonstrate that Gloucester's existing stock of employment land is performing very well and provides a variety of different types of accommodation that meets the needs of Gloucester's varied economy. The study identified a total of 900 individual business units across 280 hectares of employment land in Gloucester, including the City Centre and Gloucester Docks and Quays. The average occupancy level within these sites was around 90%, representing a healthy churn rate within the Gloucester economy. Most employment areas were operating at between 80% and 100% occupancy, with 61% of occupied units within Use Classes B1, B2 and B8.

3.78 The survey also revealed that some single occupier office buildings have been converted and sub-divided into flexible, co-working spaces. Some businesses were also found to be operating from several different locations in the city, suggesting a lack of space to expand within existing premises.

3.79 In terms of the spatial distribution of employment land, the study revealed a 'ribbon' of employment uses running from the south of the city through Waterwells, Quedgeley, Bristol Road/Hempsted, the city centre, Eastern Avenue and Barnwood. Higher quality business parks and industrial estates tend to be located to the north and south of the city, such as in Barnwood and Quedgeley, closest to the main trunk road network and the M5 motorway. Lower quality accommodation with poorer access arrangements and environment was located within the urban core.

3.80 The study concludes that although Gloucester's existing stock of employment land remains strong and fit for purpose, there are additional demands for new business space and the expansion of existing businesses.

Gloucester City Plan: Employment Background Paper (September 2019)

3.81 This background paper sets out further evidence to support the Joint Core Strategy and Gloucester City Plan. In summarising the Council's employment monitoring, this background

paper highlights that new employment floorspace totalling 8,700 sqm gross has been delivered during the 2018/19 monitoring period, and only 2% of planning consents for employment generating uses lapsed during this time. Further B Use development has been delivered at Waterwells Business Park and there is evidence of windfall activity and churn within existing employment development. As of the end of March 2019, approximately 3,000 sqm of B1 office space had received prior approval for conversion to residential use.

3.82 In terms of investor demand, the background paper highlights Gloucester as an attractive investment location, evidenced by high demand for employment space, affordable property prices, an available and relatively young workforce, and immediate access to two junctions of the M5 motorway. The two most recently delivered business parks, Waterwells Business Park and Gloucester Business Park, are now both nearly full. However, supply of Grade A and secondary office space remains at very low levels, leading to recent rent increases in Grade A and secondary out-of-town space. There has also been a loss of several substantial offices through permitted development conversions to residential use. City centre rents have remained relatively static over recent years, although various regeneration schemes have begun to strengthen the appeal of the city centre. The industrial land property market has remained strong with continued upward pressure on freehold prices and rents for new build space. Despite some recent developments, the level of available prime, secondary and tertiary industrial sites in Gloucester remains low, continuing to frustrate larger local businesses that wish to remain and expand in the local area.

3.83 It concludes that Gloucester's existing stock of employment land is performing well, is attractive to the market and that Gloucester represents, along with Cheltenham, the economic driver for Gloucestershire. Evidence shows a continuing demand for employment growth. Within this in mind, it is important that the city's existing stock of employment land is protected from redevelopment to alternative uses, unless there is strong justification. Equally, considering the very limited supply of new land opportunities in the city, that the policy framework supports improvements to existing employment locations in order to increase their attractiveness and promote opportunities for growth of businesses and business premises.

Gloucester City Plan: Pre-submission Version (September 2019)

3.84 The Gloucester City Plan Pre-Submission was approved by Council in September 2019 and provides further employment policies to support and deliver the Joint Core Strategy, including:

- Policy B1 – Requiring all housing developments of 10 or more units and major commercial development of 1,000 sqm or more to submit an Employment and Skills Plan
- Policy B2 – All employment sites and buildings will be safeguarded for B class employment uses and change of use/redevelopment to non-B class uses will generally be resisted
- Policy B3 – Development proposals for new 'B' class employment development, and/or to improve the quality of accommodation, the environment and intensify the use of existing employment sites will be supported where certain criteria are met

v) Stroud District Council

3.85 The Stroud District Local Plan was adopted in November 2015. It is the broad aspiration of the Local Plan to provide two jobs for every new allocated house built. The definition of "employment" within the strategy goes beyond the traditional B1, B2 and B8 uses and incorporates a large and diverse range of jobs including retail, healthcare and tourism.

3.86 In seeking to address some of the District's employment trends and commuting imbalances, the Council will actively promote growth in: construction, distribution, retailing, computing services, hotel & catering, transport, professional services, other business services, health

and social work, engineering, creative and 'green' industries. In terms of employment land delivery, it is Stroud's intention to provide 58 ha net additional employment land between 2006-2031.

3.87 Stroud faces a number of economic development issues noted more widely across Gloucestershire for which the Local Plan seeks to address including the aging population, out-commuting, addressing the District's carbon footprint, attract more knowledge-based industries encouraging a highly skilled and well qualified working population.

3.88 The Council is currently in the process of reviewing the Local Plan to cover the period to 2040. The Draft Local Plan published in November 2019 includes within it an employment strategy which seeks to deliver:

- economic growth and additional jobs on and adjacent to existing high value employment sites and within the M5/A38/rail growth corridor.
- new employment sites of varying sizes and locations to meet the specific locational requirements of different sectors, with particular support for green technology hubs
- support for affordable, low cost sites and premises with flexible terms for business start ups
- opportunities to foster on-going employment-education links
- new employment together with new housing to create sustainable communities and reduce the potential for further out commuting
- support for the faster roll out of broadband
- support for co-working facilities, particularly at town centres
- continued support for appropriate farm diversification proposals
- a more flexible approach towards encouraging tourism businesses
- regeneration of under-utilised or low value employment sites for other uses

vi) Tewkesbury Borough Council

3.89 The adopted Development Plan for Tewkesbury includes the JCS adopted in December 2017 (see section vii). The Tewkesbury Borough Plan was submitted to the Secretary of State for Ministry of Housing, Communities and Local Government on 18 May 2020 for examination. The new Tewkesbury Borough Plan sets out the vision for the borough up to 2031 and how to deliver on the overarching direction of the JCS.

3.90 To support the Councils economic priorities the Borough Plan includes four key objectives:

- Be the primary growth engine of Gloucestershire's economy
- Identify and deliver employment land within the borough, in accordance with the JCS and the Tewkesbury Borough Plan
- Maximise the growth potential of the M5 junctions within the borough
- Deliver regeneration for Tewkesbury town.

Tewkesbury Borough Council Employment Land and Economic Development Strategy Review (November 2016)

3.91 The main aim of this Review is to provide the evidence base to deliver the proposed levels of economic and inform the policies and allocations in the emerging Tewkesbury Borough Plan. The Review will also help establish a clear evidence base to inform the development and future direction of the Council's Economic Development and Tourism Strategy.

3.92 The key conclusions arising from the ELR include:

- Addressing Green Belt and Infrastructure constraints to unlock employment land opportunities.
- Address the current mismatch in terms of the size and type of new premises and the quality of existing available but vacant premises.
- Address business support measures including a greater understanding of the wider requirements of key growth sectors, consideration of how to improve conditions for growth.

Tewkesbury Borough Economic Development and Tourism strategy (April 2017)

3.93 This document sets the priorities to deliver and support economic development and tourism to 2021. It sets out the following strategic priorities:

1. Employment land planning – support the Local Plan's economic development objectives, as set out above.
2. Transport infrastructure improvements – promote traffic flow improvements to M5 Junctions 9, 10, 11 and 11a, strategic routes A46, A417 and A40; support Gloucestershire Airport business expansion and highway improvements; and support rail service improvements.
3. Instigate business support initiatives to promote economic growth – Promote rural businesses and economic growth in rural areas; stimulate business start-ups and the development of a growth hub; work jointly with Gloucestershire LEP to seek commercial investment from outside the borough and actively secure available public funding.
4. Promote Tewkesbury Borough and the 'M5 growth corridor' as the uniquely connected business location.
5. Employability education and training – Promote initiatives to improve education and training relevant to local employment.

vii) The Joint Core Strategy (JCS) Area

3.94 The JCS is a partnership between Gloucester City Council, Cheltenham Borough Council, and Tewkesbury Borough Council. The JCS was adopted by the three local authorities in December 2017. It is a co-ordinated strategic development plan that sets out how the area will develop between 2011 and 2031.

3.95 Policy SP1 Sets out the need for new development and sets out that provision will be made for a minimum of 192ha of B-class employment land to support approximately 39,500 new jobs.

3.96 SP1 sets out that new employment and housing provision is to be delivered by development within existing urban areas through local plans, existing commitments, urban extensions to Cheltenham and Gloucester, and the provision of Strategic Allocations at Ashchurch. This strategy aims to locate jobs near to the economically active population, increasing sustainability, and reducing out-commuting.

3.97 Policy SP2 sets out that at least 84ha of B-Class employment land will be delivered on Strategic Allocation sites as detailed at Policy SA1. Any further capacity will be identified in local plans for each authority.

3.98 Policy SD1 sets out that new employment development will be supported in the following areas:

- Strategic Allocations, in line with Policies SA1 and SP2, and other allocations in the

Development Plan.

- Existing employment sites.
- Development of new employment land within Gloucester City, the Principal Urban Area of Cheltenham and Tewkesbury town.
- Small-scale development in or adjacent rural service centres and service villages.
- In the wider countryside if its for employment-generating farm diversification projects.
- Where it allows the growth or expansion of existing business.
- Where it would encourage and support the development of small and medium sized enterprises.

4.0 NEIGHBOURING AREAS

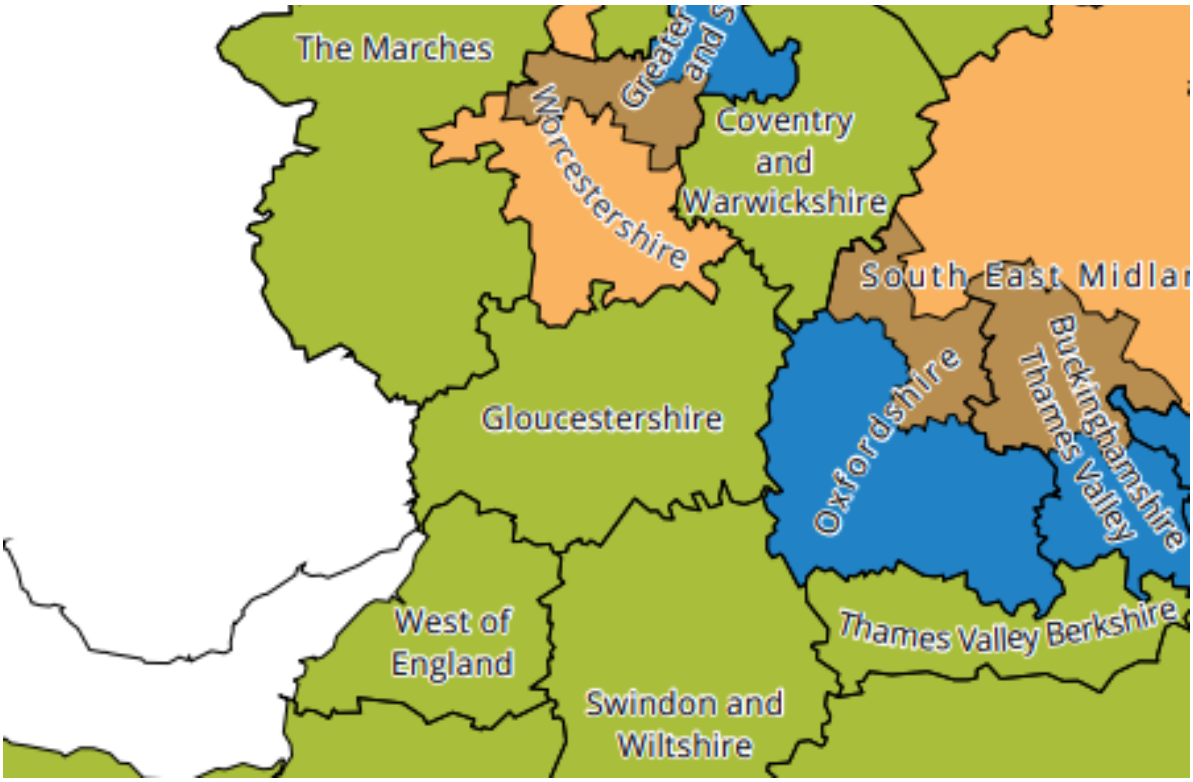
4.1 The GFirst LEP adjoins several neighbouring LEP areas as shown in the figure below. Whilst it does not overlap with any other LEP areas, there are identified interlinks between the LEP Areas. Whilst the economic priorities of the GFirst LEP are summarised in Section 3(c), this section provides an overview of the economic circumstances, sector specialisms, and growth opportunities in each of the neighbouring LEP areas and the area of South East Wales that comprises the Cardiff Capital Region.

4.2 Section 2 of this report considered the Gloucestershire Functional Economic Market Area (FEMA) and as part of this considered the overlaps with neighbouring FEMAs. The strongest identified links with neighbouring areas are:

- Swindon and Wiltshire, where the Swindon/M4 FEMA covers the southern parts of Cotswolds;
- A broader South Worcestershire FEMA which extends into Cotswold, Tewkesbury, and Cheltenham;
- The West of England, which has a relatively extensive geographical reach up the M5; and
- Links between Herefordshire and Forest of Dean.

4.3 The economic priorities of all neighbouring areas are considered in detail below.

Figure 14. Adjoining LEP Areas



Source: ONS

a) Swindon and Wiltshire LEP (SWLEP)

4.4 The SWLEP was established in July 2011 and covers Swindon and Wiltshire. The LEP identifies three FEMAs broadly covering the SWLEP area:

- Swindon/M4 Corridor, which includes the north-east part of Wiltshire and extends into Cotswold.
- An A350 Corridor and West/Central Wiltshire Towns FEMA looking westward towards Bath; and
- A Salisbury/Amesbury/A303 Corridor FEMA in the south and east of the area.

i) Economic Growth Prospects

4.5 Currently, Swindon hosts successful high value sectors including manufacturing engineering, advanced electronics, financial and professional services, pharmaceuticals and communications technologies. The Life science sector employs in excess of 2,500 people in Swindon and across the SWLEP accounts for nearly 3% of all employment (over 8,200 employees).

4.6 Key sectors in Wiltshire include Advanced manufacturing and engineering, Health and Life sciences, Digital, Financial and other business services.

4.7 The SWLEP Local Industrial Strategy (LIS) is currently emerging. SWLEP have identified six themes which helped define their economic area:

1. Innovation in emerging low carbon energy technologies: drawing on research activity into battery technologies by Dyson; the operation of the Hydrogen Hub; and opening up access to leading edge research in sustainable technologies to the business community connecting activity in Swindon and Wiltshire in the low carbon energy sector through to Cambridge and to Cardiff.
2. Advanced engineering in aerospace defence sector and robotics: the clustering of the aerospace defence industry and the robotics sector has the potential to create a widespread zone of economic excellence in these fields through Swindon and Wiltshire extending through to Bristol and South Wales and south to Bournemouth.
3. Cyber security: linking the national assets in defence-related cyber security at MoD Corsham and Dstl which opened its Cyber Evaluation and Assessment Laboratory in 2015. SWLEP notes the transformative aspect goes beyond the LEP boundaries and would be enhanced through links to activity based around GCHQ at Cheltenham, QinetiQ at Malvern and the Special Forces Communications Centre at Hereford.
4. Keeping people safe: the use of science, defence technologies and bio pharmacy around the Porton-Boscombe nexus and the development of a centre of excellence in defence aerospace and security technologies including a developing partnership with Cranfield University in Oxfordshire.
5. R&D and higher skills development: addressing degree level and technical skills gaps in Swindon and Wiltshire to support our growth aspirations in industries of the future.

4.8 The SWLEP Swindon and Wiltshire Economic Assessment (Regeneris, 2018) sets out the future expected economic growth across the SWLEP area to 2036. Employment forecasts for the 2016-2036 period projects a growth of 40,200 jobs, providing an average employment growth rate of 0.5% per annum.

4.9 The sector to experience the most growth is predicted to be the financial and business services sector with +15,000 additional jobs. Other sectors projected to see the most net expansion include accommodation and food (+6,000 jobs), professional services (+5,000 jobs), and construction (+4,000 jobs).

4.10 These projections illustrate the importance of meeting the needs of support industries such as construction, transport and storage, as well as local services such as wholesale and retail, accommodation and food, and health and social work. Higher value-added sectors such as

manufacturing, information technology, and professional services need a highly skilled talent pool to grow.

4.11 However, the service sectors will see the greatest number of replacement jobs driven by retirement and those leaving the sector, with 21,000, 17,000 and 13,000 jobs needing replacing in the wholesale and retail, health and social, and accommodation and food sectors, respectively.

4.12 A total of 15,000 (37%) of the additional SWLEP jobs are forecast to be in the Swindon-M4 FEMA. Professional Business Services and Health and Social Care, which are large existing employment sectors have considerable scope for future employment growth, when looking at the Swindon-M4 FEMA.

4.13 Conversely, within the Swindon-M4 FEMA primary industries are anticipated to contract over this period, as are jobs in the Manufacturing sector and Public admin and defence sector.

4.14 Considering the most specialised sectors (by employment) across each Growth Zone, there is also a positive correlation with forecasted sector growth in the Professional Business Services, Knowledge Economy, Life Sciences and ICT/Telecoms sectors.

4.15 The Swindon and Wiltshire Functional Economic Market Assessment (HJA, 2016) sets out the following requirements for employment land in the Swindon-M4 FEMA to 2036.

Figure 15. Estimates of Floorspace and Land Requirements in the Swindon-M4 FEMA 2016-36

	Office	Industrial
Total Existing Stock (sqm)	583,600	1,888,900
Total Requiring Provision (sqm)	191,600	347,900
Average Annual Requirement (sqm)	9,600	17,400
Average Annual Land Requirement (ha)	1 - 2.4	4.3
Total Land Requirement (ha)	19.2 – 47.9	87.0

Source: Swindon and Wiltshire Functional Economic Market Assessment (HJA, 2016)

ii) Planned Development

4.16 Ongoing and proposed investment projects identified in the SWLEP Annual Report (2019) include:

- Swindon M4 rapid transit and bus boulevard;
- New Eastern Villages development to the east of Swindon (724 ha development comprising 8,000 homes, schools, employment spaces and community and leisure facilities);
- Wichelstowe southern access scheme;
- Chippenham station hub and dualling of A350 around Chippenham;
- Wiltshire College refurbishment and expansion in Salisbury and Lackham;
- Salisbury Maltings redevelopment to include hotel, library, gym and restaurant;
- Ultrafast broadband connectivity focused around north and south Wiltshire (delivered by Wilts Online);
- Royal Artillery Museum, Salisbury; and
- Salisbury Enterprise Hub (led by Wilton Community Interest Company)

4.17 Government funding to support the development of a £21m Institute of Technology (led by Swindon College) was also confirmed in Spring 2019 with construction expected to complete

in 2021. Development of the Institute will be focused at Swindon College (North Star site) and Cirencester College.

4.18 Many of these noted priorities are located in areas some distance from Gloucestershire's boundary which suggests that the focus of the SWLEP will be to serve a different catchment area, with limited crossover or conflict with competing growth needs.

4.19 The immediate priorities of the SWLEP also appear to be primarily focused around mitigating the effects of Honda's decision to move out of Swindon by 2021 with the loss of 3,500 jobs, and ongoing decontamination of the Salisbury area (referred to as 'recovery' projects) following the major incident that occurred here in 2018.

4.20 It should also be noted that the South Marston Honda site, to the north east of Swindon, has since been highlighted by the local authority as a potential strategic investment site with opportunity for delivering more intensive and diverse industrial uses. This may have an impact on the GFirst LEP area in the future, should the site be redeveloped.

iii) Summary

4.21 SWLEP sets out that the driver of future growth will be a move towards larger numbers of individuals employed in more skilled and higher value-added roles in the following priority growth sectors:

- Advanced engineering and high value manufacturing – Aerospace and Robotics
- Health and life sciences
- Financial and professional services
- Digital and information and communications technology – Cyber security
- Defence technologies – Securities, Aerospace

4.22 SWLEP identifies the following sectors will provide the greatest employment growth by 2036:

- Financial and Business Services
- Visitor economy
- Adult health and social care
- Low carbon economy
- Construction

4.23 In terms of ongoing and committed investment projects, these are broadly focused around broad infrastructure, research and education-led developments rather than sector-specific growth initiatives.

4.24 The proposed closure of the Honda site is likely to impact net employment growth prospects within SWLEP in the short-term but provides longer term opportunities for redevelopment and intensification of employment use at the site.

b) West of England LEP

4.25 The West of England (WoE) LEP covers the four WoE councils, including Bath & North East Somerset, Bristol, North Somerset and South Gloucestershire. The Strategic Economic Plan (SEP), published in 2014, identified that the LEP area had a population of 1.1 million people and an economy worth £25.5 billion (GVA). The LEP area includes an international airport, four universities, five further education colleges, four enterprise areas (including Filton Enterprise Area to the north of Bristol) and one enterprise zone (Bristol Temple Quarter). A number of motorways pass through the LEP area, including the M5 and M4, which provide access into Gloucestershire to the north.

iv) Economic Growth Prospects

4.26 The SEP projected baseline jobs growth of 65,000 and GVA growth of 2.6 in the West of England by 2030. Based on the SEP, the WoE LEP received Growth Deal funding in 2016/17 to deliver the priorities set out within their Innovation Programme. This included funding for: building specialisms in key sectors and technologies; ensuring the excellence of academic institutions to drive the commercialisation of research; supporting projects that improve access to key employment sites; reducing congestion and promoting sustainable travel; and supporting their skills capital programme.

4.27 The WoE Local Industrial Strategy (July 2019) replaces the Strategic Economic Plan and identifies four main priorities for the LEP including: cross-sectoral innovation; inclusive growth; addressing the productivity challenge and delivering innovation in infrastructure delivery.

4.28 The WoE has several distinct and overlapping 'sector strengths' that drive innovation which include advanced engineering (aerospace; creative, cultural and digital industries) and financial, business and legal 'tech' services. These are supported by their supply chains and the region's four leading universities. Employment in professional services and the public sector has also growth in the WoE in recent years.

4.29 According to the Local Industrial Strategy Evidence Base (February 2019) productivity in the region is above the national average but has slowed in recent years. The jobs market is shifting towards high-skilled jobs but provision is not keeping up in all areas. The region experienced a reduction in carbon emissions of 32.4% between 2005 and 2016 compared with an average reduction of 31.6% across the UK as a whole.

4.30 In 2018, the WoE LEP area had 45,000 active businesses. There was a 27% increase in number of active businesses between 2010 and 2018. The WoE has experienced the second fastest growth in scale-up density in the UK by LEP area since 2013.

4.31 In terms of innovation, WoE LEP is in the top three LEP areas for numbers of patents registered in the categories of performing operations and transport (including aviation) and fixed construction (including civil engineering). This includes WoE-based firms such as Rolls-Royce, BAE and Airbus.

4.32 The WoE LEP identifies stronger trade, migration and commuting links with Birmingham and London than with areas further to the south-west.

v) Planned Development

4.33 Ongoing and proposed investment projects identified by the WoE LEP include:

- Construction of a new £9 million Advanced Construction Skills Centre at South Bristol Skills Academy (part of City of Bristol College) commenced in February 2020 and is due to open in September 2021.
- Plans to upgrade Bristol East Junction to improve access to Bristol Temple Meads station, alongside new station entrance and MetroWest network.
- MetroWest Phase 1 – a £116 million scheme to re-open the Portishead railway line and reintroduce passenger train services from Bath to Henbury, Severn Beach to Portishead. This scheme is estimated to create 514 new direct permanent jobs and enhance the regional economy by £264 million in the first 10 years.
- £5 million match-funding awarded to new Centre for Digital Engineering Technology & Innovation (DETI) to support growth of digital engineering sector across WoE, at the National Composites Centre and the Centre for Modelling and Simulation, both based at the Bristol and Bath Science Park to the north-east of Bristol.
- £20 million Quantum Technology Innovation Centre (QTIC), which will extend the scope of the University of Bristol's existing QTIC and will be based at the Temple Quarter Enterprise

Campus in Bristol. The QTIC+ is estimated to generate £232m of added economic value over ten years and will lead to 360 new jobs.

- £9 million investment to deliver 285 new homes in the Bath Western Riverside area through the land acquisition fund.
- £2.9 million improvements at the Great Stoke roundabout in Stoke Gifford to improve capacity.

vi) Summary

4.34 Four 'grand challenges' identified in the Local Industrial Strategy include:

- AI & Data Economy – The WoE LEP aims to put the UK at the forefront of the artificial intelligence and data revolution.
- Future of Mobility – The WoE LEP aims to become a world leader in the way people, goods and services move.
- Clean Growth – The WoE LEP aims to maximise the advantages for UK industry from the global shift to clean growth.
- Ageing Society – The WoE LEP aims to harness the power of innovation to help meet the needs of an ageing society.

4.35 The WoE LEP priority growth sectors, as identified in the SEP, include:

- Creative and digital media
- Low carbon
- High tech industries
- Advanced engineering and aerospace
- Professional services

4.36 WoELEP identifies the following sectors will provide the greatest employment growth by 2036:

- Professional, scientific and technical Services
- Administrative and support services
- Construction

4.37 The WoE SEP identified several examples of cross-boundary working with the GFirst LEP including Oldbury Power Station (in South Gloucestershire), Skills, Innovation Networks (iNets), West of England Aerospace Forum and the Cotswolds.

4.38 Other cross-boundary developments are identified in terms of transport infrastructure. Beyond MetroWest Phase 1 and 2 and through the new Great Western Franchise, the WoE LEP intends to work with its neighbouring LEPs, Heart of the South West, Gloucestershire, Swindon and Wiltshire and Oxfordshire, and the train operating companies, on extending services to Gloucester, Taunton, the West Wiltshire towns and Oxford.

c) Worcestershire (WLEP) LEP (particularly South Worcestershire)

4.39 The WLEP covers the whole of Worcestershire county. Its public sector membership comprises Worcestershire County Council and six district authorities including Bromsgrove, Redditch and Wyre Forest in the north and Worcester City, Wychavon and Malvern Hills in the south.

4.40 The M5 passes north-south through the WLEP area and into Gloucestershire to the south. The A46 also transects the south-eastern corner of the LEP area, linking Tewkesbury to the south, via Evesham, with Stratford-upon-Avon and Coventry to the north. The north-eastern part of the county includes part of the urban West Midlands conurbation, whilst the remainder

is largely rural in character.

4.41 The WLEP is responsible for developing and delivering Worcestershire's 10-year Strategic Economic Plan which was agreed by all partner organisations and submitted to Government in March 2014. An update to the SEP was published in 2017 and a further update is currently being prepared alongside the Local Industrial Strategy (LIS), an initial options consultation on which was undertaken in September 2019.

vii) Economic Growth Prospects

4.42 The key priorities for the WLEP include working to create 25,000 jobs, increasing GVA by £2.9bn and contributing towards the delivery of 21,500 new homes by 2025.

4.43 Since 2009 Worcestershire has experienced steady GVA growth in line with national and regional trends, with £13.3 billion GVA generated in 2017 (10% of the total for the West Midlands). 60% of jobs and GVA in Worcestershire are accounted for in Bromsgrove, Worcester City and Wychavon. Up until 2015, Worcestershire experienced lower rates of GVA and employment growth than in Gloucestershire, but it has since overtaken.

4.44 The Evidence Base prepared in September 2019 to inform the LIS identifies that Worcestershire has a diverse business base, which is a key strength of the area. It has a concentration of employment in advanced manufacturing and a comparatively high proportion of employment in high value added jobs, but the area performs less well with regard to knowledge intensive services.

4.45 Employment and GVA projections for Worcestershire demonstrate growth over the next 20 years. However, compared with both the regional and national average workforce jobs are expected to increase by 6.6% (20,100 equivalent jobs) compared with 10.6% nationally over the period 2019-2039, and GVA is projected to increase by 28.3% compared with 39.6% for the UK. The three sectors with the highest projected GVA increases are the manufacture of transport equipment, health, finance, and the manufacture of pharmaceuticals.

4.46 The draft LIS consultation document (September 2019) identifies Worcestershire's 'cornerstone' sectors as: business administration and professional services, construction, and health and social care. The four identified 'challenger' sectors that they are aiming to further develop include:

- Advanced manufacturing – The sector has a strong base of significant businesses and important supply chain links with major businesses in the West Midlands conurbation. The challenge is to increase investment in R&D to support this sector's continued growth.
- CyberSec, IT and Defence – There is significant potential for growth, building on assets such as QinetiQ and the Malvern Hills Science and Technology Parks. Recognises the importance of the Cyber Valley with Marches, Gloucestershire and Swindon and Wiltshire LEPs.
- Agri-tech – There is significant potential to develop this sector given the importance of agri-horticulture including the distinctiveness of the Vale of Evesham. Opportunities include building on the area's current advanced manufacturing and digital strengths, maximising existing assets such as Pershore College's Agri-Tech Research Centre and exploiting the county's proximity to strategic assets such as Hartpury and Harper Adams.
- Digitisation of Health and Care – There are significant opportunities to exploit new digital technologies to support the delivery of health and care in or near people's homes. This will draw on the expertise at the University of Worcester with its strength in life sciences and the proximity to the West Midlands conurbation.

viii) Planned Development

4.47 A total of £71.71m of Growth Deal funding is available between 2015 and 2021 for agreed economic projects in Worcestershire. This includes a range of schemes to improve skills, rail

connectivity, access to key employment sites and Superfast 5G Broadband. The Growth Deal Funding is set to cover a variety of strategic projects including that at Malvern Hills Science Park (home to the National Cyber Skills Centre). Development of a new facility on this site will allow new and existing businesses in the high-tech sector to expand and also encourage businesses from this sector to join this significant cyber sector.

4.48 Recently completed and forthcoming investment projects identified in the WLEP area include:

- Transport infrastructure improvements including a new Worcestershire Parkway Rail Station;
- Malvern Hills Science Park – Phase 5 due to complete in Spring 2020 providing 16,000 sq ft business floorspace;
- 5G Test Bed and superfast broadband roll out – including Worcestershire 2040 – Delivering the 'Smartshire';
- The Kiln – Collaborative working space completed in Autumn 2019;
- Heart of Worcestershire College's Duckworth Centre of Engineering – Phase 1 construction completed in Autumn 2019;
- BetaDen – Online support and hub based at Malvern Hills Science Park for innovation / entrepreneurs across Worcestershire; and
- Developing strategic alliances outside the county, including through the Cyber Resilience Alliance (other partners include the GFirst LEP, SWLEP, The Marches LEP and Skylon Park).

4.49 Other strategic growth propositions outlined in the draft LIS include enhanced rail connectivity. This includes improved connections between Worcestershire and Cheltenham, Gloucester and Bristol, and increased capacity on the North Cotswold line.

ix) Summary

4.50 The priority growth sectors identified by the WLEP include the following:

- Advanced manufacturing
- Cyber security
- Agri-tech
- Med-tech
- Tourism / visitor economy
- Low carbon energy
- Broadband connectivity

4.51 The sectors with the highest jobs growth prospects over the period 2019 to 2039 (LIS Evidence Base, September 2019) include:

- Manufacture of transport equipment (65.0%, 2,600 jobs)
- Residential Care and Social Work (27.0%, 5,100 jobs)
- Manufacture of machinery and equipment (21.7%, 1,000 jobs)

4.52 There appears to be some strategic overlap between the priority sectors identified by the WLEP and those in Gloucestershire, in particular those relating to cyber security. There may be opportunities for increased collaboration in this sector between the WLEP and GFirst LEP as part of developing the wider 'Cyber Valley'.

d) The Marches LEP (particularly Herefordshire)

4.53 The Marches LEP is a partnership between Herefordshire, Shropshire and Telford & Wrekin. This LEP borders the north west of Gloucestershire, where Ross on Wye and Ledbury are towns close to parts of both Tewkesbury and Forest of Dean. It has a population of 684,300 distributed across 2,300 square miles. The three main urban centres are Hereford (60,825

population), Shrewsbury (71,864) and Telford (147,698). Much of the influence on this area however comes from Birmingham and the West Midlands and Wales.

x) Economic Growth Prospects

4.54 The Marches has contributed £14.3 billion in GVA to the UK economy since the first Strategic Economic Plan was published in 2014, which is equivalent to £21,178 per person. Over the last five years the economy grew by 5.9%, adding £800m to UK output. Exports from The Marches are currently worth £1.8bn annually. The area also has the highest two-year new business survival rate of all LEP areas in the country (80.2%), with 2,740 business births in 2016.

4.55 However, productivity is low, at £27.76 per hour worked compared to £33.99 nationally. This figure has been relatively static since 2004. Other key challenges in the area include: an age profile older than the UK average; historically low levels of skills; and a need to invest in key strategic economic and transport links to the North West, West Midlands, South West and Wales.

4.56 The Marches LEP published their Strategic Economic Plan in 2019 with a high-level vision to become a £23.8bn economy with 5,200 more businesses and 58,700 new jobs by 2038. The core economic sectors include advanced manufacturing, business and professional services and food and drink. Emerging sectors for growth include environmental technology, cyber security and resilience, agri-tech and innovative health and social care.

xi) Planned Development

4.57 Recently completed and forthcoming investment projects identified in The Marches LEP area include:

- £44.5m Telford Land Deal to create the biggest foreign direct investment in the UK in the last decade and create 800 jobs.
- Development of Skylon Park, including the Centre of Cyber Security, located in the Hereford Enterprise Zone.
- Shrewsbury Big Town Plan.
- The Marches Growth Hub and new Business Incubation Centre.
- Development of the New Model in Technology and Engineering (NMITE) in Hereford.
- Redevelopment of Shrewsbury Flaxmill to deliver 120 new homes.
- Newport Innovation Park (NI-Park) – multi-million pound development to create world-leading agri-tech business park, aiming to create up to 1,000 new jobs.
- Investment in colleges and training providers.
- Rollout of superfast broadband to 77,000 homes.

xii) Summary

4.58 The core economic sectors identified by The Marches LEP that have high productivity with high levels of employment and specialisation include the following:

- Advanced manufacturing
- Business and professional services
- Food and drink

4.59 The key emerging sectors that have high future economic and productivity growth potential, but lower employment and fewer, smaller companies include:

- Environmental technology
- Cyber security and resilience

- Agri-tech
- Innovative health and social care

4.60 Connections between Gloucestershire and The Marches LEP area are relatively weak, as supply chains and commuting links are strongest between The Marches and Birmingham, Wolverhampton, Mid-Wales, Worcestershire and Staffordshire. There may however be opportunities for synergies between Gloucestershire and The Marches by capitalising on emerging developments around Hereford in high-tech and advanced manufacturing sectors including the Skylon Park Innovation Centre and the New Model Institute for Technology & Engineering (NMITE).

4.61 There are also opportunities to further develop partnerships between The Marches and GFirst LEP through the Cyber Resilience Alliance (which also includes the Worcestershire LEP and Swindon & Wiltshire LEP).

e) Coventry and Warwickshire LEP

4.62 The Coventry and Warwickshire LEP comprises the local authorities of North Warwickshire, Nuneaton & Bedworth, Rugby, Stratford-on-Avon, Warwick and Hinckley & Bosworth. The LEP benefits from a central location at the heart of the country's major arterial road network, having links to the M6, M1, M42, M40, M69 and M45 motorways. Coventry is also just 20 minutes from Birmingham International Airport by train and will benefit from the forthcoming HS2. Further developing this infrastructure, including transport, broadband, water and waste services, is key to the future growth of the LEP.

xiii) Economic Growth Prospects

4.63 The Strategic Economic Plan, published in 2016, identifies five core pillars of activity for improving economic performance and creating rapid, dynamic change across the Coventry and Warwickshire region. These pillars include unlocking growth potential; advanced manufacturing and engineering sector development; growing SMEs; growing talent, to create jobs, tackle unemployment and increase productivity; and culture and tourism.

4.64 Coventry and Warwickshire LEP published the West Midlands Local Industrial Strategy in collaboration with the other West Midland LEPs in 2019. Here there has been growth in the Advanced Manufacturing and Engineering and logistics sectors, with corresponding investment in these departments at Coventry University. Focus is also given to the rail and transport corridors to support growth however this largely looks towards Birmingham, with airport and HS2 connectivity. Coventry will be the UK's City of Culture in 2021 and associated funding will be used to generate economic growth and jobs in the area. The culture and tourism industry around Stratford is also receiving significant investment.

4.65 The LEP's Employment Land Use Study forecasts a growth of 77,600 jobs over the period 2011-31. The following sectors are expected to see growth over this period: Business support services; Health; Construction; Food and drink services; IT services; Warehousing and postal; and Retail.

xiv) Planned Development

4.66 Recently completed and forthcoming investment projects identified in the Coventry and Warwickshire LEP area include:

- Development of the UK Battery Industrialisation Centre (UKBIC) is underway at a site off the A45 to create world-leading testing facilities for new battery technologies and providing training in battery manufacturing. The site is planned to open in 2020.
- Geely Design and Innovation Studio in Coventry, which is one of the strongest teams in the automotive design field

- The £130 million development at Ansty Park, Rugby for international aerospace defence and energy engineering group Meggitt is due to open in 2020
- £82 million Coventry Station Masterplan to include second footbridge, extended platforms, second entrance onto Warwick Road, multi-storey car park and bus interchange
- £22.4 million (Phase 1) Transforming Nuneaton Project which will involve redevelopment of Vicarage Street and area around the railway station, the Horiba MIRA Technology Park and growth of the Bermuda Park employment site
- £14.7 million Very Light Rail project; a prototype of which will be built ahead of Coventry being UK City of Culture in 2021
- £33.3 million Warwick Arts Centre 20:20 project in which the existing gallery and cinema will be replaced with a large exhibition space/gallery, three high quality digital auditoria, a new restaurant and extended foyers

xv) Summary

4.67 Priority growth sectors within the Coventry and Warwickshire LEP area are focused primarily around the infrastructure, automotive and transport industries, with key projects including Very Light Rail, HS2 and the National Transport Design Centre. There is also a focus on advanced manufacturing and engineering, such as in battery and steel product manufacture. The Coventry and Warwickshire LEP is more closely connected to the wider West Midlands conurbation rather than Gloucestershire, however it may be possible for Gloucestershire to capitalise on the proposed enhancements to the transport route network in the Coventry and Warwickshire LEP area which will may help enable better connections to the wider UK.

f) Oxfordshire LEP

4.68 The Oxfordshire LEP (OxLEP) is comprised of the six Oxfordshire authorities; West Oxfordshire, Cherwell, Oxford City, Vale of White Horse and South Oxfordshire. Oxfordshire has a strong industrial market, with Oxford being the second fastest growing economy of all UK cities (Irwin Mitchell report, 2017). Key assets in the county include the internationally-renowned and government-backed enterprise zone, Science Vale UK. It boasts world-class research and development sites including; Harwell Campus, Culham Science Centre and Milton Park.

xvi) Economic Growth Prospects

4.69 The OxLEP Strategic Economic Plan was adopted in 2016. Key identified action areas included.

- People – Delivering and attracting specialist and flexible skills at all levels, across all sectors
- Place – Ensuring a strong link between jobs and housing growth, and providing a quality environment that supports and sustains growth, offering a choice of business premises and affordable homes
- Enterprise – Emphasising innovation-led growth, underpinned by the strength of Oxfordshire's research, business collaboration and supply chain potential
- Connectivity – Enabling people, goods and services to move more freely, connect more easily, and improving broadband and mobile coverage and capacity

4.70 According to OxLEP's latest Annual Report (2018/19), during this year the total GVA across the Oxford-Cambridge Arc was £111 billion, with an aim to achieve a GVA in Oxfordshire of £46 billion by 2040. The Growth Programme being overseen by OxLEP is currently valued at £212 billion.

4.71 The OxLEP Local Industrial Strategy sets out a long-term vision for economic growth up to 2040, and prioritises growth in the following key sectors, or 'Grand Challenges', as identified

by the UK government:

- Growing the artificial intelligence and data driven economy
- Meeting the needs of an ageing society
- Shifting towards clean growth
- Shaping the future of mobility

4.72 Oxfordshire's critical economic sectors, assets and growth opportunities are identified as follows:

- Upper Heyford Creative City – creative industries
- Motorsport Valley – advanced engineering, battery technology and high performance motorsport technologies
- Oxford City Science Area – Life sciences, AI technologies, Digital health, quantum computing and global CBD
- Culham Science Park – Fusion energy, robotics and autonomous systems
- Milton Park / Didcot Garden Town – Life sciences and creative industries
- Williams Innovation and Technology Campus – Advanced engineering
- Harwell Campus – Health sciences, space applications and energy
- Living Labs Testbed – Smart living pilots using emerging technologies integrated into major housing development
- Begbroke Science Park – Advanced engineering and medical tech

4.73 OxLEP's 2018 Economic Review: Baseline identifies the sectors with the largest proportion of jobs in the Oxfordshire economy are Public administration, education and health (21%). There were other important contributions made by Distribution, transport and food (17%), Real estate (15%) and Professional services (10%). It finds that Oxfordshire is not overly dependent on its largest sectors and has a relatively diversified economy.

4.74 OxLEP's 2018 Future State Assessment sets out what Oxfordshire has the potential to achieve and considers a 'Do Nothing' scenario and a 'Go For Growth' scenario. However these are not quantified in terms of sectoral jobs growth.

xvii) Planned Development

4.75 Key investment projects identified in the OxLEP area that are planned for completion in the year 2019/20 include:

- Livestock Technology Centre which focuses of delivering sustainable agriculture, food production and precision farming agenda across Oxfordshire
- Disruptive Innovation for Space Centre (DISC) providing access to equipment and expertise to help UK companies innovate and accelerate the development of new products and services
- Connected and Autonomous Vehicles (CAV) including the RACE Centre at Culham
- Development of motorsport engineering and advanced technology innovation in 'Motorsport Valley' including the ProDrive Powertrain Development Centre
- Headington Phase 1 and Eastern Arc Transport Improvements, including junction and local road improvements to support growth in the Headington area of Oxford, including a centre for medical research and the Bio-Escalator
- City Centre public transport improvements to increase capacity and reduce delays, improve air quality and decrease congestion in Oxford City Centre
- Didcot Station Multi-Storey Car Park to help improve Dicot station as a key gateway to

Science Vale high-tech cluster and the Enterprise Zone

- Bio-Escalator in Headington, Oxford which is a hub for new and developing life science innovations

xviii) Summary

4.76 Oxfordshire LEP published their Local Industrial Strategy in July 2019 as part of the 'Oxford – Cambridge Arc' partnership. Gloucestershire sits on the western boundary of this 'arc'. Key noted growth sectors across Oxfordshire include life sciences (focused on the clusters around Oxford and Cambridge), Quantum computing, Space-led Data Applications, Robotics and Autonomous Systems (RAS), Cryogenics, Energy, Digital and Creative and Motorsports.

4.77 The Strategy references through their innovation ecosystem map connections to the West and South West through the M4 corridor. The strategic proposals include looking to work on the 'Connected Core' of the Arc bringing many assets together at scale to create a driver of growth and innovation for the UK. This Core will look to build upon the Arc's existing strengths in life sciences and providing the best environment possible for the emergence of disruptive technologies, developing and testing new transport technologies and addressing existing constraints in energy, transportation, water and housing. The Arc's collective ambition is to become a world-leading ecosystem for high-growth businesses: with an environment that enables them to commercialise technologies, grow to scale, and export.

g) Cardiff Capital Region

4.78 The Cardiff Capital Region is a city region that extends across the south east corner of Wales comprising the ten authorities of Cardiff, Newport, Monmouthshire (which borders with Gloucestershire), Torfaen, Blaenau Gwent, Caerphilly, Merthyr Tydfil, Rhondda Cynon Taf, Bridgend and the Vale of Glamorgan. The Cardiff Capital Region is home to two cities (Cardiff and Newport) and three universities. It accounts for around 50% of the total economic output of the Welsh economy.

4.79 Similar to the agreements made between the UK Government and England's LEP area, a £1.2 billion City Deal for the Cardiff Capital Region was agreed in partnership with the Welsh Government and its ten local authorities in March 2016. The Deal included a 20-year Infrastructure Investment Fund; the creation of a non-statutory Regional Transport Authority to coordinate transport planning and investment; the creation of a Skills and Employment Board; and support for businesses, housing development and regeneration.

xix) Economic Growth Prospects

4.80 The Cardiff Capital Region (CCR) investment programme aims to deliver up to 25,000 new jobs and a 5% increase in GVA by leveraging an additional £4 billion of private sector investment, tackling barriers to economic growth, improving transport connectivity, enhancing skills and supporting businesses. One of the key sectors is CCR is the medical devices and diagnostics cluster, which comprises over 200 businesses, mainly SMEs, with a combined turnover of £1.5 billion and 8,000 employees.

4.81 The three key investment priorities of CCR include: infrastructure; innovation; and challenges posed by mobility, an ageing population, artificial intelligence and clean growth. The CCR Industrial Plan (2019) outlines three designated investment priorities (Innovation, Infrastructure and Challenge) that will support the delivery of the plan in order to drive forward the economic ambitions and priorities within the region. The strategic priority sectors that are targeted for investment within the Industrial Plan include:

- Compound Semiconductors, its supply chain and applications
- FinTech
- Cyber Security Analytics

- Artificial Intelligence and Data Science
- Creative Economy
- Life sciences, including the medical devices and diagnostics sub-sectors
- Transport Engineering, including automotive, trains and aircraft

4.82 The CCR Employment and Skills Plan 2019-22 sets out the growth prospects, challenges, and recommendations for future growth in the key sectors. It does not set out overall figures for expected jobs growth.

xx) Planned Development

4.83 Recently completed and forthcoming investment projects identified in the CCR include:

- Semiconductor foundry was opened in Newport in 2019, providing jobs for over 65 full time staff and forming a key component of the world's first Compound Semiconductor cluster.
- A £50 million programme of local transport schemes to support the implementation of the South Wales Metro was announced in March 2019 (Metro Plus Phase 1), including the creation of a transport interchange at Porth and the development of an East Cardiff Bus Priority and Cycle Superhighway.
- Bid submitted to the UK Strength in Places fund for funding to support the medical devices and diagnostics sector in CCR.
- Allocation of £50,000 funding to support Bridgend following the closure of the Ford Bridgend plant and the resultant loss of 1,700 jobs.
- Establishment of Housing Investment Fund to support the creation of high-quality housing to deliver 2,800 homes for the region.
- Development of a Fibre Provision Programme to bring fibre connectivity to 330,000 premises in core CCR towns and settlements.
- Roll-out of the Wales 5G Programme.
- Funding to support the creation of joint venture Life Sciences Park at Junction 32 of the M4, the first phase of which will comprise over 250,000 sq ft of R&D laboratory space and grade A office accommodation. The development is expected to create over 1,000 high-skilled jobs.

xxi) Summary

4.84 The core economic sectors that are the focus of future development and investment in CCR include advanced manufacturing, including semiconductors; cyber security and AI; the creative economy; transport engineering and the life sciences.

4.85 Whilst the focus of investment within CCR currently appears to be in infrastructure development (particularly transport, housing and broadband/telecommunications), there may be opportunities in the future to establish synergies with neighbouring Gloucestershire authorities in other sectors, such as cyber security AI and advanced manufacturing, by capitalising on proximity and transport connections from the south of the Gloucestershire region via the M4/M5.

h) Summary of Economic Prospects in Neighbouring Areas

4.86 This section has provided an overview of the growth priorities and prospects of neighbouring LEP areas and South East Wales. The table below summarises the priority sectors – i.e. the sectors which are being promoted for growth by the LEPs – and the largest growth sectors – i.e. those which are forecast the highest level of future growth.

4.87 There are a number of conclusions to be drawn from the data. Firstly, there are significant overlaps in the priority sectors for each LEP, and significant overlap with the growth sectors for Gloucestershire identified by GFirst LEP:

- Advanced manufacturing
- Aerospace manufacturing
- Agri-tech
- Cyber-tech
- Green Growth

4.88 Advanced manufacturing, and in particular aerospace manufacturing, are priorities for the majority of the LEPs. Cyber security is a priority sector for Swindon and Wiltshire LEP and Worcestershire LEP. Worcestershire LEP is also prioritising Agri-tech and Low carbon energy, while the West of England cites Low carbon industries as a priority sector.

4.89 The second point to note is the difference between priority sectors and the growth sectors for each LEP. In most cases these are different. The largest growth sectors commonly includes sectors such as Construction, and Health and social care and, for the larger city regions Financial and Professional services.

4.90 This highlights the reality that when planning for economic growth, it is these sectors – rather than the priority sectors – which are still expected to see the largest quantum of workers and the largest net growth in workers over the next 20 years.

Table 9. Summary Table – Neighbouring LEP Growth Sectors

	Priority Sectors	Largest Growth Sectors
Swindon and Wiltshire LEP	• Advanced engineering and high value manufacturing – Aerospace and Robotics • Health and life sciences • Financial and professional services • Digital and information and communications technology – Cyber security • Defence technologies – Securities, Aerospace	• Financial and Business Services • Visitor economy • Adult health and social care • Low carbon economy • Construction
West of England LEP	• Creative and digital media • Low carbon • High tech industries • Advanced engineering and aerospace • Professional services	• Professional, scientific and technical Services • Administrative and support services • Construction
Worcestershire LEP	• Advanced manufacturing • Cyber security • Agri-tech • Med-tech • Tourism / visitor economy • Low carbon energy • Broadband connectivity	• Manufacture of transport equipment • Residential Care and Social Work • Manufacture of machinery and equipment
The Marches LEP	• Advanced manufacturing • Business and professional services • Food and drink	• Environmental technology • Cyber security and resilience • Agri-tech • Innovative health and social care

Coventry and Warwickshire LEP	• Automotive manufacturing • Advanced manufacturing and engineering • Creative Industries and ICT	• Business support services • Health • Construction • Food and drink services • IT services • Warehousing and postal
Oxfordshire LEP	• Advanced engineering • Life sciences • Quantum computing • Robotics and Autonomous Systems • Energy • Creative industries	Sectoral data not available.
Cardiff Capital Region	• Electronic manufacturing • Financial technology • Cyber security analytics • Artificial intelligence and data science • Creative economy • Life sciences • Transport manufacturing	Sectoral data not available.

5.0 ECONOMIC BASELINE

5.1 This section provides a baseline assessment of the local and regional economic dynamics as a precursor to a more detailed analysis of the characteristics of Gloucestershire's economy and labour market.

5.2 The county of Gloucestershire is situated in the South West of England and covers Cheltenham, Cotswold, Forest of Dean, Gloucester, Stroud and Tewkesbury. The County is strategically positioned at the crossroads between Wales and London and the West Midlands and the South West. It is within reasonable proximity to the key cities of Birmingham to the north, Bristol to the south, Oxford to the east and Cardiff to the west.

5.3 The M5 motorway goes through the centre of the county from north to south-west and provides a series of opportunities reliant on this connectivity. The M50 runs east-west across the northern edge of the county linking the M5 to Ross-on-Wye. The main urban centres include Cheltenham and Gloucester although the more rural authorities of Stroud, Tewkesbury, Cotswold and the Forest of Dean also play a significant part in the county's economy.

5.4 Gloucestershire has a current resident population of 633,600 (ONS, 2018) and an economy which supports around 339,000 jobs (BRES). The jobs density for Gloucestershire is 0.89 based on 2017 data, which is also reflective of wider national levels.

5.5 Gloucestershire has a prosperous and resilient economy which is set within an attractive natural environment offering a high standard of living for residents. The county has sectorial strengths in science, technical, wholesale and retail, health and social care and construction and great potential for growth in Cyber-tech, Agri-tech and Advanced Engineering and Manufacturing.

5.6 The County hosts large, nationally important employers such as GCHQ in Cheltenham, has a strong high-value engineering sector particularly around Tewkesbury, is home to some key mid-to-large businesses including Renishaw, Ecotricity and Delphi, based in Stroud, and has a vibrant SME community with an above average number of 'innovation active' businesses. Gloucestershire is home to some key innovation assets including world-leading agri-food research organisation Campden BRI, the University of Gloucestershire, the Royal Agricultural University, and Hartpury University and College.

5.7 Whilst 60% of residents are aged between 16-64, which is representative of the working age population found in South West and Great Britain, the county faces a significant challenge in terms of losing its young people with around 400 more young people leaving than it attracts each year. In comparison Bristol attracts 4,000 more young people than it loses each year. A paper produced by The UK Commission for Employment and Skills (UKCES) suggests that for every new job created in the county, nine people will leave the workforce. In response to this issue GFirst LEP has priorities promoting Gloucestershire as a 'Magnet County' to attract and retain young workers.

5.8 In 2019 the LEP undertook a wide-ranging survey of young people (aged 14-25) to help identify the priorities of this age group. This identified the following conclusions:

- The sectors which were self-identified as the most attractive for young people currently living in Gloucestershire are Digital / IT, Education, Creative, and Health and social care;
- The key attraction for remaining within Gloucestershire is quality of lifestyle and environment, including spending time with family / friends. Flexible working opportunities was highlighted as a key part of this;
- However, the majority of interviewed (70% of 14-19s and 59% of 20-25s) planned to leave Gloucestershire within the next 5 years. The majority cited their reason for leaving as

attending university / higher education or for employment.

5.9 The annual rate of economic growth (%) compared to national averages (Figure 16) shows that Gloucestershire has had a more volatile trend pattern in annual productivity than that across England. However, in recent years Gloucestershire has experienced above average productivity growth. The 2016 UK Competitiveness Index ranked the GFirst LEP as the 14th (out of 38) most competitive LEP in the country. Similarly, in 2012, LEP Network data placed GFirst as the 9th most resilient LEP area.

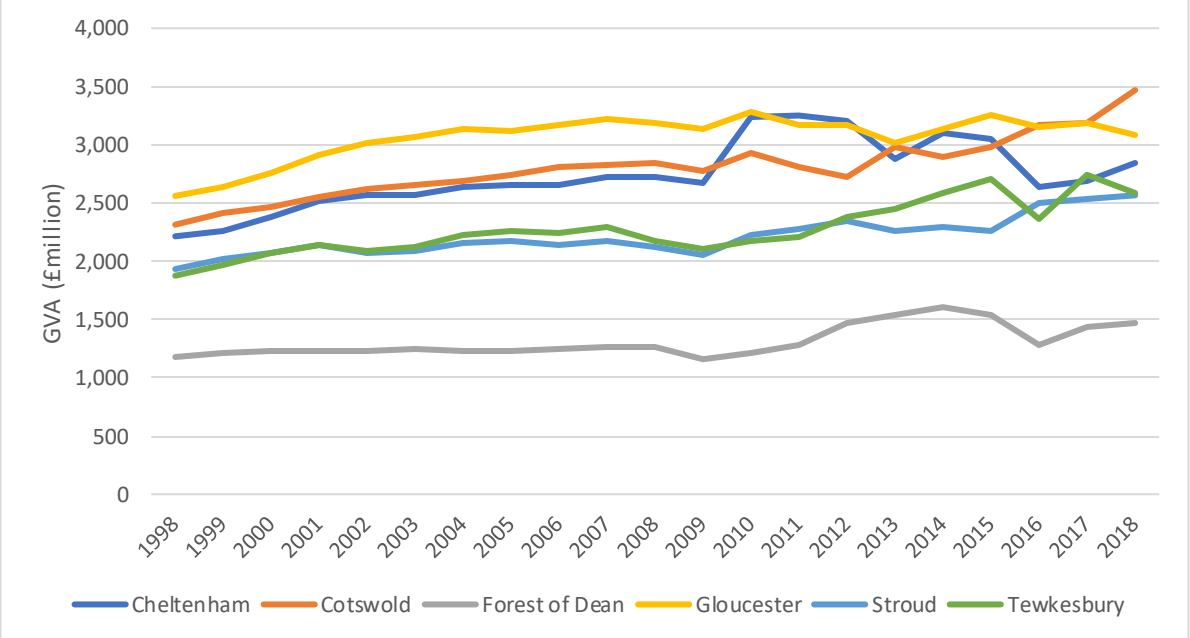
5.10 In 2017 the region of Gloucestershire had a £16.48 billion economy which accounts for 12.6% of the South West and 0.92% total output for the UK. Gloucestershire has a productive economy, ranking 13th out of 38 LEP areas for GVA per filled job.

5.11 Employee and business growth are positive, while business formation and survival rates have traditionally been high. However recent performance in business formation relative to England has presented a weaker trend, with the national average closing much of the gap that had developed historically.

5.12 Figure 16 considers historical economic performance in terms of GVA from 1991 to 2019. GVA (Gross Value Added) describes in effect the size of the local economy – it measures the total value of goods and services produced annually.

5.13 This shows Gloucester has generally maintained the highest GVA of all the Gloucestershire authorities whilst Forest of Dean has consistently maintained the lowest GVA. Between 1998-2019 there has been an overall increase in GVA experienced in all of the Gloucestershire authorities, with Cotswold seeing particularly strong growth in the last ten years, this was driven by growth in the in the Finance and Insurance and the Information and communications sectors.

Figure 16. GVA Growth by Authority, 1998-2019



Source: ONS

5.14 Table 10 compares the average annual growth rates over two different historic periods and shows the projected growth rate going forward. This shows all authorities are projected to see an increase in GVA of between 1.6-2.0% per annum over the period 2021-2041. This is broadly in the middle of the growth rates seen in Gloucestershire historically.

5.15 Conversely, there is also notable decline in GVA in Stroud and Cotswold between 2009-2019; the decline in Stroud was driven by a substantial loss in GVA in the Wholesale and Retail Trade sector in 2011 which could reflect delayed effects of the recession on this sector. The decline in GVA in the Cotswolds between 2009-2019 is largely attributable to a decrease in GVA in Finance and Insurance activities in the past ten years.

Table 10. GVA Average Annual Growth Rate by Authority

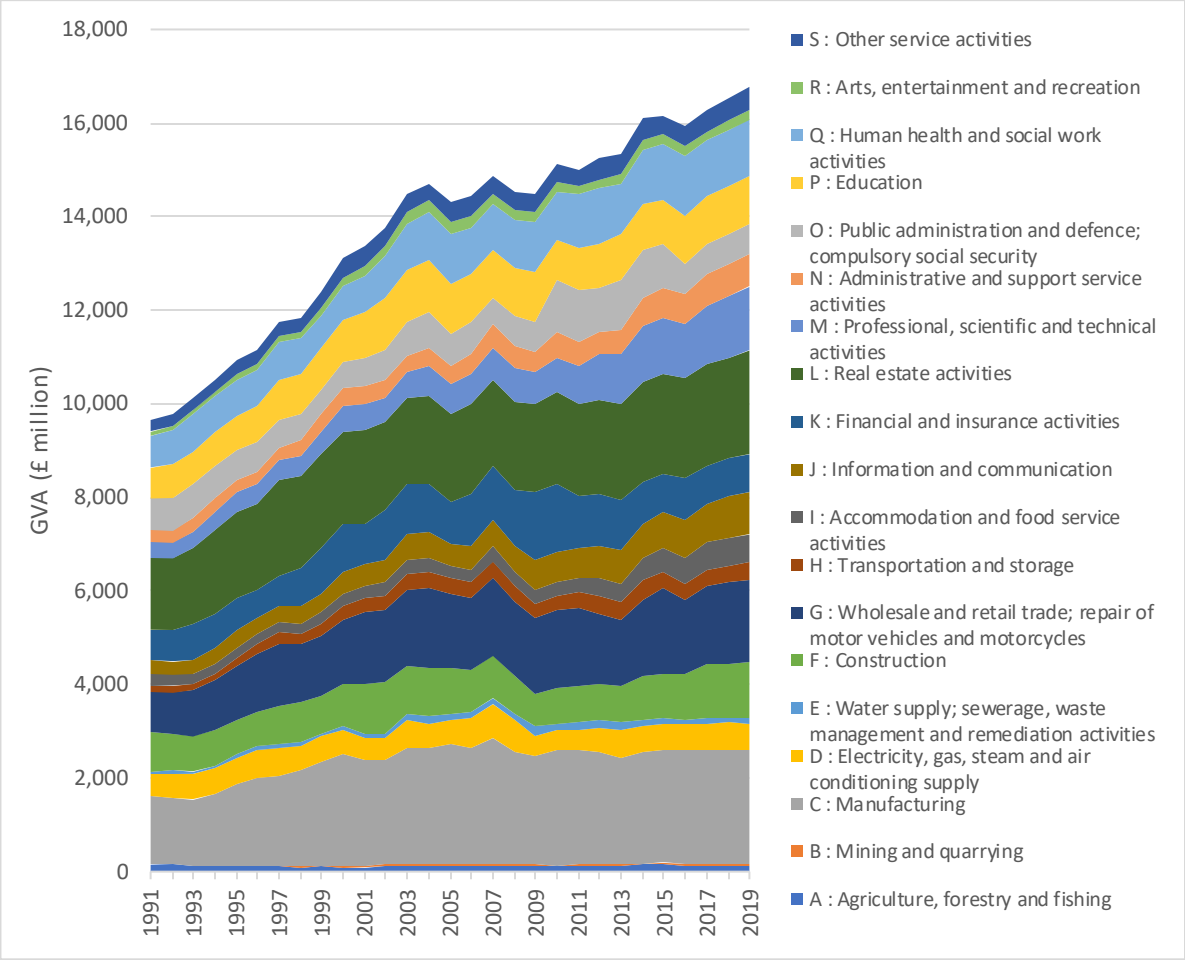
	1996-2009	2009-2019	CAGR 2021-2041
Cheltenham	2.2%	2.3%	1.9%
Cotswold	2.9%	-0.4%	2.0%
Forest of Dean	0.8%	2.7%	1.6%
Gloucester	2.1%	1.2%	2.0%
Stroud	2.0%	-1.1%	1.7%
Tewkesbury	2.7%	5.7%	2.0%
Gloucestershire	2.2%	1.6%	1.9%

Source: SPRU analysis of OE data

5.16 Figure 17 shows the growth in GVA by sector since 1991. By 2019, the sectors which provide the highest GVA to the Gloucestershire economy (those which contribute 5% or more to total productivity) are:

- Manufacturing (15%)
- Real estate (13%)
- Wholesale and retail trade (11%)
- Professional, scientific and technical (8%)
- Human health and social work (7%)
- Construction (7%)
- Education (6%)
- Information and communication (5%)
- Financial and insurance (5%)

Figure 17. GVA Growth by Sector, Gloucestershire, 1991-2019

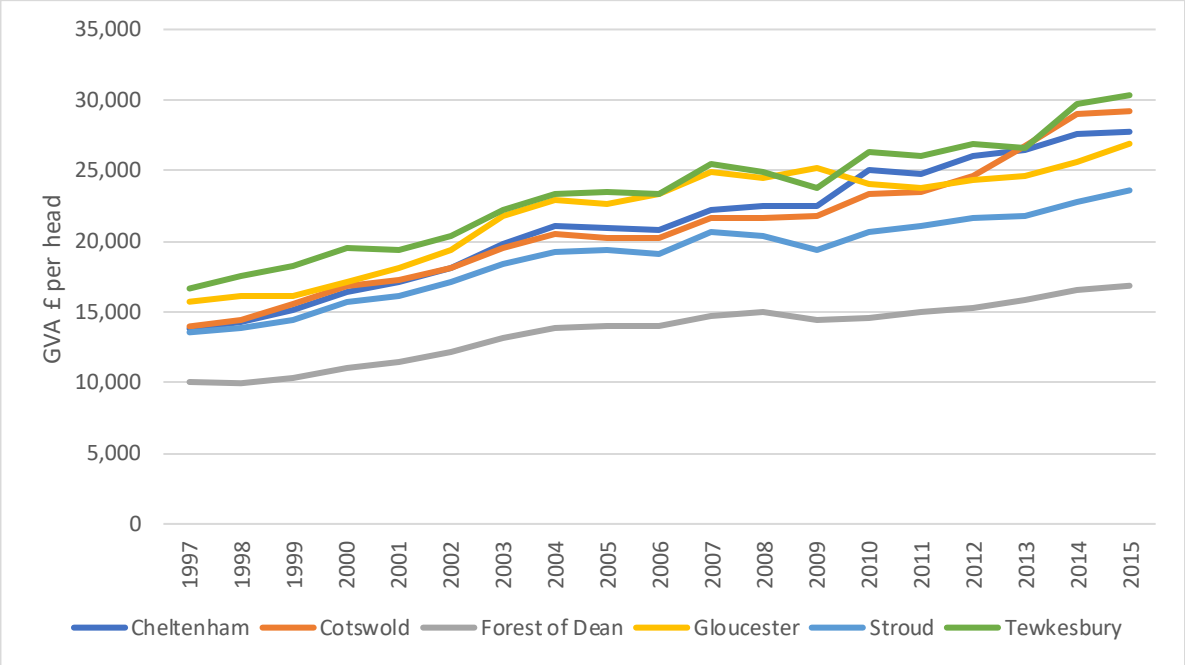


Source: OE

5.17 The authorities of Tewkesbury and the Cotswold have seen the sharpest rise in GVA per head in recent years relative to the rest of the county. The Forest of Dean has a significantly lower GVA per head with its 2015 GVA figure roughly equivalent to that for Tewkesbury in 1997. Whilst there could be an element of distortion due to the effects of out-commuting and age distribution variation, the other 'rural' authorities have consistently had a significantly higher GVA than the Forest of Dean.

5.18 Considering trends in productivity (see Figure 18) between 2002 and 2008 GVA growth in the county was in the lowest third in England. Following the financial crash in 2008 the productivity grew at a far greater rate than nationally in 2010 a peak year in which productivity grew by 8%. Since then Gloucestershire has seen much more inconsistency than the national picture, which saw slow yet positive growth.

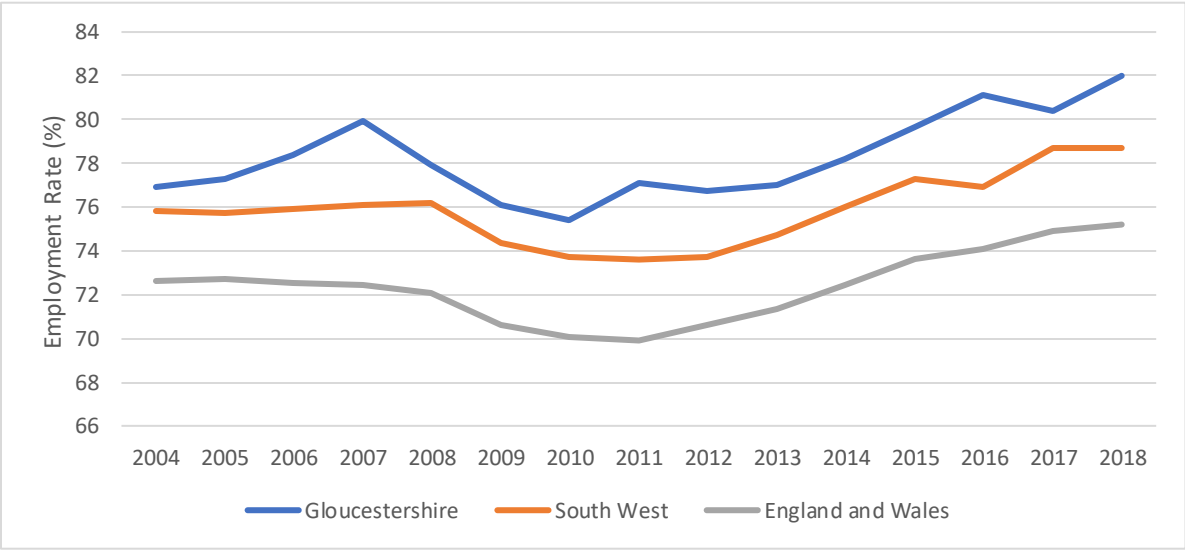
Figure 18. GVA per head (£) - Income Approach by Local Authority 1997 – 2015



Source: ONS

5.19 The total number in employment (aged 16+) in Gloucestershire at June 2019 was 323,000 (ONS annual population survey). This accounts for 80.9% of the population which is higher than both the south west at 79.3% and Great Britain at 75.6%. There is however significant variation across the County ranging from 75.8% in Cotswold to 88% in Forest of Dean.

Figure 19. Trends in Total Employment (aged 16-64)



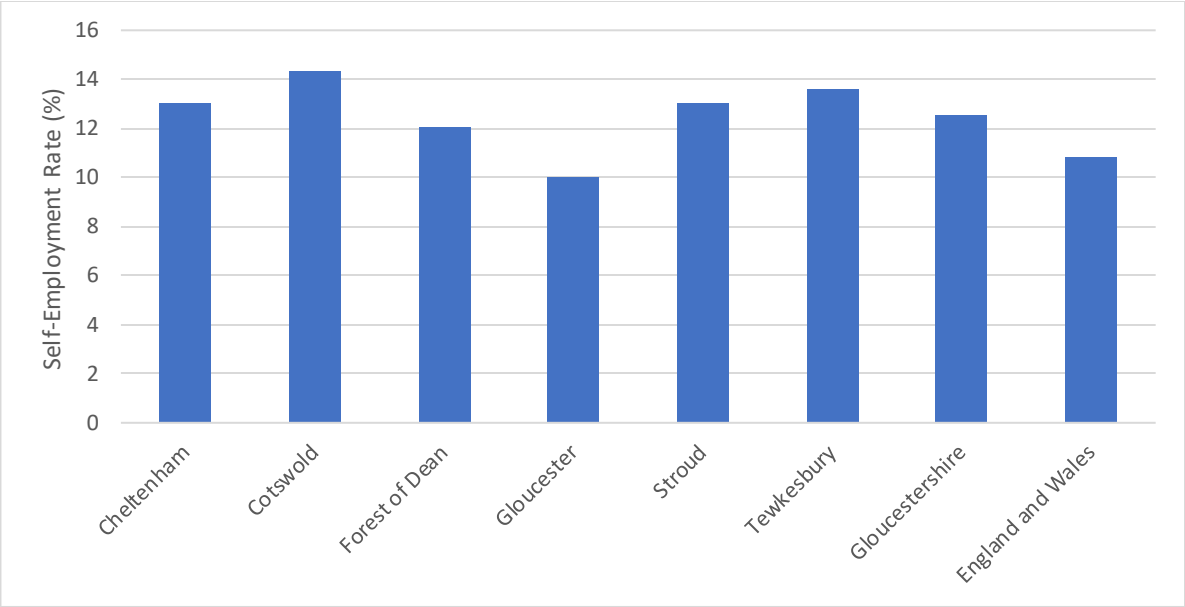
Source: Annual Population Survey

5.20 Figure 19 considers the trend in total employment since 2004. This shows the impact of the 2008 'Credit Crunch' and the following recessionary years. It shows that this had a significant impact on Gloucestershire's economy with the employment rate dropping by over 4% in Gloucestershire compared to the regional and national decrease of around 2%. However, it also displays a significant increase in Gloucestershire from 2010 onwards above both the

South West and England and Wales trend.

5.21 Figure 20 shows the levels of self-employment as a percentage of total employment for each area. Across Gloucestershire 12.5% of workers are self-employed. This is higher than the national average of 10.9%. Self-employment in Gloucestershire has grown steadily since 2006/07 when it stood at 10.1%. This reflects the national trend which has also increased from 9.2% over this period. All of the Gloucestershire authorities are higher than the national average with the exception of Gloucester (10.0%). Cotswold has the highest rate of self-employment at 14.3%.

Figure 20. Self-Employment Rate, 2018/19



Source: Annual Population Survey

5.22 Table 11 assesses the composition of employment in Gloucestershire and its authorities relative to the South West and England and Wales. It considers employment in sectors. The 5 largest employment sectors are highlighted for each authority area. This shows the measure by number of employees taken from the BRES survey data.

- Across Gloucestershire, the largest sectors of employment are Wholesale retail trade and Human healthcare and social work, this is broadly reflective of the share across the South West and also across England and Wales. Manufacturing and Accommodation and food services are the next largest sectors in Gloucestershire, both showing notably higher proportions of jobs than national or regional averages. Manufacturing is particularly high accounting for 11.8% of jobs in Gloucestershire, compared to 8.2% nationally.
- Human health and social work are significantly higher in Gloucester than in the other Gloucestershire authorities at over 20% which is also significantly higher than that of South West and in England and Wales.
- Manufacturing is broadly high across Gloucestershire, being the greatest employer in Forest of Dean, Stroud, and Tewkesbury. Outside of Gloucestershire, Manufacturing provides around 8% of employees, however this accounts for 21.7% of employees in Tewkesbury.
- Accommodation and food service activities are broadly regionally representative within the South West and across England and Wales. Cotswold has a particularly strong employment rate in this section at 13.6%, reflective of its strengths in attracting tourism into the area. However, Forest of Dean which also promotes a tourism offer is only broadly in line with national figures.

- Employment within Public administration and defence are high in Gloucester at 7.1%, which is above all other authorities and about the national rate.

Table 11. Composition of Employment, 2018

	Gloucestershire	Cheltenham	Cotswolds	Forrest of Dean	Gloucester	Stroud	Tewkesbury	South West	England and Wales
G : Wholesale and retail trade; repair of motor vehicles and motorcycles	15.2%	16.4%	15.9%	12.5%	15.9%	14.3%	13.0%	15.8%	15.3%
Q : Human health and social work activities	14.2%	16.4%	8.0%	14.6%	20.6%	12.2%	10.9%	14.8%	12.9%
C : Manufacturing	11.8%	6.6%	6.8%	16.7%	6.3%	18.4%	21.7%	8.5%	8.2%
I : Accommodation and food service activities	9.0%	9.8%	13.6%	7.3%	6.3%	9.2%	6.5%	9.7%	7.5%
P : Education	8.3%	9.8%	8.0%	10.4%	7.1%	9.2%	5.4%	8.7%	8.9%
M : Professional, scientific and technical activities	7.3%	8.2%	9.1%	5.2%	4.8%	6.1%	9.8%	7.2%	8.8%
N : Administrative and support service activities	6.9%	7.4%	8.0%	5.2%	7.9%	4.6%	6.5%	6.6%	9.1%
F : Construction	5.5%	4.1%	5.7%	6.3%	4.0%	7.1%	7.6%	5.3%	4.6%
J : Information and communication	4.2%	5.7%	4.5%	2.5%	3.6%	3.6%	3.8%	3.4%	4.3%
H : Transportation and storage	3.1%	1.5%	2.3%	5.2%	3.2%	3.1%	4.3%	3.9%	4.8%
K : Financial and insurance activities	3.1%	3.7%	3.4%	1.3%	4.8%	0.5%	3.8%	2.8%	3.4%
O : Public administration and defence; compulsory social security	2.8%	1.0%	1.0%	2.1%	7.1%	2.0%	2.2%	4.4%	4.1%
R : Arts, entertainment and recreation	2.4%	2.5%	4.0%	2.5%	2.0%	3.1%	1.5%	2.7%	2.4%
S : Other service activities	1.7%	2.0%	2.0%	1.9%	2.0%	1.4%	1.3%	1.9%	2.0%
L : Real estate activities	1.7%	2.0%	2.8%	2.1%	1.4%	1.2%	1.3%	1.8%	1.7%
A : Agriculture, forestry and fishing	1.0%	0.0%	2.8%	3.3%	0.0%	1.0%	0.9%	1.0%	0.6%
D : Electricity, gas, steam and air conditioning supply	0.9%	0.1%	0.4%	0.2%	2.4%	1.8%	0.0%	0.5%	0.5%
E : Water supply; sewerage, waste management and remediation activities	0.6%	0.5%	0.5%	0.7%	0.2%	0.9%	1.1%	0.9%	0.7%
B : Mining and quarrying	0.1%	0.0%	0.5%	0.1%	0.0%	0.1%	0.0%	0.1%	0.1%

Source: BRES 2018

5.23 Location Quotients (LQ) have been used to analyse the specialisms within the local economy. These describe the proportion of employment in a sector relative to a wider area (in this case England).

5.24 An LQ of 1 means there is the same level/concentration of employment in this sector as is the case across the rest of the country. An LQ above 1 means there is a high concentration of employment in that sector within the local economy; for example, a LQ of 2.0 equates to twice the proportion of employment in the sector locally compared to England as a whole.

5.25 The LQ analysis identified the following with regard to employment concentration across Gloucestershire:

- Gloucestershire – Overall, the LQ analysis shows that Gloucestershire has a relative strength in the sectors of Agriculture, forestry and fishing; Mining and quarrying; Manufacturing; and Electricity, gas and steam supply. Conversely, there is a relatively low representation in the Transport and storage; Administrative and support services; and Professional, scientific and technical service sectors. Employment in Public Administration and defence is slightly above national average but this is very focusse din the administrative centres of Gloucester and Cheltenham.
- Cheltenham – the sectoral profile of Cheltenham is quite different from that of Gloucestershire as a whole, with the Borough having high LQs in many predominantly office-based sectors

such as Public administration and defence; Information and communication; and Financial and insurance activities. Cheltenham also has a high proportion of jobs in the Accommodation and food service sector – second only to Cotswold.

- Cotswold – the visitor economy is very important to Cotswold's economy as reflected in a very high representation in sectors such as Accommodation and food service, and Arts, entertainment and recreation, which is driven by jobs in the Sports activities and amusement recreation sub-sector. Additionally, there is high representation in sectors such as Agriculture, forestry and fishing and Mining and quarrying reflecting the rural nature of the district.
- Forest of Dean – the predominantly rural nature of the district is reflected in high representation in sectors such as Agriculture, forestry and fishing and Mining and quarrying. In addition the district has high LQs in Manufacturing – almost twice the national average – and Construction sectors. Conversely, all of the heavily office-based sectors are less well represented in Forest of Dean's economy.
- Gloucester – the city has a high representation of office-based sectors such as Public administration and defence and Financial and insurance activities. However, unlike Cheltenham, this is not reflected in all heavily office-based sectors, for example Gloucester has relatively low LQs in Professional, scientific and technical services and Real Estate sectors. Conversely, Gloucester has a very high representation of Electricity, gas and steam jobs – over five time the national average rate – this is driven by Electric power generation, transmission and distribution and Steam and air conditioning supply. As with Cheltenham and Cotswold, the proportion of Manufacturing jobs in Gloucester is lightly below the national average.
- Stroud – along with Tewkesbury, Stroud has the highest proportion of manufacturing jobs within its economy. In Stroud this is primarily driven by the Manufacturing of computer, electronic and optical products, and the Manufacture of beverages. There is very high employment in electricity, gas and steam supply driven by the sub sector of Electric power generation, transmission. Stroud also has relatively high employment in the visitor economy (Accommodation and food service and Arts, entertainment and recreation). Conversely, all of the heavily office-based sectors are less well represented in Stroud's economy.
- Tewkesbury – along with Stroud, Tewkesbury has a high level of employment in Manufacturing. In Tewkesbury this is focussed in the the Manufacturing of computer, electronic and optical products and the Manufacture of other transport equipment sub-sectors. Tewkesbury also has higher representation in the Water supply, sewerage, waste and Construction sectors. Conversely, the Borough has lower LQs in many of the office based sectors although it does have above average representation in Financial and insurance activities.

Figure 21. Location Quotient Analysis by Sector – Relative to England, 2018

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Gloucestershire
Agriculture, forestry and fishing	0.1	4.0	5.7	0.0	2.2	2.0	1.8
Mining and quarrying	0.0	6.3	1.5	0.0	0.9	0.0	1.3
Manufacturing	0.8	0.8	1.9	0.8	2.4	2.6	1.5
Electricity, gas and steam	0.3	0.8	0.4	5.4	4.0	0.0	1.9
Water supply, sewerage, waste	0.7	0.7	1.0	0.2	1.3	1.5	0.9
Construction	1.0	1.3	1.4	0.8	1.4	1.5	1.2
Wholesale and retail trade	1.0	1.1	0.8	1.1	1.0	0.8	1.0
Transportation and storage	0.3	0.4	1.1	0.6	0.6	0.9	0.6
Accommodation and food service	1.5	2.0	1.0	0.8	1.2	0.8	1.2
Information and communication	1.3	1.0	0.5	0.8	0.8	0.8	0.9
Financial and insurance activities	1.2	0.9	0.3	1.4	0.2	1.1	0.9
Real estate activities	1.0	1.4	1.0	0.7	0.7	0.7	0.9
Professional, scientific and technical	1.1	0.9	0.5	0.6	0.6	1.0	0.8
Administrative and support service	0.8	0.8	0.5	0.9	0.5	0.7	0.7
Public administration and defence	2.3[2]	0.2	0.5	1.8	0.5	0.5	1.1
Education	1.1	0.9	1.3	0.8	1.0	0.6	0.9
Human health and social work	1.3	0.6	1.0	1.6	0.9	0.8	1.1
Arts, entertainment and recreation	1.0	1.5	0.9	0.8	1.2	0.7	1.1
Other service activities	1.2	1.0	0.9	0.9	0.7	0.6	1.0

Source: SPRU analysis of BRES data

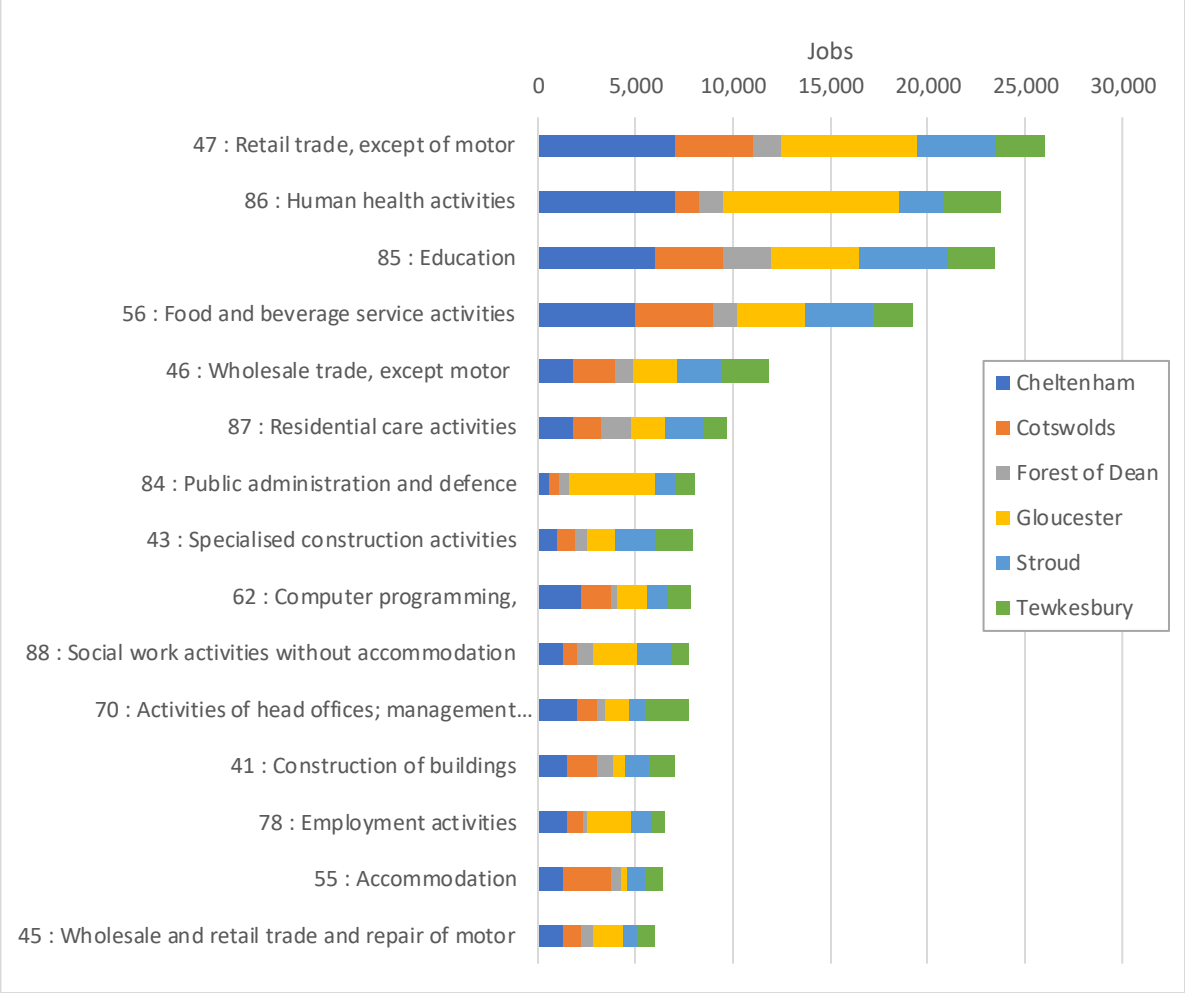
5.26 Figure 22 shows those key sectors within Gloucestershire with more than 6,000 employee jobs. The Education, Food and Beverage, Human Health, Residential Care, and Retail Trade industries each support over 1,000 employees within each authority area.

- Within Cheltenham, other key industries providing a high proportion of employee jobs include buildings and landscape services; employment activities, and Legal and accounting.
- Within Cotswold, the accommodation industry has a notably larger proportion of jobs (at approximately 2,500) as well as sports and recreation (1,500) which relates to the reliance on tourism for employment generation.
- Gloucester has additional major employment in Public Administration and Defence and Financial Services. Social work and Wholesale Trade also provide significant employment.
- Stroud has a notable employment base within manufacturing activities including electronic manufacturing; food manufacturing; machinery manufacturing; and metal fabrication, providing approximately 6,750 jobs in combination.
- Tewkesbury also provides a significant proportion of jobs in Transport Equipment

[2] This has been amended due to an error in the survey data for 2018.

Manufacturing, Metal fabrication and machinery manufacturing.

Figure 22. Largest Sub-Sectors in Gloucestershire



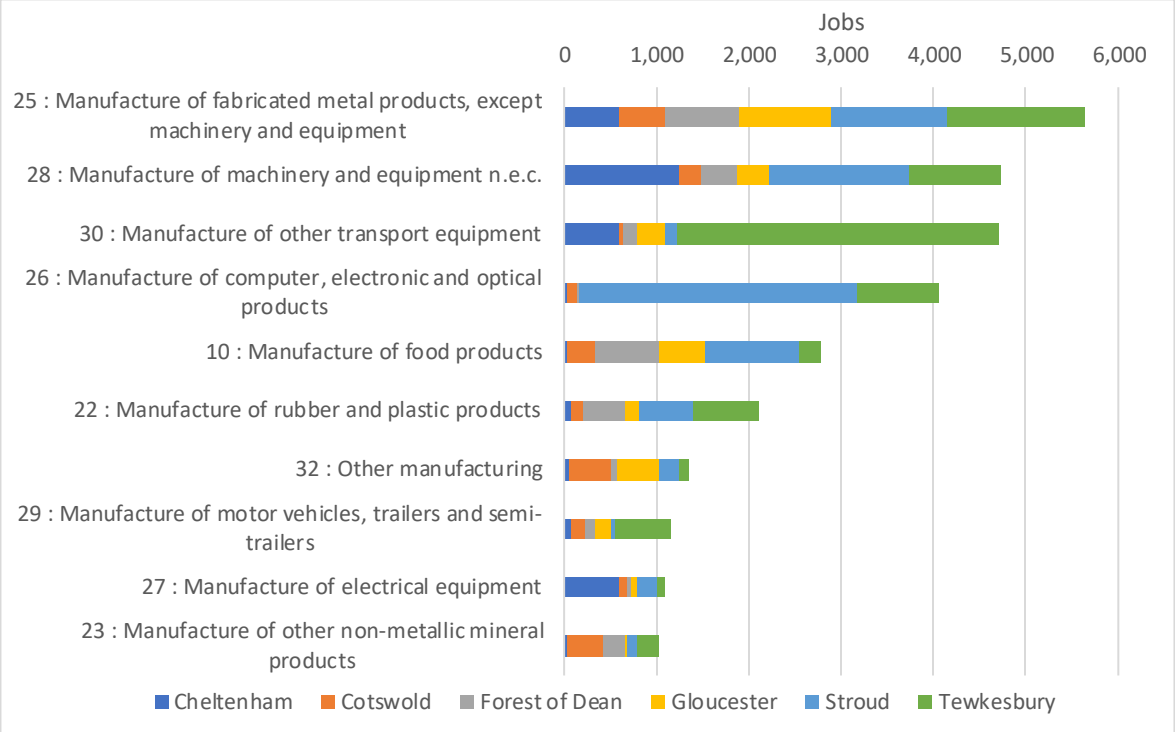
Source: BRES 2018

5.27 Figure 23 sets out the number of jobs in the largest manufacturing sub-sectors in Gloucestershire. This shows all sub-sectors with more than 1,000 jobs. This shows the prevalence of advanced manufacturing sub-sectors within the Gloucestershire economy – manufacture of machinery and equipment; transport equipment; computer, electronic and optical products; motor vehicles; and electrical equipment. Together, these sub-sectors account for 46% of all manufacturing jobs in Gloucestershire.

5.28 The authorities with the greatest number of manufacturing jobs are Stroud and Tewkesbury which respectively have 9,700 and 9,600 jobs in the sector, each accounting for 28% of the Gloucestershire total. Forest of Dean has just over 4,000 (12% of the total), Cheltenham and Gloucester both have around 3,900 jobs (11%), and Cotswold has 3,100 jobs (9%).

5.29 Tewkesbury has the largest number of jobs in the advanced manufacturing sub-sectors with 6,100 jobs, accounting for 39% of the Gloucestershire total. Tewkesbury has a particular strength in the manufacture of 'other transport equipment' which is primarily aerospace. Stroud also has a large number of advanced manufacturing jobs with 4,900 (31%). Cheltenham has 2,600 (16%) while the other three authorities have less than 1,000 (6%) each.

Figure 23. Largest Manufacturing Sub-Sectors in Gloucestershire



Source: BRES 2018

5.30 The table below shows the growth in jobs in the Manufacturing sector as a whole and within the Advanced manufacturing sub-sector over the period since 2009. This shows that overall there has been a slight decline in the total number of Manufacturing jobs. This is due to net losses in Cheltenham and Gloucester, although all the other authorities saw net growth.

5.31 Conversely, Gloucestershire has seen a strong growth in jobs in Advanced manufacturing over this period. There has been a total growth of 2,215 jobs over this period – an average annual growth rate of 1.8% per annum. All authorities have seen net growth in Advanced manufacturing jobs with particularly strong growth in Stroud (1,125 job increase) and Tewkesbury (545 job increase).

Table 12. Growth in Manufacturing and Advanced Manufacturing, 2009-18

	All Manufacturing		Advanced Manufacturing	
	Jobs Growth	**Growth Rate**	**Jobs Growth**	**Growth Rate**
Cheltenham	-610	-1.6%	345	1.7%
Cotswold	20	0.1%	30	0.8%
Forest of Dean	355	1.0%	130	2.7%
Gloucester	-1,060	-2.7%	40	0.6%
Stroud	175	0.2%	1,125	3.0%
Tewkesbury	655	0.8%	545	1.2%
Gloucestershire	-465	-0.2%	2,215	1.8%

Source: BRES

a) Business Demography

5.32 Table 13 shows there were 34,360 business units within Gloucestershire in 2019. The concentration and composition of businesses for each authority area is shown as a percentage. The composition of business units across Gloucestershire as a whole is reflective of that across England and Wales, however it has a higher percentage of agriculture, forestry and fishing business units than the national picture, at 6.7% rather than 4.1%, demonstrating the role of the rural economy in supporting livelihoods in the county, particularly in Cotswold and Forest of Dean.

5.33 For individual authorities, the following sectors show significant deviation from the Gloucestershire or national business profile:

- Cheltenham has a high proportion of businesses in the Professional, Scientific and technical; Information and communication; and Financial and insurance sectors.
- Cotswold has a high proportion of businesses in the Professional, Scientific and technical; Agriculture, forestry and fishing; and Arts, entertainment and recreation sectors.
- Forest of Dean has a high proportion of businesses in the Agriculture, forestry and fishing; Manufacturing; and Transportation and storage sectors.
- Gloucester has a high proportion of businesses in the Wholesale and retail trade; Construction; Accommodation and Food; and Health and social work sectors.
- Stroud has a high proportion of businesses in the Professional, Scientific and technical; Agriculture, forestry and fishing; and Manufacturing sectors.
- Tewkesbury has a high proportion of businesses in the Information and communication; Agriculture, forestry and fishing; and Manufacturing sectors.

Table 13. Number and Concentration of Businesses by Sector, 2019

	Cheltenham		Cotswold		Forest of Dean		Gloucester		Stroud		Tewkesbury		Gloucestershire		England and Wales	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Professional, scientific and technical	1,265	19.6%	1,220	17.6%	565	12.5%	545	11.1%	1,135	16.9%	790	16.3%	5,525	16.1%	452,680	15.8%
Wholesale and retail trade	975	15.1%	1,010	14.6%	580	12.8%	965	19.7%	950	14.2%	660	13.6%	5,140	15.0%	466,680	16.3%
Construction	590	9.1%	660	9.5%	510	11.3%	605	12.3%	765	11.4%	580	12.0%	3,715	10.8%	321,160	11.2%
Administrative and support	580	9.0%	500	7.2%	370	8.2%	385	7.8%	495	7.4%	360	7.4%	2,695	7.8%	248,690	8.7%
Information and communication	670	10.4%	425	6.1%	240	5.3%	350	7.1%	510	7.6%	420	8.7%	2,615	7.6%	221,280	7.7%
Agriculture, forestry and fishing	55	0.9%	810	11.7%	600	13.3%	15	0.3%	515	7.7%	395	8.1%	2,385	6.9%	117,325	4.1%
Accommodation and food	450	7.0%	455	6.6%	250	5.5%	365	7.4%	360	5.4%	250	5.2%	2,130	6.2%	181,670	6.3%
Manufacturing	215	3.3%	335	4.8%	290	6.4%	245	5.0%	420	6.3%	310	6.4%	1,820	5.3%	133,345	4.7%
Human health and social work	365	5.7%	215	3.1%	215	4.8%	395	8.0%	320	4.8%	210	4.3%	1,725	5.0%	143,925	5.0%
Real estate activities	280	4.3%	275	4.0%	125	2.8%	155	3.2%	210	3.1%	165	3.4%	1,205	3.5%	104,615	3.6%
Other service	235	3.6%	205	3.0%	140	3.1%	230	4.7%	205	3.1%	140	2.9%	1,150	3.3%	104,835	3.7%
Transportation and storage	120	1.9%	120	1.7%	270	6.0%	225	4.6%	180	2.7%	150	3.1%	1,060	3.1%	117,860	4.1%
Arts, entertainment and recreation	165	2.6%	285	4.1%	115	2.5%	105	2.1%	205	3.1%	115	2.4%	990	2.9%	78,765	2.7%
Financial and insurance	315	4.9%	150	2.2%	55	1.2%	120	2.4%	130	1.9%	110	2.3%	875	2.5%	70,680	2.5%
Education	135	2.1%	150	2.2%	105	2.3%	125	2.5%	185	2.8%	115	2.4%	815	2.4%	66,195	2.3%
Public administration and defence	25	0.4%	60	0.9%	50	1.1%	50	1.0%	55	0.8%	50	1.0%	290	0.8%	20,340	0.7%
Water supply, sewerage, waste	10	0.2%	15	0.2%	25	0.6%	15	0.3%	15	0.2%	25	0.5%	105	0.3%	10,465	0.4%
Electricity, gas, steam	5	0.1%	15	0.2%	10	0.2%	15	0.3%	40	0.6%	5	0.1%	95	0.3%	5,220	0.2%
Mining and quarrying	0	0.0%	15	0.2%	5	0.1%	0	0.0%	5	0.1%	0	0.0%	25	0.1%	1,555	0.1%
Total	**6,455**		**6,920**		**4,520**		**4,910**		**6,700**		**4,850**		**34,360**		**2,867,285**	

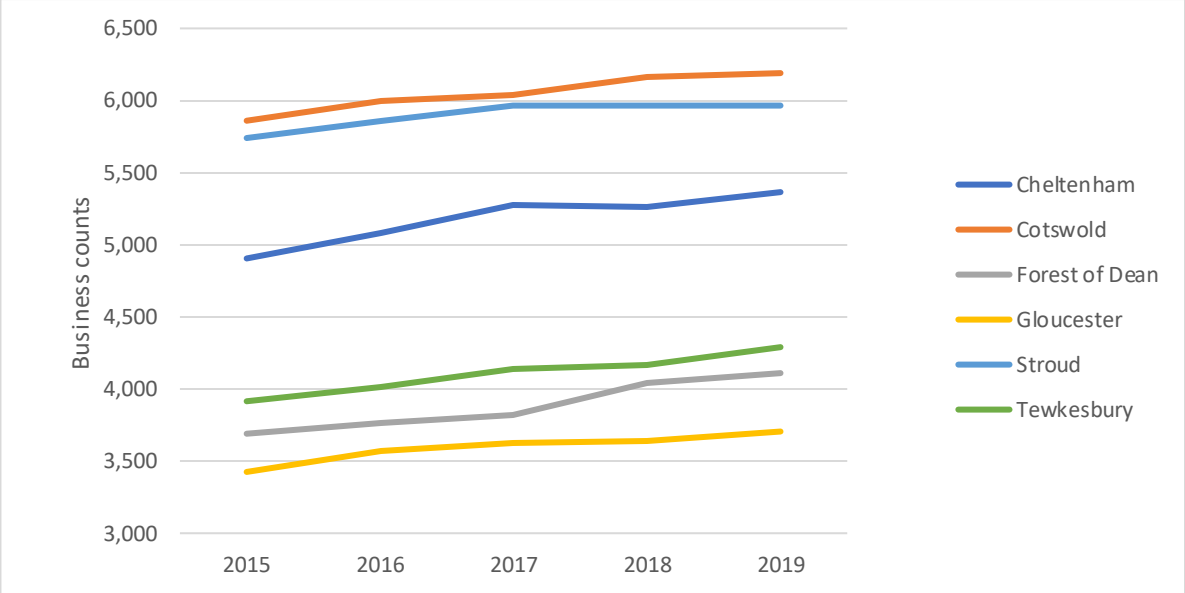
Source: ONS (2019) UK Business Count

5.34 Figure 24 sets out the growth in active enterprises across the Gloucestershire authorities. The graph shows that whilst the Cotswolds and Stroud have a greater number of businesses active (Gloucester has the lowest number of businesses active), the levels of employment generated by the number businesses is not linear. Gloucester has the lowest number of businesses active yet generates the highest number of employees whilst the Cotswolds and Stroud are home to the most business units yet provide proportionally far lower employment opportunities. This suggests the City of Gloucester may be home to a greater number of key large employers, whereas the Cotswold and Stroud are likely to have a greater number of smaller enterprises.

5.35 There has been a steady growth in active enterprise in all authorities in Gloucestershire over the last 5 years. Stroud and the Cotswolds have the highest number of businesses; however, they have also seen the smallest percentage increase in business growth at 3.9% and 5.6% since 2015 compared to a growth of 11.4% in the Forest of Dean over the same period.

5.36 There is a marked difference in the number of enterprises across the authorities, with the Cotswolds having 2,485 more businesses than Gloucester in 2019.

Figure 24. Growth in Active Enterprises

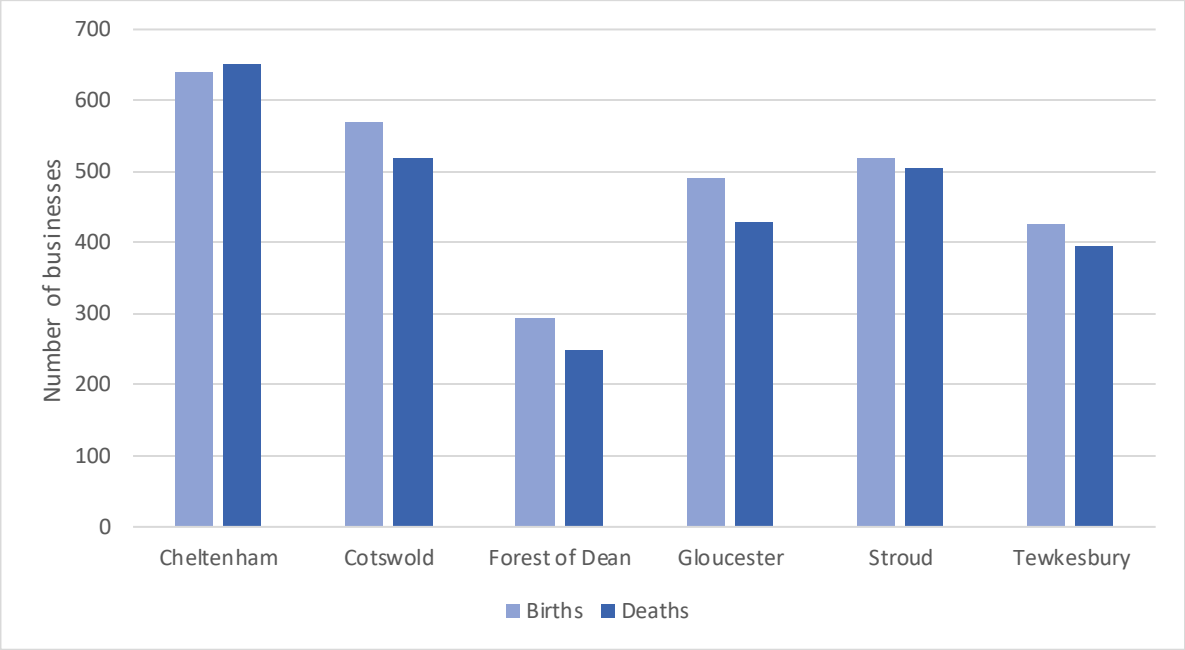


Source: ONS Business Demographic Statistics

5.37 The growth in business numbers is presented as a net growth and Figure 25 breaks down to show the business births and deaths between 2017 and 2018. Overall there was a net positive business growth across Gloucestershire, where only Cheltenham recorded greater business deaths than births at 650 to 640. This has since increased, and the latest data shows a net increase in business between 2018 and 2019 in Cheltenham.

5.38 The data also shows is that in Cheltenham, despite being the only authority area showing a decline in net business growth in 2018, has seen a far greater number of births than elsewhere in the county, which could reflect the ability of Cheltenham to attract and generate new enterprise or a greater level of business space availability.

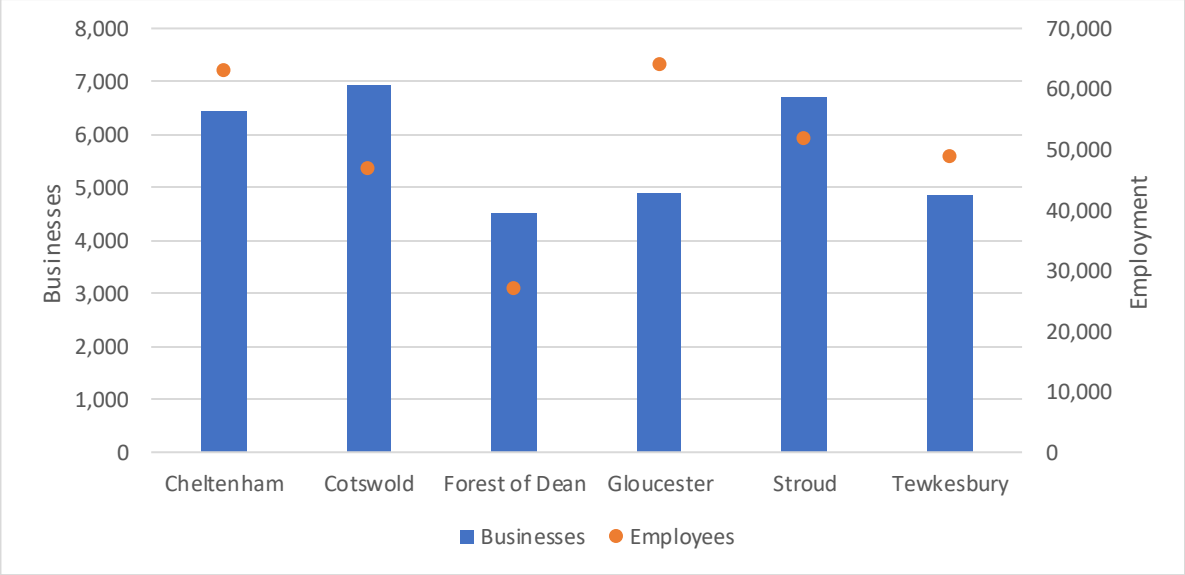
Figure 25. Business Births and Deaths



Source: ONS Business Demography UK, November 2019

5.39 The figure below shows the number of businesses and business units in each area compared to the number of employees. This shows Cheltenham and Gloucester as having the largest levels of employment. However, Gloucester has a relatively low number of businesses, but a higher proportion of large employers and a lower self-employment rate. This results in an average of 13.0 workers per business. For comparison, the Gloucestershire average is 8.8 and the England and Wales average is 9.8. Forest of Dean (6.0), Cotswold (6.8), and Stroud (7.8) all have fewer than average workers per business, while Cheltenham (9.8) and Tewkesbury (10.1) are broadly inline with the national average.

Figure 26. Comparison of Business Units and Employees generated



Source: ONS Business Demography UK 2018/19

b) Summary

5.40 This section provides a baseline assessment of the local and regional economic dynamics in Gloucestershire. The Gloucestershire economy currently supports around 339,000 jobs. The annual rate of economic growth (%) compared to national averages. However, in recent years Gloucestershire has experienced above average productivity growth.

5.41 Gloucestershire has particularly high proportions of jobs in the Manufacturing and Accommodation and food service sectors Manufacturing shows notably higher proportions of jobs than national or regional averages, accounting for 11.8% of jobs in Gloucestershire, compared to 8.2% nationally. Manufacturing jobs are particularly high in Tewkesbury (21.7%), Stroud (18.4%), and Forest of Dean (16.7%). In terms of productivity, the Manufacturing sector contributes 15% of Gloucestershire's total GVA – more than any other sector.

5.42 There is a particular prevalence of advanced manufacturing sub-sectors within the Gloucestershire economy – manufacture of machinery and equipment; transport equipment; computer, electronic and optical products; motor vehicles; and electrical equipment. Together, these sub-sectors account for 46% of all manufacturing jobs in Gloucestershire.

5.43 Gloucestershire is a diverse county and Cheltenham and Gloucester have a very different jobs profile. Location quotient analysis shows Cheltenham has strength in many predominantly office-based sectors such as Public administration and defence; Information and communication; and Financial and insurance activities. Gloucester has strength in Public administration and defence and Financial and insurance activities and Electric power generation.

5.44 The business demography shows the largest number of businesses in Professional, scientific and technical activities indicating a large number of smaller businesses within the sector. Gloucester has a relatively low number of businesses, but a higher proportion of large employers and a lower self-employment rate. This results in an average of 13.0 workers per business, compared to the Gloucestershire average of 8.8 and the England and Wales average of 9.8.

6.0 COMMERICAL PROPERTY MARKET TRENDS

6.1 This chapter provides a qualitative and quantitative assessment of Gloucestershire's commercial property market. The first part provides a qualitative assessment based on feedback received from stakeholder engagement. The second part provides a quantitative assessment based on a range of data sources. The final part of this chapter looks at the future employment land requirement for each authority based on a past completions trend and interprets this in the context of the commercial market signals.

a) Qualitative Assessment

6.2 The qualitative assessment is based on engagement with a range of stakeholders with interests and insights into Gloucestershire's commercial property market, including the GFirst LEP, local businesses, and commercial property agents. The findings are summarised below.

i) Industrial Market

6.3 The majority of respondents saw Gloucestershire as primarily a manufacturing economy. This is evidenced in the high number of SMEs and business creation in the manufacturing sector, and reflects Gloucestershire's entrepreneurial culture. It was argued that this is not as evident in sectors such as financial and business services.

6.4 Gloucestershire has always had a strong heritage of manufacturing and while the county has seen a restructuring of the sector in the 1980s and 1990s, Gloucestershire's manufacturing base is now stable and growing and has been for the last ten to twenty years.

6.5 Therefore, the manufacturing sector in Gloucestershire is not expected to lose the considerable number of jobs shown in the econometric forecasts. It was felt that the national trends of losses across the sector are not appropriate for Gloucestershire.

6.6 Many manufacturing sub-sectors are very reliant on the local skilled labour supply. Gloucestershire has a very skilled workforce – particularly relating to certain high-end manufacturing sub-sectors, and other highly skilled sectors such as nuclear energy, other forms of energy, and cyber security.

6.7 The Food and drink manufacturing sector is well represented in Gloucestershire with many world renowned food and drink establishments supporting the entire food and drink supply chain – for example, Campden BRI; Royal Agricultural University; and Hartpury College.

ii) Industrial location

Joint Core Strategy Area

6.8 Interest in industrial space in Gloucestershire is focussed primarily along the M5 corridor, and most strongly at the junctions between J9-J11a spanning Tewkesbury Borough and serving Cheltenham and Gloucester; and J12 in Stroud district, which serves the Gloucester and Stroud markets. However J12 is slightly distinct in terms of offer and serves the Gloucester and Stroud markets but is likely to be an attractive destination for businesses seeking an alternative to Cheltenham.

6.9 There was considered to be substantial demand for industrial space in both Cheltenham and Gloucester markets, although the supply of space is currently very limited in both local authority areas, which are tightly bound to the urban areas.

6.10 Because of this there is a trend for occupiers looking to expand or move to new premises, leaving Cheltenham and Gloucester local authority areas to nearby space in neighbouring authorities. Recently there has been a trend of businesses moving out of Cheltenham into business parks in Tewkesbury Borough and out of Gloucester to business parks in Tewkesbury Borough and Quedgeley (Stroud). Gloucester Business Park is cited as the

most popular destination, although the space available there is becoming more limited. Sites around Gloucester Airport at J11 were also cited as popular. All these locations benefit from proximity to Cheltenham and Gloucester but fall within neighbouring authority areas.

6.11 There has been significant investment at Gloucester Business Park in the past few years with large amounts of space taken by large firms in machinery, aviation, automotive, and electrical manufacturing sectors, all of whom took over 100,000 sqft of floorspace. These new firms to the business park are a mixture of local businesses looking to expand and international companies looking to locate in the area.

6.12 The primary reason for these firms locating in the area is the highly skilled local labour force which is particularly focussed on high-tech manufacturing professions. The secondary factor is the devaluing of the pound following the vote to leave the EU which makes investing in the UK more cost effective to internationals.

6.13 There is a strong clustering of aviation related businesses at J11 close to the airport. This cluster has developed over the past 50-60 years and has developed strong local supply chain links and has seen the development of a highly skilled local labour market. Key occupiers in this location include Bond Aviation, Babcock, Dowty Propellers, and Safran Landing Systems.

6.14 Some saw the airport itself as a key driver of growth in this sector in the location, however others saw the cluster of related aviation businesses themselves as the key factor driving demand at this location. While demand was originally and historically influenced by the airport, now it is the proximity to similar businesses, a common supply chain, and the skilled local workforce driving demand in this area, rather than proximity to the airport itself.

6.15 Many stakeholders considered that, from a commercial market perspective, the area around Gloucester Airport has potential to be a prime location for future economic growth. However, the Greenbelt designation will clearly need to be carefully considered when assessing future uses in the area.

6.16 The general consensus was that there should be no policy protecting land in the area specifically for airport related uses. Occupiers seeking to locate in the area are often related to the wider supply chains but not directly to the aviation industry itself and it was felt that protections are difficult to enforce without unduly restricting growth. Generally, it is considered that flexibility of employment uses should be supported.

6.17 One of the key determinants of location being a desire to retain existing staff, and as such most occupiers considering relocation are keen to stay within easy commuting range of their existing staff. For this reason the majority of occupiers would not generally seek to move beyond the M5 corridor into other locations within Gloucestershire.

6.18 Similarly, to the south of Gloucester, Quedgeley has seen significant development for employment uses as it also benefits from proximity to Gloucester's labour supply as well as access to J12 of the M5. Although this development is in Stroud district it was considered a distinct market from the rest of Stroud which was focussed around J13, Stonehouse and the Stroud Valleys.

6.19 J9 of the M5 at Ashchurch Business Centre and Tewkesbury Business Park are home to a number of advanced manufacturing businesses – electronics manufacturing and tech-based businesses, originally related to the Defence Research Establishment R&D facility in Malvern. This, along with the excellent motorway location, make the location attractive for related high-tech manufacturing businesses. Agents confirmed that businesses in the area who were looking to relocate or expand would typically wish to stay within the immediate area – mainly due to workforce retention – and were unlikely to look further down the motorway corridor, most preferring to stay close to J9.

6.20 Other than the M5 corridor, there are a small number of large employers in Bishops Cleeve in eastern Tewkesbury borough. Historically, this has supported businesses in Cheltenham looking to relocate out of the town but within proximity to retain key employees. However, it is considered that the M5 corridor meets this need whilst also providing better links to the motorway and Gloucester and so Bishops Cleeve is a less popular location.

6.21 This area is cited as the most commercially attractive and popular location in Gloucestershire. This is reflected in high industrial rents in these locations with prime rents of around £10-11 psf (per sqft) in Cheltenham and around £7 psf in Gloucester and Tewkesbury –the highest values in Gloucestershire.

6.22 Demand in the main growth corridors and town centres is very high and demand will support the revitalisation of older and dated stock in these locations. Beyond these areas, redevelopment of existing sites is generally down to the demand of existing occupier needs.

Stroud

6.23 Stroud is considered to have high demand for industrial sites. The prime location for demand in the district is at J13 of the M5 and Stonehouse Business Park. There is also significant demand at J12 and at Quedgeley where the employment area straddles the border with Gloucester.

6.24 Stonehouse is cited as a popular area and is home to many high-tech manufacturing businesses. Agents report there being strong demand for employment land in this location. Prime industrial values at Stonehouse are around £6.50-7 psf – only slightly lower than seen further north along the M5 in Gloucester/Tewkesbury.

6.25 Occupiers looking for premises within this area were reported to prioritise staying within Stroud and would look up the motorway to J12 but were less keen to look further north into Tewkesbury.

6.26 The Stroud Valleys along the A46 and A419 principally comprise more traditional employment sites which are generally smaller sites and units comprising more dated stock. These areas have considerably worse accessibility to the strategic road and motorway network. This is reflected in lower rents than at Stonehouse, with industrial space going for around £5-5.50 in this area.

6.27 It is a similar situation for the smaller settlements in the district – such as Cam and Dursley. These areas are seen as generally more attractive to local occupiers and this is reflected in lower rents. Sharpness was not seen as a prime location within the district due to its distance from the M5.

6.28 Demand in these areas is mostly from local businesses with agents reporting larger businesses in these areas generally seeking to relocate to larger premises within the district, often at Stonehouse. However, staff retention is important, and most occupiers would like to remain within commuting distance of existing premises. For this reason few industrial occupiers would consider looking further up the M5 than J12.

Forest of Dean

6.29 Forest of Dean was considered to have poorer links with the rest of Gloucestershire due to the limited crossing points of the River Severn and no road crossing between the M48 and the A40. As such it is easier to commute from the Forest of Dean into South Wales or Bristol than much of Gloucestershire. The M50 runs through the north of the district however this was not cited by any agents as a particular factor influencing business location.

6.30 Forest of Dean was generally considered to be a less accessible location for business operations as and access to labour markets. The single crossing of the Severn at the A40 to the west of Gloucester and the high volumes of traffic along this route were cited as reasons

why businesses would not typically look to expand in this direction. This means the Forest is not generally considered as a potential area of search for relocation of businesses elsewhere in Gloucestershire.

6.31 As a result, the majority of demand for employment sites in the Forest is for local and indigenous businesses and most enquiries come from businesses within the district. Generally, this means a requirement for smaller sites and premises spread across the settlements throughout the district. This is reflected in the values in the district which at around £5 psf make it the cheapest area to locate within Gloucestershire, which was cited by some agents as an attractive factor for some potential occupiers looking for cheap space, although that was generally counterbalanced by other occupier requirements such as access to labour supply and supply chain.

Cotswold

6.32 Cotswold is not as commercially attractive industrial location as other parts of the FEMA – particularly the M5 corridor. The Cotswold market is quite scattered due to the rural nature and large size of the district.

6.33 Commercial interest is focussed around Cirencester and South Cerney in the south of the district. This area forms a very different market to the other Gloucestershire districts along the M5 corridor. While the A417 provides a direct link between these areas, the topography and the 'missing link' of non-dual carriage way mean these areas are still considered distinct to the M5 corridor by most potential occupiers[3].

6.34 Conversely, agents reported Cirencester and South Cerney benefitting from strong links to the south and east with access to Swindon and the M4 corridor providing a different market dynamic to the rest of Gloucestershire. Some also mentioned commuter links further east to Reading and London.

6.35 Agents reported a modest but definite demand for industrial space along the A417/A419 corridor, due to the highly skilled local workforce and high-tech manufacturing cluster around Cirencester. Industrial values in this area are around £6 psf. However, there is a lack of available land with good access to the dual carriageway.

6.36 The north of Cotswold district is predominantly rural and has similarities with the market in the east of Tewkesbury borough and Evesham. These areas are beyond the areas of search focussed around the Cheltenham, Gloucester, and the M5 corridor or Cirencester/South Cerney and demand in these areas is predominantly for expansion for local businesses.

6.37 In Cotswold there has been a significant quantum of completions of former agricultural buildings to B Class employment uses. Since 2015, agricultural conversions have accounted for a total of 9,700 sqm of new employment floorspace in Cotswold – split fairly equally between B1a office, B1c workshop, and B2 general industrial uses.

iii) Warehouse / Distribution Uses

6.38 Tewkesbury borough is seen as being the most significant location for distribution uses in Gloucestershire as it covers the M5 corridor J9-J11a. J12 of the M5 in Stroud district is also an attractive location for B8 uses.

6.39 There is a significant market for warehouse and distribution sites along the M5, with major operators including Downton and Wincanton located in the area. Operations are generally of a regional scale and Gloucestershire has not in the past supported national and international distribution activities, with occupiers traditionally looking further south along the M5 at Avonmouth to benefit from the port access or further north in the Midlands where the M5

[3] There are now plans to improve the connection between two dual carriageway sections of the A417 at Brockworth and Cowley.

joins with the wider national motorway network.

6.40 However, there remains a need for distribution uses to serve the wider market between Bristol and Birmingham. Distribution uses are required to support the operation of a wide range of other employment uses in the local area – such as Manufacturing and Food and drink sectors.

6.41 Gloucestershire was also cited as an attractive location for B8 uses as it provides access to a skilled labour force required to support modern logistics operations. Labour supply is a key issue facing the sector, both in terms of overall availability and accessibility. The centres of population also provide access to local consumer markets which drive the ever increasing demand for online retail and delivery services.

6.42 Sites to support B8 development would need to be large and flat/gently undulating, and would require proximity to the Motorway network, be a sufficient distance from existing residential uses to allow 24/7 operation, but close enough to residential populations to allow sustainable commuting.

6.43 This makes the M5 Corridor from J10-12 the most attractive locations for large scale logistics due to the proximity to large population centres at both Gloucester and Cheltenham.

6.44 Given the nature of the distribution market in Gloucestershire, demand has generally topped out at 200,000-250,000 sqft. The majority of B8 demand is for direct occupier distribution operations which require being located close to existing manufacturers and tend to create demand for mid-sized warehouse units of around 25,000-45,000 sqft.

6.45 Because of this, agents generally considered B8 requirements to be considered as a part of the general market demand along with industrial uses. Employment sites, particularly those within the M5 corridor, naturally support a range of B2 and B8 uses. In light of this, it was felt that there is little need to protect employment sites specifically for solely B2 or solely B8 uses, as most units have the flexibility to be used for either, or a mix of, B2 and B8 use. Conversely, allocations and policies which specifically protected sites for either solely B2 or solely B8 uses would be overly restrictive to potential development. It is considered that allocations should reflect this by not being too prescriptive.

6.46 However, some respondents reported that the lack of larger units is due a lack of sites along the M5 corridor which has prevented development coming forward and limiting opportunities for growth, rather than a lack of demand in the area.

6.47 The distribution sector is rapidly changing in nature and the past 10-15 years have seen the top-end of the size requirements continually increase so that 200,000+ sqft is now a common requirement for larger distribution centres. However, the lack of supply in Gloucestershire has meant units of this scale have not come forward in the recent past. This highlights the problem with predicting future demand for the sector based solely on past trends.

6.48 Data collated by local commercial agents show a considerable number of enquiries for larger sites to support 100,000-500,000 sqft of distribution floorspace. Generally, these enquiries covered a search area focussed around the M4/M5 corridors covering the Gloucestershire, Bristol, and Swindon areas.

6.49 The rapidly changing requirements of the sector make estimating future land requirements more difficult. To reflect this the Council's should support policy flexibility so that changing occupier requirements can be supported. A range of site sizes should be provided in order to provide for the wide ranging requirements of the sector.

iv) Office location

6.50 Demand for office space is principally focused in Gloucester, Cheltenham, and neighbouring businesses parks. Gloucester City Centre and Cheltenham Town Centre are the most

sought-after locations due to the proximity to town centre retail, leisure and amenities and public transport links.

6.51 Cheltenham is seen as the most attractive location due to the higher quality of the environment and regency stock proving popular. Other desirable factors are the proximity to town centre retail, leisure, and amenities meaning the continued use of the town centre for these uses is an important factor for office business retention and provides a distinct commercial offer to out of centre locations. Agents cited that these factors mean a high proportion of occupiers in Cheltenham would not consider relocation out of the centre.

6.52 As a result Cheltenham Town Centre commands the highest office rents in Gloucestershire with prime office space going for around £30 psf, and secondary space at £25 psf, while historic regency space going for around £16-17 psf.

6.53 Rental values for offices in Cheltenham are high enough to withstand the demand for residential change of use. Because of this, change of use of offices to residential via permitted development rights has therefore not had a significant impact in Cheltenham Town Centre.

6.54 Gloucester City Centre is another popular office location but is considerably less desirable than Cheltenham due to the perceived lack of quality environment and prestige accommodation. This is reflected in the rents in the town centre which are notably lower than in Cheltenham Town Centre. In Gloucester City Centre prime office rents are around £12.50 psf. Within Gloucester, the Gloucester Quays are considered the most popular location for office occupiers, but this suffers as there is a perceived limited connectivity between the Quays and the rest of the city centre.

6.55 Unlike Cheltenham, Gloucester has seen a significant quantum of office space lost to residential uses via permitted development rights. The completions data shows a total of 19,500 sqm of office space being lost this way since the permitted development rights were changed in 2013. This represents two thirds of all office space lost in Gloucester over this period (29,200 sqm). This includes redevelopment of the Former Royal Mail Sorting Office on Eastern Avenue which alone accounted for the loss of 6,113 sqm of office space. There were 16 other smaller schemes lost via prior approval to residential use.

6.56 Beyond the city centre, Quedgeley and the area around J12 in Gloucester/Stroud district provides a business park type offer which is a popular location for businesses looking in Gloucester and would be considered by those in Stroud prepared to look north along the motorway. However, this area would be unlikely to be attractive to occupiers in the Cheltenham market who are unlikely to look south beyond J11a. Rents in Gloucester out of town areas are slightly higher than the town centre at £13.50 psf.

6.57 Another popular area for office occupiers is J11a of the M5, due to its location with accessibility to both Cheltenham and Gloucester and the motorway. Particularly Gloucester Business Park which has been very successful due to it providing a high-quality managed environment and also provides other services such as retail, cafes, and a gym.

6.58 Gloucester Business Park has around 600,000 sqft of office floorspace and is an attractive location for office occupiers. A considerable number of occupiers have moved to the business park from Cheltenham Town Centre and Gloucester City Centre. The attraction being retaining good accessibility to the Cheltenham market and workforce, but more affordable rents than Cheltenham Town Centre which are the highest in Gloucestershire.

6.59 Cirencester is seen as an attractive office location albeit much smaller market than Cheltenham or Gloucester. There wasn't considered to be a discernible difference in attractiveness between the town centre and out of town provision with both commanding rents of around £15-16 psf.

6.60 Cotswold has seen a considerable quantum of office space lost to residential uses via permitted development. The data from the Council shows 8,600 sqm of office floorspace has been lost for such uses from 2015-19. This means that of all the losses in the district over this period, a third is via to permitted development rights to residential.

6.61 The office market in Stroud is considered to be relatively small, limited to local demand. Generally, office occupiers look towards Gloucester or Cheltenham, and Aztec West in north Bristol was also seen as a competitor. Office space at Stonehouse would typically go for around £14-15 psf and slightly lower in the town centre.

v) Occupier Requirements

6.62 The demand for land within Gloucestershire was felt to be predominantly driven by indigenous businesses requiring new or additional premises to support organic growth. These existing businesses generally prefer to stay in their existing locations and the area of search for new premises is often relatively small – for example at a particular business park or near a specific motorway junction.

6.63 A considerable driver of demand is the growth and expansion requirements of individual businesses, which is difficult to predict. Expansion related to specific businesses can have very specific requirements. For example, food and drink production require specific food grade design requirements to handle production and ingredient segregation / allergen management. This requires policy flexibility in order to support specific needs as they arise.

6.64 One of the other main drivers for business growth or relocation to the area is the highly skilled workforce – particularly for technical manufacturing businesses. This means the demand for employment land will be spread across the county at the existing employment locations, and close to the existing work force.

6.65 In terms of size requirements, there was an identified shortage of medium size units in the 25,000-40,000 sqft range. It was also reported that there is a steady demand for smaller units of around 1,000-5,000 sqft in most areas. For larger units above 100,000 sqft, there has historically been a lack of supply for this size of unit in Gloucestershire meaning potential occupiers have had to look elsewhere.

6.66 Enquiries data provide an indication of market demand for different sizes of premises. It was identified that there was demand for units of all sizes up to around 200,000 sqft. For very large distribution units (200,000 sqft and above) demand was more limited. This is indicative of the types of end users in Gloucestershire which is focussed on small and mid-range manufacturers. Indicative of this, there is a particular demand identified for mid-size industrial units of around 20,000 sqft.

6.67 Respondents cited a need for sites which are deliverable immediately or in the short term – with typical lead-in times around 12-24 months. This requires allocation of a range of smaller sites rather than relying on larger sites with significant infrastructure requirements. In most cases demand is for serviced land with existing infrastructure such as service roads, utilities, broadband, etc. which significantly prolong the build out time.

6.68 There is a requirement for both freehold and leasehold premises, it depends on the requirements of the occupier. It was considered that there is no way to really legislate for the quantum of demand or split between freehold or leasehold premises.

vi) Flexibility

6.69 It will be important to provide sufficient land to provide for the natural growth and expansion of indigenous businesses, as well as to cope with future inward investment opportunities. However, it is not clear at present the scale of what this might be. It is therefore necessary to include flexibility in the supply to adapt to changing requirements.

6.70 There should be sufficient provision to meet currently unidentified demand in developing sectors – for example, high tech manufacturing businesses supplying manufacturers of electric or automatic cars, and their supply chains, for example battery manufacturers – whose exact requirements are not yet known. There needs to be a large degree of flexibility in order to ensure the supply is sufficient to meet sudden unforeseen demand. There should also be flexibility in terms of the types and locations of sites to be allocated to help ensure the needs of all indigenous businesses are met in the right locations.

6.71 It was considered that allocating land for specific employment sectors does not have a positive effect on the market and simply limits development. This would have the effect of restricting uses and would elongate and add unnecessary uncertainty and cost during the planning process. Planning was cited as one of the biggest factors in the timescale for bringing a potential site forward with the planning process taking up to 2-3 times the length of time of the build out period. It was considered that this should try to be minimised where possible. The example of Stonehouse allocation in Stroud was cited which historically had a policy restricting B8 uses from being located there, which simply required a greater level of negotiation and intervention at the planning stage, to ultimately allow B8 uses to be located there.

6.72 Conversely, it does not have the effect of protecting sites for specific uses as often an occupier will have a range of usage requirements with complimentary and/or ancillary functions at a single site, thus the policies often don't function effectively. The nature of occupier requirements means planning should not be overly prescriptive regarding occupier activities. Flexibility is required so that the range of employers' needs can be met in their location of choice.

6.73 Prescriptive policies which safeguard employment allocations for a certain type of employment use were not seen as effective and were considered to restrict growth. However, for occupiers looking for out of town office accommodation, quality of environment was cited as an important determining factor. This means many of the existing lower quality employment sites would not support office development.

6.74 One key issue cited was that it is important that out of centre business parks and employment areas provide an attractive location by supporting ancillary uses – retail, leisure, and amenities – to support employee's needs. This is an important factor for many occupiers. This was particularly the case of office-based businesses where out of town business parks are competing with town centre sites. There is considerable demand for office provision in Cheltenham Town Centres, Gloucester City Centre and, to a lesser extent, Cirencester Town Centre – as these locations are often preferred by employees and it ensures employee attraction and retention. For out of centre sites to compete with these office locations, a level of ancillary services are required.

vii) Rural Economy

6.75 Gloucestershire's rural economy comprises many different types of small and micro-enterprises, and farm diversifications we're highlighted as necessary to support that. Diversification of farming businesses is a positive not only for the rural economy but also the rural landscape. The completions data highlights especially in Cotswold there has been a significant quantum of completions of former agricultural buildings to B Class employment uses, split fairly equally between B1a office, B1c workshop, and B2 general industrial uses.

6.76 Small farm based enterprises, as part of parent farm businesses or housed in let business units, provide diversified income to farm and estate businesses enabling them to maintain profitability and thereby to invest in landscape and biodiversity management, which then attracts wider business investment and talent to the county and underpins its visitor economy and retention of young people.

6.77 Gloucestershire's rural economy has areas of particular strength and it is these that tend to act as the main drivers for growth:

- Agri-tech: there are many farming businesses that have embraced new technology in their operations across the county. The project at Hartpury College is demonstrating the role that agri-tech can have in an agricultural business and the practical application of such technology.
- Natural Capital: Gloucestershire is recognised as being a beautiful place to live, work or visit. This natural capital can be a driver for growth. The landscape of the county is acknowledged as being an attractor of people and investment to the county.
- Tourism continues to perform well

6.78 Some respondents identified the need for infrastructure improvements and particularly rural high-speed communications networks such as superfast broadband to support businesses in rural areas – particularly to support sectors such as agriculture, food and drink, and forestry related businesses which need to be located in rural locations.

6.79 The lack of supply of affordable housing and rental housing in rural areas was also identified as a factor limiting access to labour for rural businesses.

viii) Gloucestershire's Labour Force

6.80 Gloucestershire has a particularly strong skills base – especially the manufacturing sector, and this is seen by businesses as a real strength in the local economy. This has been recognised by the Councils and the LEP as there are multiple initiatives to build and retain this skilled workforce.

6.81 Retention of existing staff was a key determinant in the location of existing businesses and this means potential expansion sites would need to be relatively local. Therefore it would be beneficial to provide additional land at existing employment sites or within close proximity of these, and ensure that all employment areas have a supply of available sites. Many occupiers would not consider relocating to secondary locations because this it is more difficult to retain staff.

6.82 It was highlighted that the challenge in recruitment remains for certain sectors. The high tech science and technology sector has problems attracting the STEM graduates into the larger corporates. Businesses are finding it very difficult to attract and then retain UK employees to work, for example, there remains an ongoing problem with the sourcing of labour in tourism, hospitality and agricultural sectors.

6.83 For the food and farming sector there are issues with recruiting staff with skills to run modern farm businesses. This goes beyond the need to recruit labour for seasonal harvesting work which has been widely highlighted in Brexit discussions, but includes shortages in business management skills, technical knowledge and training in environmental management. These issues will need addressing urgently if the rural economy is to thrive post-Brexit.

ix) Speculative Development

6.84 There are many examples of speculative development for industrial uses coming forward in recent years, all of which has been in Cheltenham, Gloucester, and the M5 corridor.

6.85 Three industrial/warehouse units have recently come forward at J12 comprising 40,000 sqft, 52,000 sqft, and 54,000 sqft. In Gloucester there has been a scheme totalling 30,000 sqft comprising all smaller units of around 3,000 sqft each. In Cheltenham two units of 30,000 sqft and 40,000 sqft have recently been built on a speculative basis and are now let. Take-up rates of these speculative developments have been good, however even at these locations margins are fairly tight.

6.86 Beyond these prime locations viability is an issue across many parts of Gloucestershire. For example, much of Forest of Dean and Cotswold do not support values high enough to support speculative development. This means in demand for additional space is driven by the growth of existing businesses.

6.87 Agents reported the biggest problem facing the Gloucestershire market was a lack of supply. This makes measuring the scale of demand difficult as demand often doesn't reveal itself until supply hits the market. This suggests there are occupiers who require alternative/additional space but who are forced to stay in unsuitable premises until something becomes available.

6.88 Many areas of Gloucestershire suffer from considerable infrastructure requirements and relatively low values meaning many areas are not viable. Land values in areas within the M5 corridor Junctions 9 to 13 as well as within the key towns of Cheltenham, Gloucester, and Cirencester have been sufficient to support speculative development.

x) The Constrained Supply and Forecasting Methodology

6.89 Forecasting methods based on recent trends may be negatively affected by a recent lack of supply. In some parts of Gloucestershire – most notably around Cheltenham and Gloucester – the past trends reflect the limited availability of employment land rather than the true demand. This was felt to be the case for all B Class uses but particularly for distribution uses.

6.90 A problem with only looking at completions and models based on past performance is that they model past constraints. These approaches don't adequately reflect future demand. They don't show, for instance, occupiers who cannot find suitable locations or difficulties in findings suitable premises.

6.91 In recent years the lack of spare supply has meant that changes in demand of this nature have needed to be satisfied at existing sites and premises, which are often not suitable for modern businesses.

6.92 With this in mind, and in accordance with PPG, it is important that the past trends of completions are considered alongside the wider commercial market signals and other methods for estimating future employment land needs. This will ensure that any historic constraints in the supply are not automatically rolled forward.

6.93 Some respondents considered that modelling future demand based on past completions trends would simply model forward existing constraints in supply. In response to this, we sought to consider the scope for considering alternative measures of demand by considering the numbers and types of enquiries for commercial space made by businesses to local commercial agents. However, such enquires are often very speculative in nature as prospective enquiries are often the first stage in the process of site identification. Enquiries are also often responsive to availability and prospective occupiers are less likely to enquire if there is a very limited supply to enquire about. For these reasons, business enquiries are not considered a suitable means for quantifying future employment needs and so have not been used for this purpose.

b) Quantitative Assessment

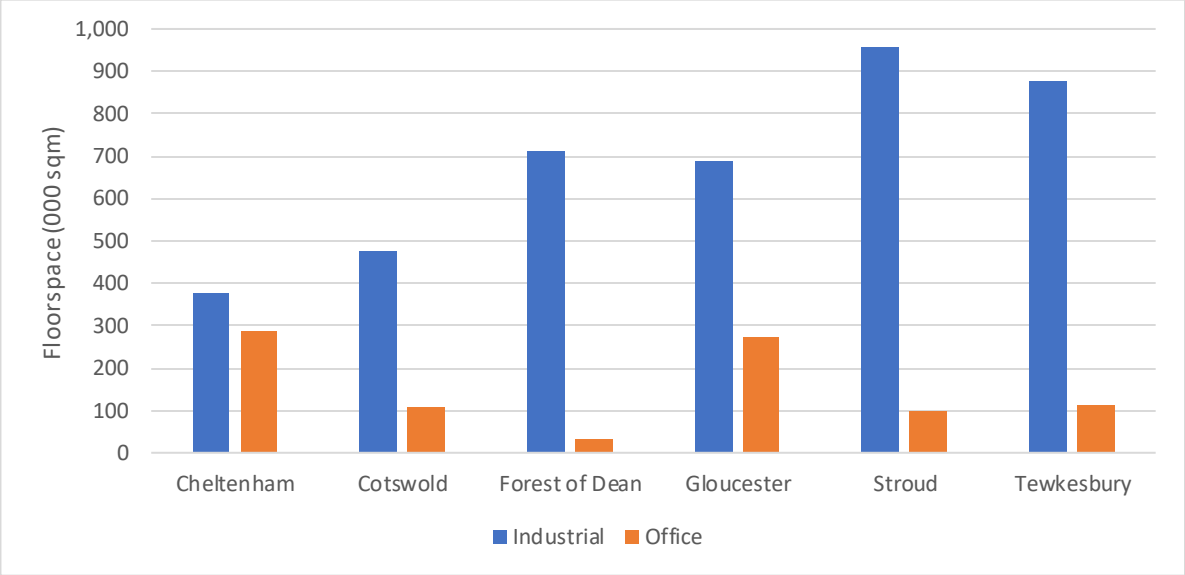
xi) Commercial Floorspace

6.94 The figure below shows the overall quantum of office and industrial floorspace in each of the authorities as shown by data from the Valuation Office Agency (VOA). The VOA data is divided into Office and Industrial uses which includes both B2 and B8 use classes.

6.95 The data shows there is a total of 4,147,000 sqm of industrial floorspace across Gloucestershire as of 2019, and 911,000 sqm of office space. The VOA data shows that since 2001 there has been a net growth of around 173,000 sqm (23%) of office space in Gloucestershire, while levels of industrial space have remained constant over this period.

6.96 In terms of local authority areas, Stroud (957,000 sqm) and Tewkesbury (878,000 sqm) have the largest quantum of industrial floorspace in Gloucestershire and together account for just under half of floorspace in the county. Office floorspace is focussed in Cheltenham (286,000 sqm) and Gloucester (272,000 sqm).

Figure 27. Total Commercial Floorspace, 2019



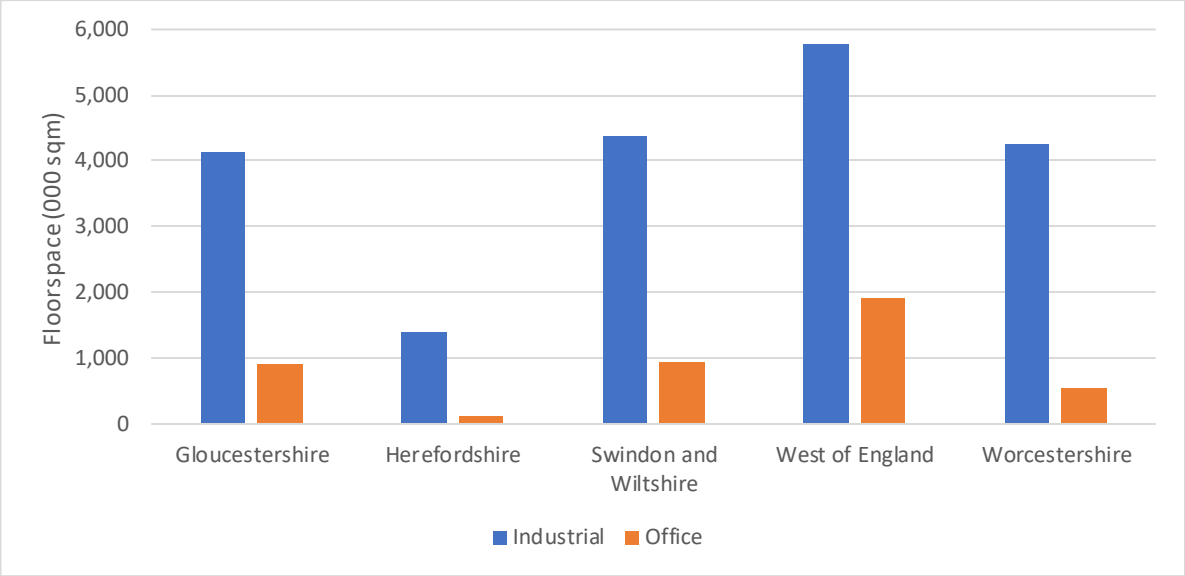
Source: VOA

6.97 Figure 28 provides a comparison of the scale of employment floorspace between Gloucestershire and neighbouring areas – particularly those identified as having strong links with Gloucestershire in Section 2.

6.98 The data shows Gloucestershire as having very similar overall quanta of both industrial and office space as Swindon and Wiltshire, and a similar quantum of industrial space as Worcestershire but with around 40% more office space.

6.99 The West of England has the largest quantum of floorspace with about 40% more industrial floorspace than Gloucestershire and twice as much office floorspace, while Herefordshire has considerably less of either.

Figure 28. Commercial Floorspace – Neighbouring Areas



Source: VOA

6.100 The following sections look at Gloucestershire's industrial and office markets in greater detail.

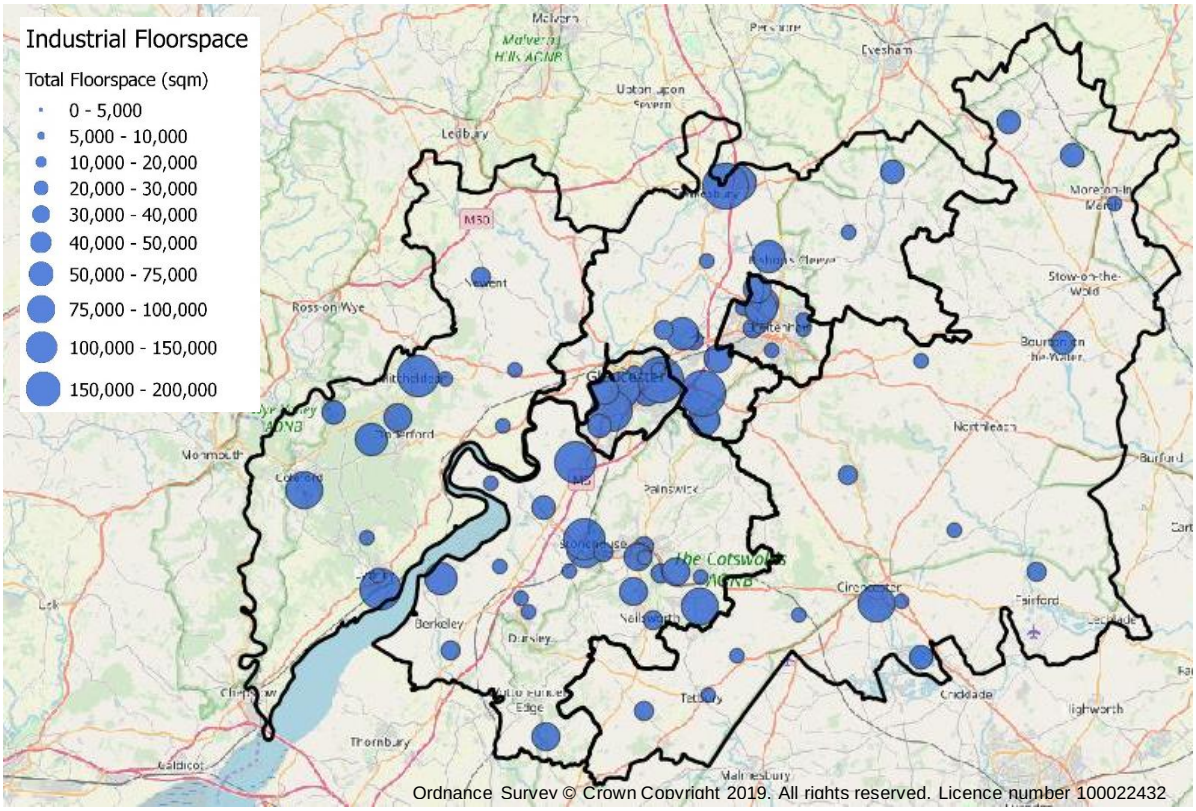
xii) Gloucestershire's Industrial Market[4]

6.101 The map below shows the location of Gloucestershire's industrial floorspace in greater detail. The data for each area is clustered by lower super output area (LSOA) so represents local areas rather than individual units.

6.102 This shows the major locations and concentrations of industrial floorspace predominantly focussed along the M5 corridor, and in the traditional industrial areas in Gloucester, Cheltenham, Stroud Valleys, and Forest of Dean. The majority of Gloucestershire's industrial floorspace is concentrated in these locations.

[4] 'Industrial Market' considers uses such as light industrial (B1c), general industrial (B2), and warehouse/distribution (B8).

Figure 29. Industrial Floorspace by Location, 2019



Source: SPRU analysis of VOA data

6.103 Figure 30 shows the breakdown of existing floorspace at the major industrial locations in Gloucestershire. It is noted that many of these areas overlap with local authority boundaries.

6.104 This shows the relatively diffuse nature of Gloucestershire's industrial sites. The area with the highest quantum of industrial floorspace is at J9 of the M5 at Tewkesbury and Ashchurch Business Parks where there is a total of 314,000 sqm – roughly 8% of the total in Gloucestershire.

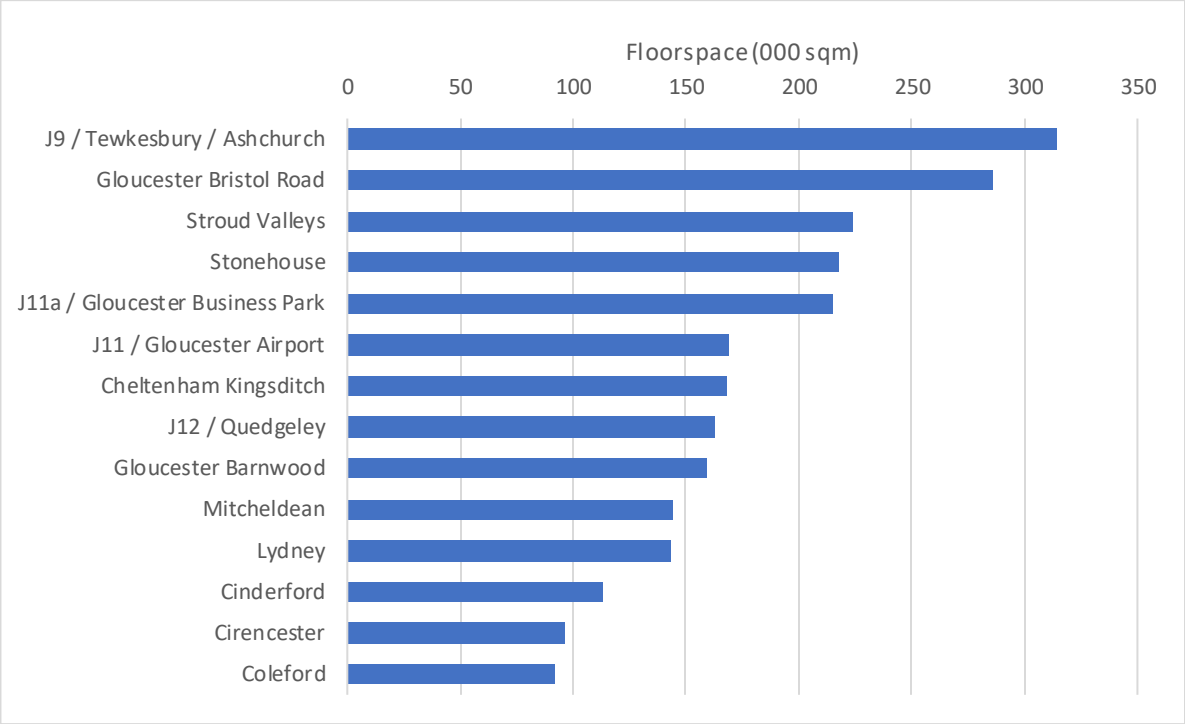
6.105 There is significant industrial space at the other employment areas further south along the M5 corridor: 215,000 sqm at Gloucester Business Park at J11a; 169,000 sqm at J11 / Gloucestershire Airport; and 163,000 sqm at J12 / Quedgeley. Combined, the M5 corridor accounts for 21% of total floorspace in Gloucestershire.

6.106 There is also significant space within the urban areas of Gloucester where the Bristol Road corridor accounts for 286,000 sqm and Barnwood has 159,000 sqm. Together these areas account for 11% of Gloucestershire floorspace.

6.107 In Stroud, floorspace is focused in the traditional industrial area of the Stroud Valleys along the A419 and A46, and at Stonehouse, with both these areas having around 220,000 sqm of industrial floorspace and together comprise 11% of the countywide total.

6.108 Cotswold and Forest of Dean are more rural authorities and there is no single major employment area or concentration of industrial land in these authorities, with smaller industrial sites at most larger settlements spread across the districts. The largest of these are at Lydney, Micheldean, and Cinderford in Forest of Dean, and Cirencester in Cotswold.

Figure 30. Industrial Floorspace by Major Employment Locations



Source: SPRU analysis of VOA data

6.109 Looking at completions data recorded by each of the local authorities shows that there has been a total of 203,600 sqm of industrial (use classes B1c, B2, and B8) floorspace delivered across Gloucestershire since 2011. This is an average of 25,450 sqm per annum, equivalent to 0.6% of current total stock levels.

6.110 Table 14 shows the rate of gross completions compared to stock levels in each authority. This shows that if the rate of growth seen in each authority since 2011 were to continue, what the annual growth rate would be in terms of existing stock. A rule of thumb sometimes used is that a growth of 1% per annum would indicate a healthy rate of growth.

6.111 The data shows that since 2011 Tewkesbury has seen the highest rate of growth relative to stock at 1.2% per annum and is the only authority with a growth rate above 1% per annum, while Cotswold has seen a growth of 1.0%. Conversely, Forest of Dean (0.1%), Cheltenham (0.4%), Gloucester (0.6%) and Stroud (0.7%) have low growth rates compared to existing level of industrial stock.

6.112 The growth rates suggest that more industrial space is being delivered in Tewkesbury to support the needs arising from Cheltenham and Gloucester. Summing the figures for the JCS area shows gross gains of around 15,200 sqm per annum which is equivalent to 0.8% stock growth per annum.

6.113 For the Forest of Dean this likely reflects the relatively high levels of historic floorspace in the district compared to relatively low levels of current demand and low rental values. The same is true for parts of Stroud such as the Stroud Valleys where there is significant traditional stock and relatively constrained opportunities for new development. For Cheltenham and Gloucester the trend likely indicates a constrained supply of industrial land which has seen the majority of industrial development serving the towns taking place beyond the local authority boundaries.

Table 14. Industrial Completions vs Industrial Stock

	Gross Gains 2011-19	Per Annum	2019 Stock	% Growth per Annum
Cheltenham	5,056	632	378,000	0.2%
Cotswold[5]	17,900	4,475	476,000	1.0%
Forest of Dean	7,800	975	712,000	0.1%
Gloucester	32,379	4,047	690,000	0.6%
Stroud	56,055	7,007	957,000	0.7%
Tewkesbury	84,419	10,552	878,000	1.2%
Gloucestershire	203,609	25,451	4,147,000	0.6%

Source: SPRU analysis of VOA and Local Authority monitoring data

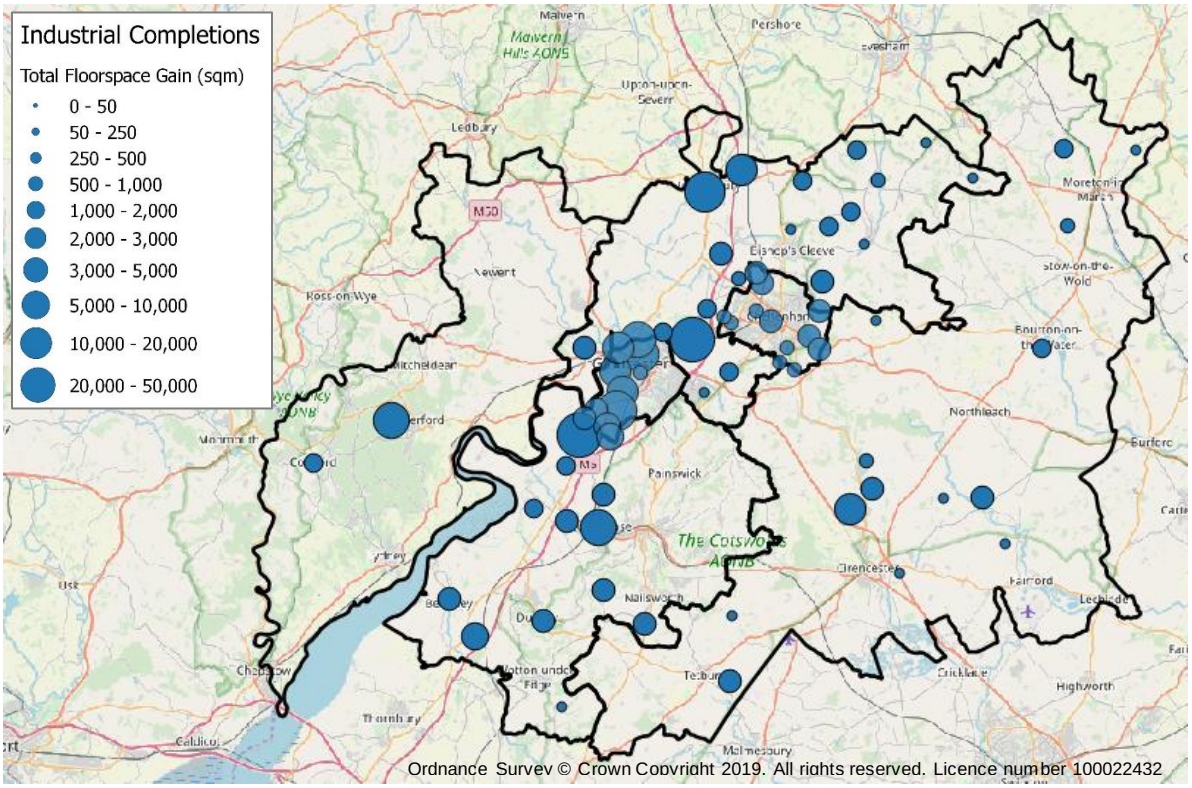
6.114 The map below shows the areas which have seen the greatest amount of development over the period from 2011-19. The data shows gross completions of industrial floorspace but does not show buildings which have undergone change of use from one B Class use to another.

6.115 The data shows the greatest amount of industrial development at J12 of the M5 and Quedgeley in north Stroud district / south Gloucester. This area has seen a total of almost 60,000 sqm of new industrial floorspace delivered since 2011. The other location with a significant amount of new industrial gains is J11 / Gloucester Airport which has seen 45,000 sqm delivered over this period.

6.116 Other locations have seen lower levels of industrial development including 17,500 sqm at J9 / Tewkesbury / Ashchurch; 7,600 sqm at J13 / Stonehouse; 6,800 sqm in Cinderford; and 6,600 sqm along the Bristol Road corridor in Gloucester.

[5] Cotswold figures are from 2015-19 due to inconsistencies in data recording between 2011-15 and 2015-19.

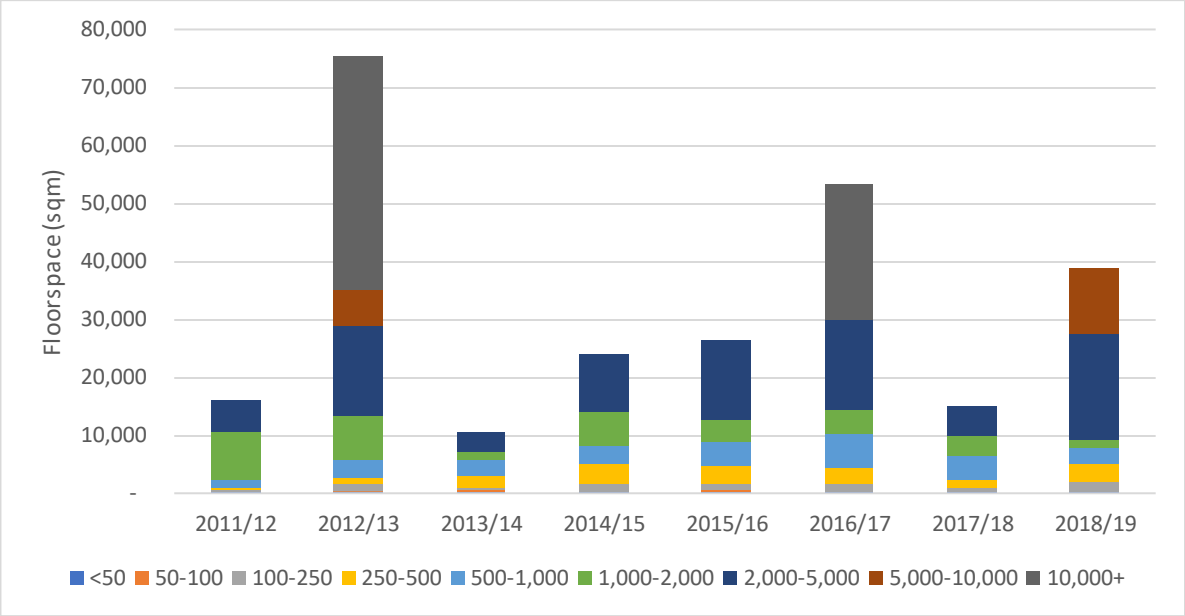
Figure 31. Industrial Floorspace Gains by Location, 2011-2019



Source: SPRU analysis of Local Authority monitoring data

6.117 There has been a total of 203,600 sqm of industrial floorspace delivered across Gloucestershire since 2011, meaning an average of 25,450 sqm per annum. Figure 32 shows gross completions per year. This does not suggest any particular trends in terms of rates of completion across this period, with the spikes in delivery corresponding to completions of a small number of large (10,000+ sqm) developments in 2012/13 and 2016/17. There is no indication, for example, of completions slowing following the referendum to leave the European Union in June 2016.

Figure 32. Gloucestershire Industrial Floorspace Gains – by Year and Size Band

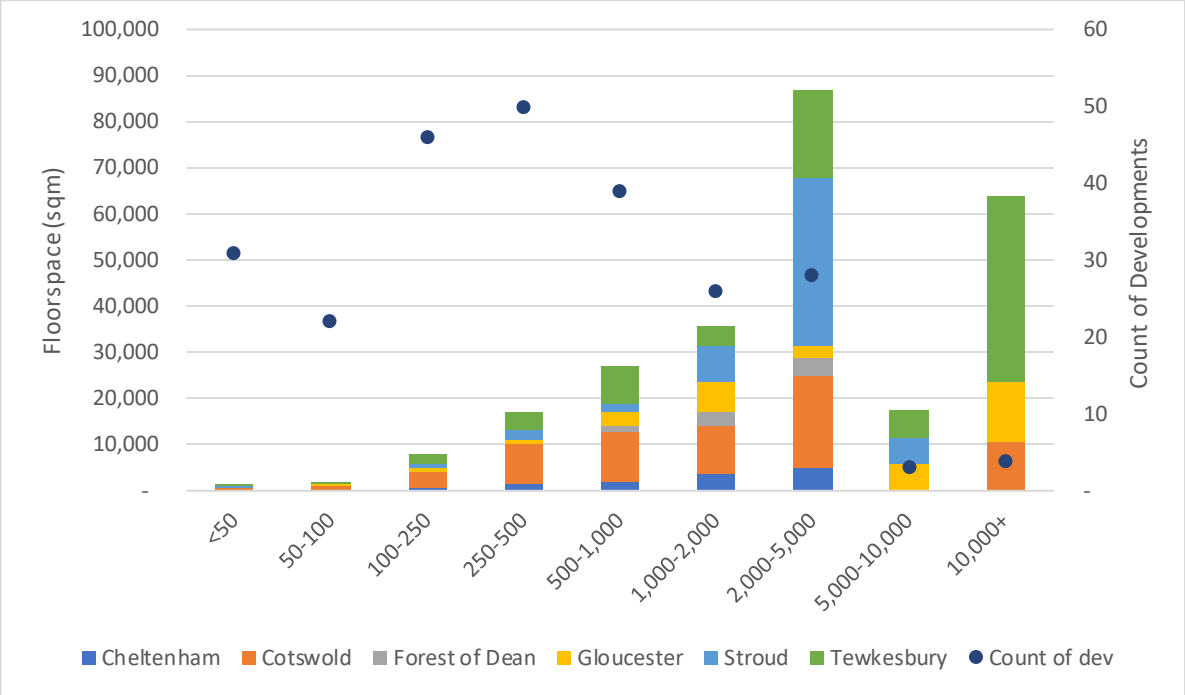


Source: SPRU analysis of Local Authority monitoring data

6.118 Figure 33 shows the same completions data but organised by size band. This shows that in terms of overall floorspace, the most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a third of all floorspace delivered within this range. In terms of the number of developments, this size band accounts for 11% of all completions.

6.119 There were relatively few developments larger than 50,000 sqft, with these comprising only 3% of all developments. Roughly a quarter of floorspace was in a few large developments over 10,000 sqm (100,000 sqft) however developments of these size only represent 2% of total completions. The larger developments were focussed in Tewkesbury and Gloucester with one in Stroud and Cotswold. The size band with the highest number of completions was smaller units 100-1,000 sqm (roughly 1,000-10,000 sqft). These constituted over half (54%) of the total developments and were spread relatively evenly across all areas.

Figure 33. Industrial Floorspace Gains by Size Band, 2011-19



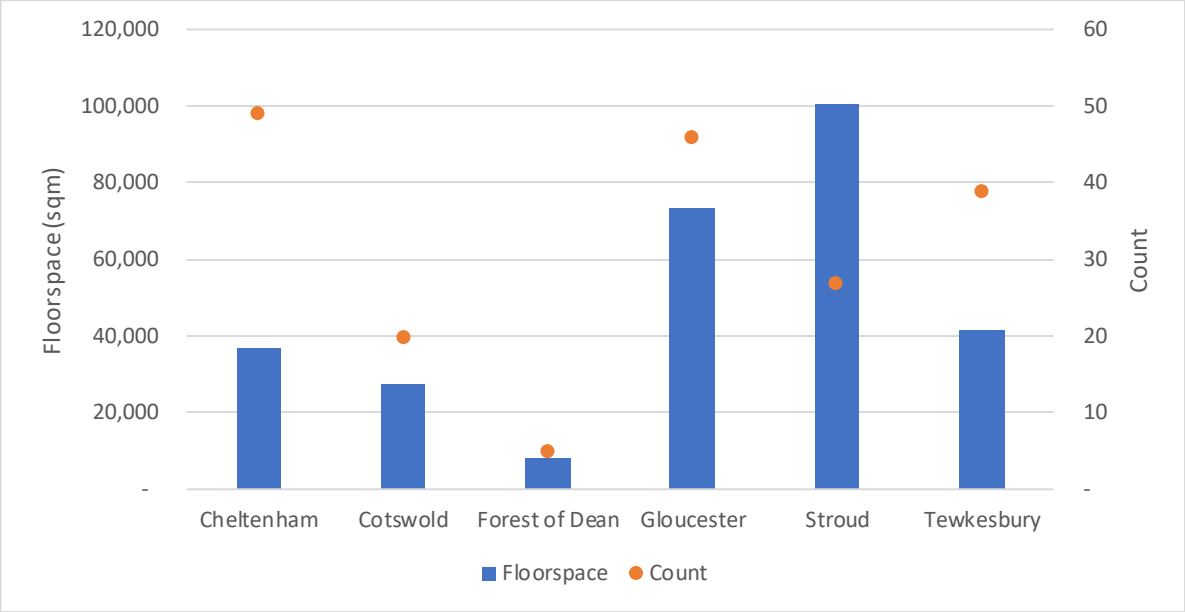
Source: SPRU analysis of local authority monitoring data

6.120 We have collated details of industrial floorspace being advertised on Estate Gazettes Property link and CoStar's Realla commercial property listing websites. This has identified, as of January 2020, a total of 288,000 sqm of industrial space being advertised across Gloucestershire.

6.121 In terms of overall floorspace being advertised the most is in Stroud (100,000 sqm) – 35% of the Gloucestershire total – and Gloucester (73,000 sqm) – 25% of the total. There was less being advertised in Tewkesbury, Cheltenham, and Cotswold – between 25,000-40,000 sqm, while there was around 8,000 sqm in Forest of Dean. The greatest number of vacancies were in Cheltenham, Gloucester, and Tewkesbury, with Cheltenham and Tewkesbury seeing a higher number of smaller units being advertised.

6.122 The vacancy data provides a 'snapshot' of availability at a single date in time. For areas with larger numbers of results this will generally provide a reasonable indication of a 'normal' level of vacancies for that area. However, for areas with fewer results, the availability (or lack thereof) of a small number of premises has a large impact on results, and therefore the validity of conclusions which can be drawn. This appears to be the case for Forest of Dean which at the date of assessment in January 2020 had a total of 8,000 sqm of advertised industrial space at five locations suggesting a vacancy rate of 1.1%. However, other sources suggest that this is lower than the usual level of industrial floorspace being advertised in the district. For example, the Forest of Dean District Employment Land Baseline Report (December 2019) calculates average estimated occupancy rates for the district at 82%. This suggests the vacancy figures for the Forest of Dean should be treated with caution.

Figure 34. Industrial Vacancies, January 2020



Source: SPRU analysis of Estate Gazettes and CoStar data

6.123 The above vacancy data can be combined with the overall floorspace data to identify a vacancy rate for each authority. The data shows a vacancy rate for industrial units across Gloucestershire of just under 7% which is very slightly on the low side but not drastically so. A healthy vacancy rate is generally considered to be around 7.5%[6]. Some of the main markets – Gloucester and Stroud having rates over 10%. However, it is notable that Forest of Dean has a particularly low vacancy rate of just 1.1% and just 5 premises being advertised. This is commensurate with the completions data suggests low levels of vacancy is driven by a lack of completions.

Table 15. Industrial Vacancy Rates, January 2020

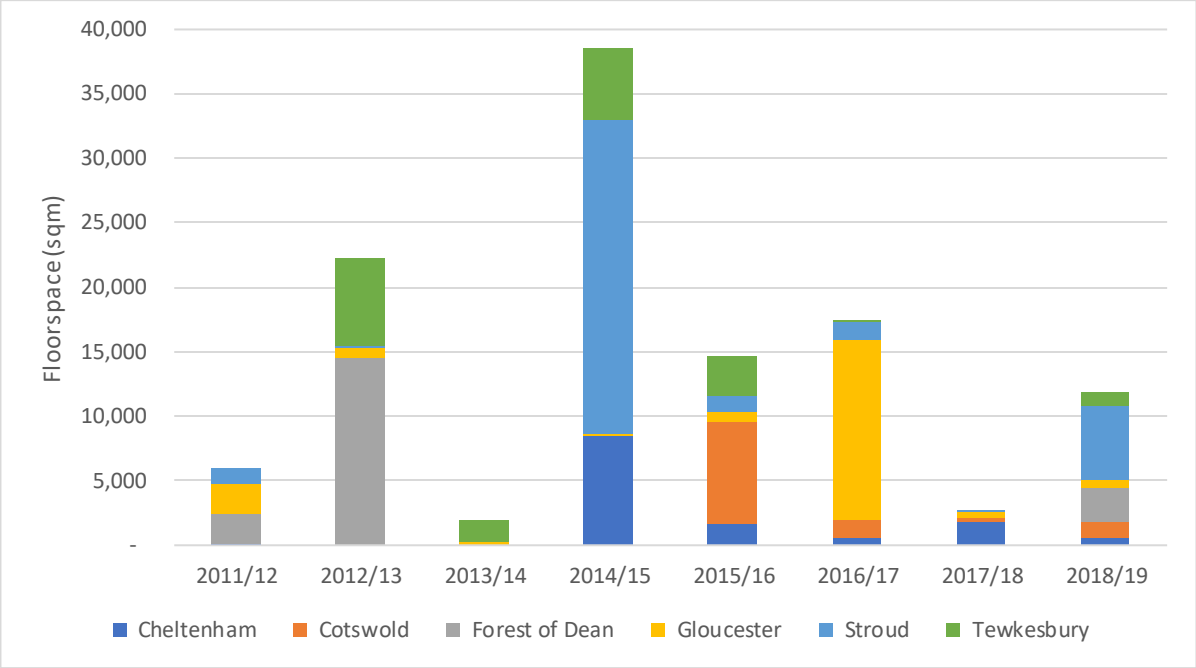
Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Gloucester-shire
9.8%	5.7%	1.1%	10.6%	10.5%	4.8%	6.9%

Source: SPRU analysis of EG, CoStar, and VOA data

6.124 The quantum of industrial (B1c/B2/B8) floorspace lost per year since 2011/12 is shown in Figure 35. Over this period there has been an average of 14,400 sqm lost per annum across Gloucestershire.

[6] Planning Advisory Service, Housing & Economic Development Needs Assessment Technical Advice Note Volume 3 Economic Development, April 2016

Figure 35. Loss of Industrial Floorspace, 2011-19



Source: SPRU analysis of local authority monitoring data

6.125 Comparing the losses figures against the gross completions figures provides the net gain in industrial floorspace for each authority over the period since 2011, as shown in the table below. This shows that overall across Gloucestershire there has been a net gain of 88,165 sqm of industrial floorspace since 2011. The majority (75%) of this has been in Tewkesbury borough. Cheltenham and Forest of Dean have seen an overall net loss of industrial floorspace over this period, this is due to relatively low levels of gross completions rather than particularly high levels of loss.

Figure 36. Net Gain of Industrial Floorspace, 2011-19 (sqm)

	Gross Gain	Gross Loss	Net Gain
Cheltenham	5,056	13,230	-8,174
Cotswold	17,900	10,854	7,046
Forest of Dean	7,800	19,453	-11,653
Gloucester	32,379	19,315	13,064
Stroud	56,055	34,020	22,035
Tewkesbury	84,419	18,572	65,847
Gloucestershire	203,609	115,444	88,165

Source: SPRU analysis of local authority monitoring data

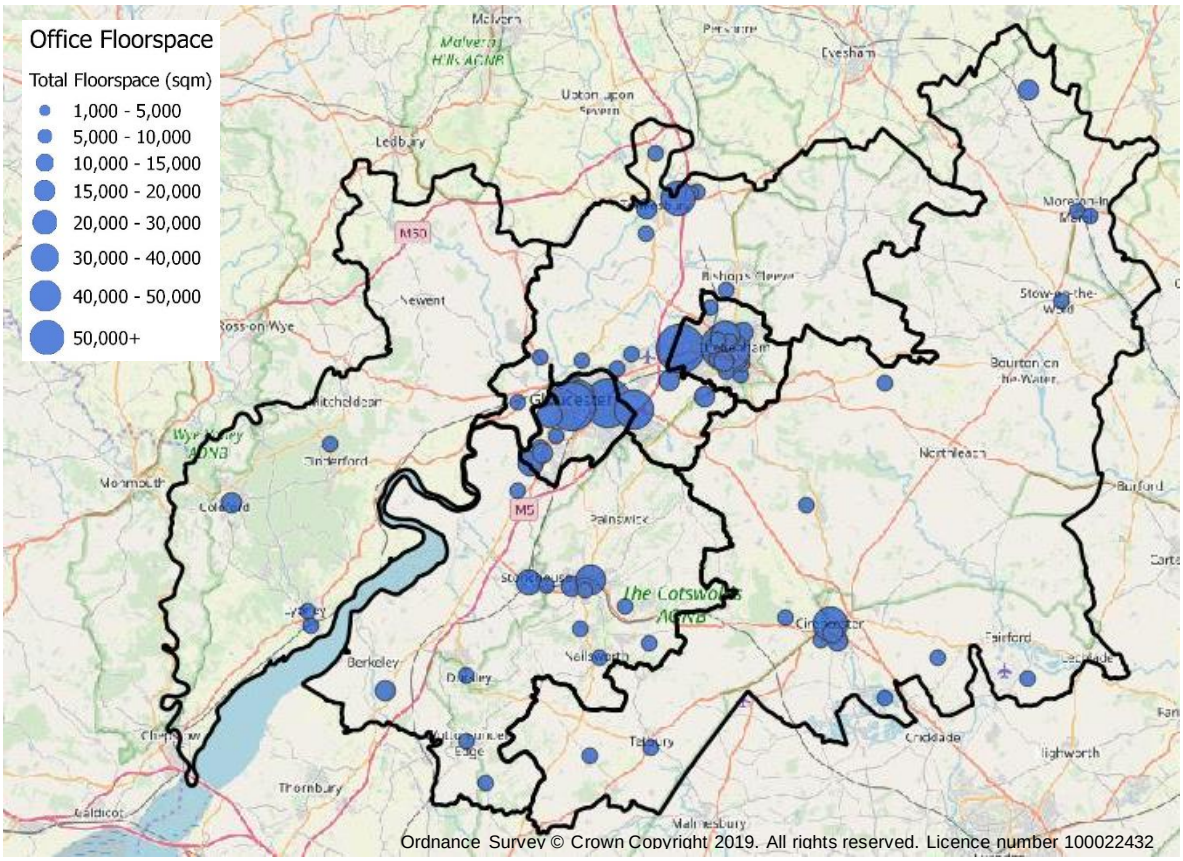
xiii) Gloucestershire's Office Market

6.126 The map below shows the location of Gloucestershire's office floorspace by area. The data for each area is clustered by lower super output area (LSOA) so represents local areas rather than individual units.

6.127 This shows the major locations and concentrations of office floorspace is predominantly focussed in Cheltenham Town Centre and Gloucester City Centre. There are also smaller

concentrations in Cirencester, Stroud, and Tewkesbury Town Centres.

Figure 37. Office Floorspace by Location, 2019



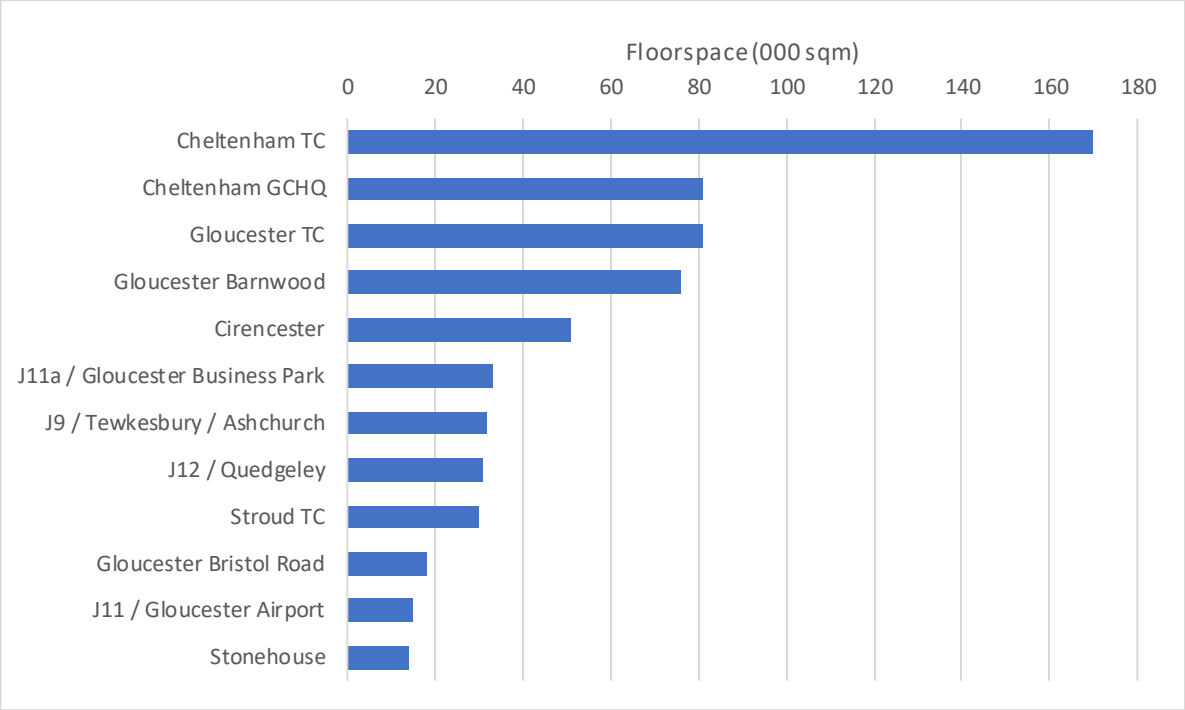
Source: SPRU analysis of VOA data

6.128 Cheltenham clearly has the largest quantum of office space with around 170,000 sqm of office floorspace in the town centre – almost 20% of the Gloucestershire total – and a further 81,000 sqm at GCHA and the surrounding area – 9% of the total.

6.129 Gloucester has the next highest amount of office floorspace with 80,000 sqm in the town centre and slightly less at Barnwood, as well as a smaller quantum in the Bristol Road corridor. Combined these areas provide 19% of the Gloucestershire total. In addition to the provision in the towns, there is also 33,000 sqm at Gloucester Business Park and around 30,000 sqm at J12 of the M5 and Quedgeley.

6.130 Beyond Cheltenham and Gloucester, levels of office space are relatively modest. There is around 50,000 sqm in Cirencester (6% of the total), 32,000 sqm at J9 of the M5 (4%), and 30,000 sqm in Stroud Town Centre and a further 14,000 sqm at Stonehouse (combined 5%).

Figure 38. Office Floorspace by Major Employment Locations



Source: SPRU analysis of VOA data

6.131 Looking at completions data recorded by each of the local authorities shows that there has been a total of 102,300 sqm of office floorspace delivered across Gloucestershire since 2011. This is an average of 12,800 sqm per annum, equivalent to 1.4% of current total stock levels.

6.132 Table 16 shows the rate of gross completions compared to stock levels in each authority. This shows that if the rate of growth seen in each authority since 2011 were to continue, what the annual growth rate would be in terms of existing stock.

6.133 The data shows that Stroud saw the highest level of office floorspace gained with 39,000 sqm – this is equivalent to a 5% growth of the authority's office stock per annum, which is very high.

6.134 Conversely, the level of delivery in Gloucester is notably low with only 1,200 sqm delivered per annum – equal to a growth rate of 0.5% per annum. This reflects the very constrained nature of Gloucester's supply which has resulted in the delivery of office space in neighbouring areas such as Tewkesbury (Gloucester Business Park) and Stroud (Quedgeley).

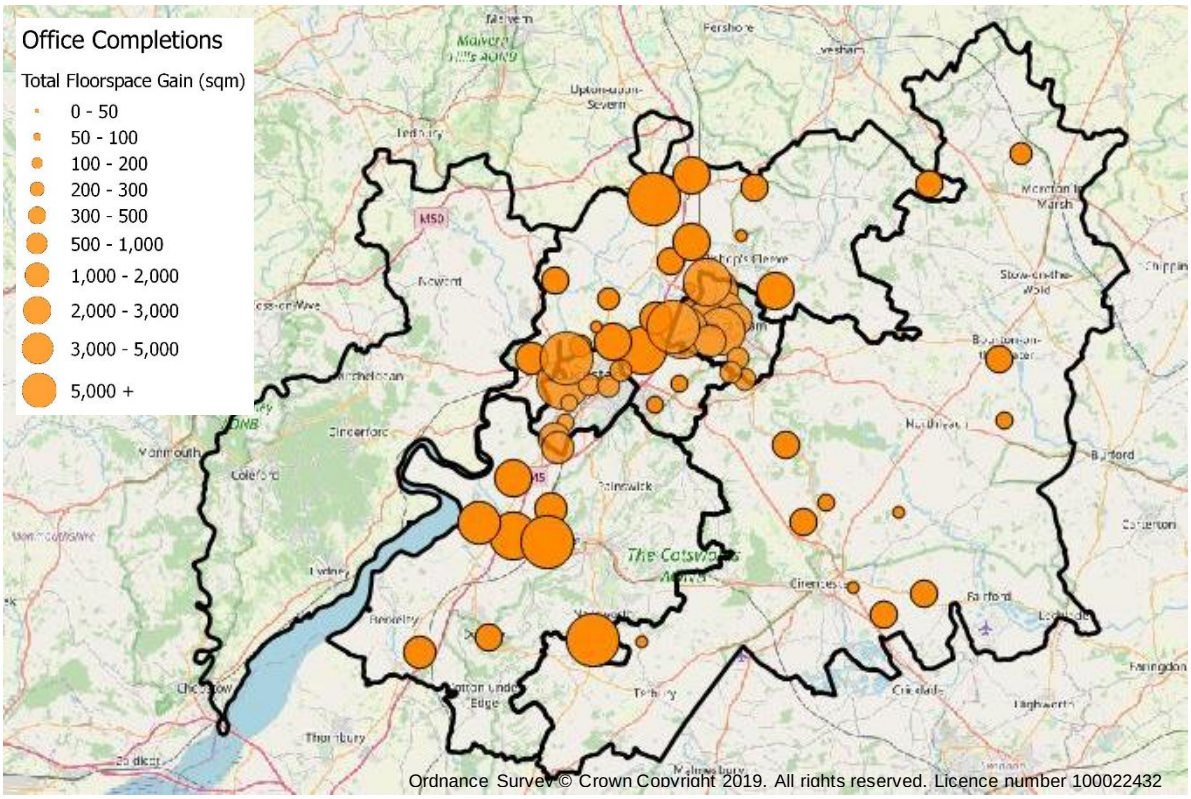
Table 16. Office Completions vs Office Stock

	Gross Gains 2011-19	Per Annum	2019 Stock	% Growth per Annum
Cheltenham	20,727	2,591	286,000	0.9%
Cotswold[7]	11,161	1,395	106,000	1.3%
Forest of Dean	-	-	34,000	0.0%
Gloucester	9,793	1,224	272,000	0.5%
Stroud	38,982	4,873	98,000	5.0%
Tewkesbury	21,626	2,703	114,000	2.4%
Gloucestershire	102,289	12,786	910,000	1.4%

Source: SPRU analysis of VOA and LA data

6.135 The location of office development is shown on the map below highlighting the concentration of development in Cheltenham and Gloucester and along the M5 corridor. There has also been significant development in Stroud district which has been focussed around the Stonehouse area. Conversely there has been no development in Stroud Town Centre and very little in Cirencester Town Centre over this period.

Figure 39. Office Floorspace Gains by Location, 2011-19



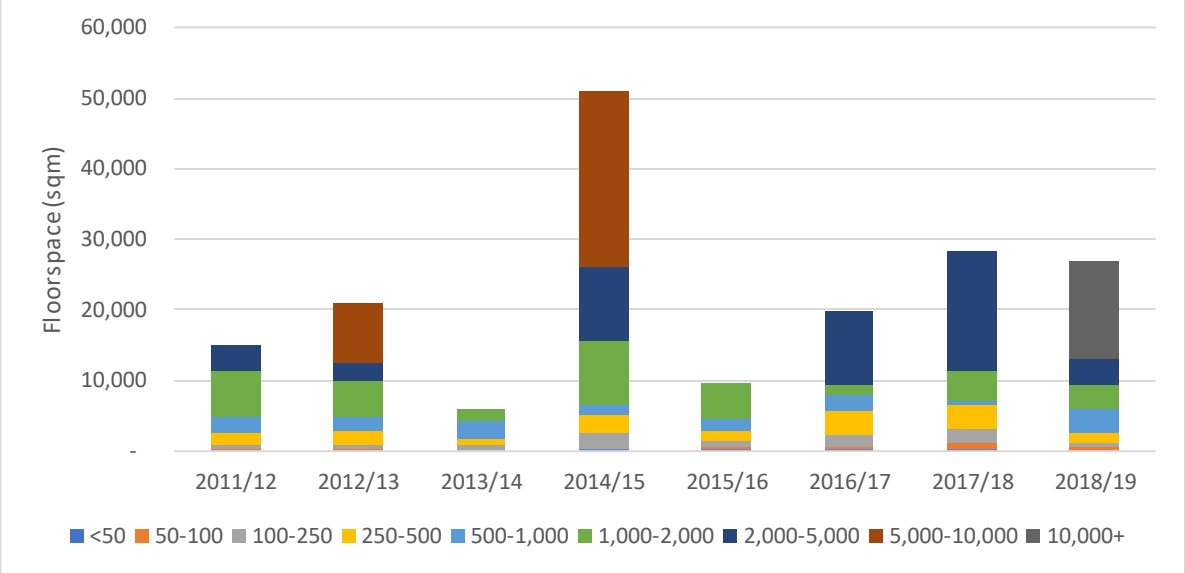
Source: SPRU analysis of local authority monitoring data

6.136 Figure 40 shows gross completions of office space per year. As with the industrial completions data this does not suggest any particular trends in terms of rates of completion

[7] Cotswold figures are from 2015-19 due to inconsistencies in data recording between 2011-15 and 2015-19.

across this period, with the spikes in delivery in 2014/15 corresponding to completions of a small number of large (10,000+ sqm) developments. As with the industrial completions data there is no indication, for example, of completions slowing following the referendum to leave the European Union in June 2016, if anything completions have increased since then.

Figure 40. Gloucestershire Office Floorspace Gains – by Year and Size Band

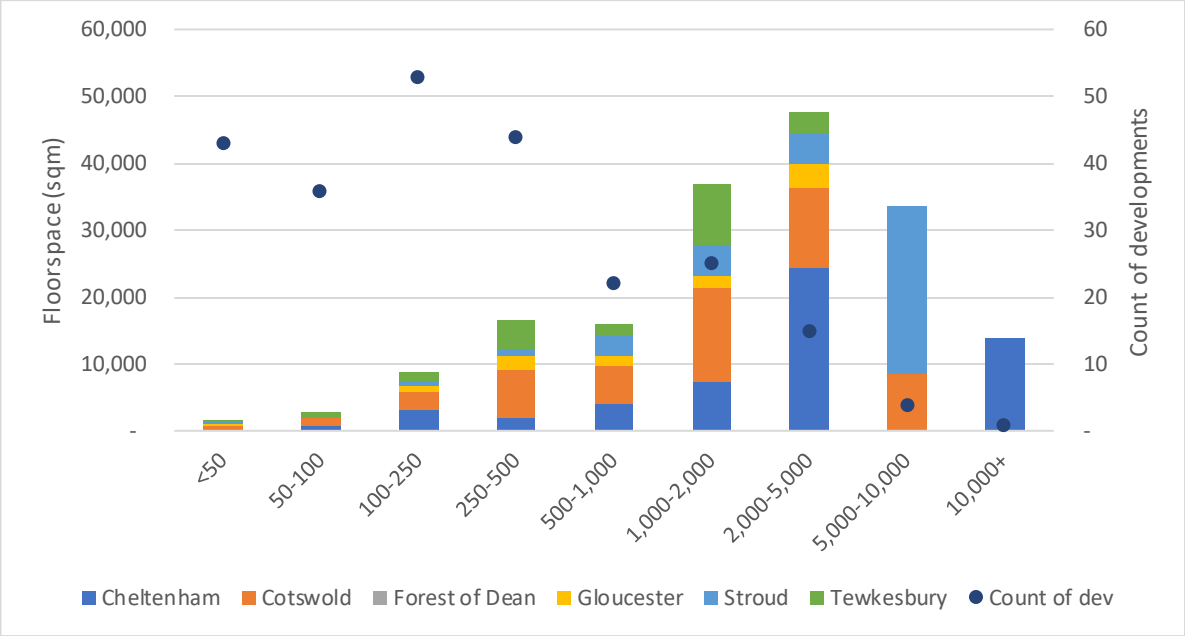


Source: SPRU analysis of local authority monitoring data

6.137 Figure 41 shows the same completions data but organised by size band. This shows that in terms of overall floorspace, the most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a quarter of all floorspace delivered within this range and a further 25% in larger space.

6.138 However, it's clear than in terms of the number of units taken up the smaller units are more popular with 40% of take up being for units sized 100-500 sqm and a further third of all take up being for units under 100 sqm. Combined this accounts for over 70% of all units completed.

Figure 41. Office Floorspace Gains by Size Band, 2011-19

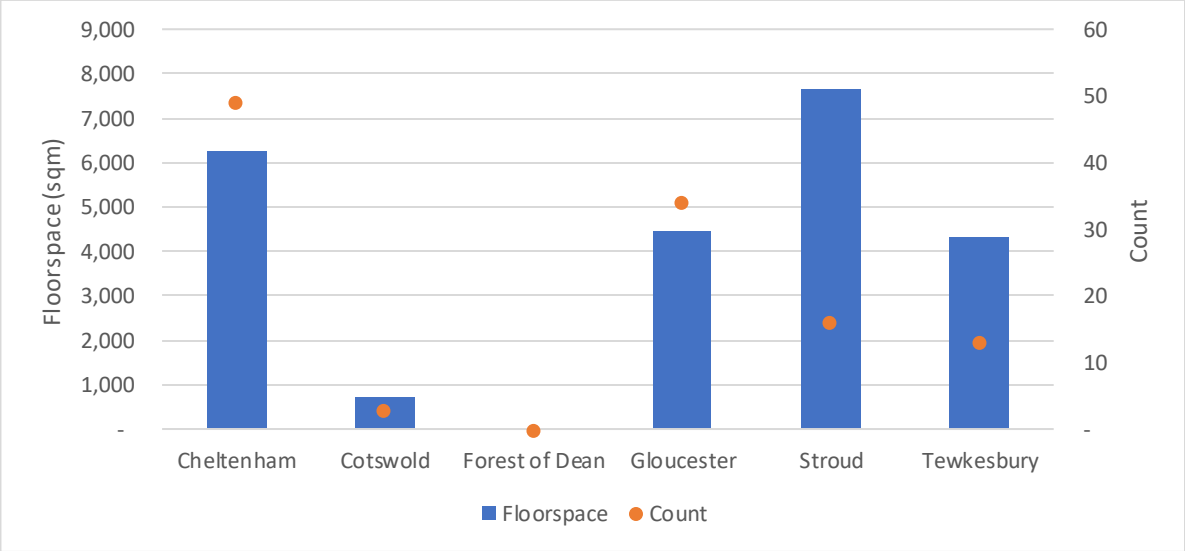


Source: SPRU analysis of local authority monitoring data

6.139 We have collated details of office floorspace being advertised on Estate Gazettes Property link and CoStar's Realla commercial property listing websites. This has identified, as of January 2020, a total of 23,400 sqm of office space being advertised across Gloucestershire.

6.140 In terms of overall floorspace being advertised the most is in Stroud (7,650 sqm) – 33% of the Gloucestershire total, although this is principally in a smaller number of larger developments. There is 6,250 sqm being advertised in Cheltenham – 27% of the total – but over a much wider range of smaller units. There was less being advertised in Gloucester and Tewkesbury – around 4,400 sqm in both authorities (19% of the total). Around 10% of the available space in Gloucester was at The Docks. There was very little in Cotswold and nothing being advertised in Forest of Dean.

Figure 42. Office Vacancies, January 2020



Source: SPRU analysis of Estate Gazettes and CoStar data

6.141 The above vacancy data can be combined with the overall floorspace data to identify a vacancy rate for each authority. This simply represents a snapshot at the time the assessment was undertaken and therefore should be treated as such. This notwithstanding the data does provide a useful market indicator.

6.142 The data shows a vacancy rate for office units across Gloucestershire of around 2.6% which represents a low vacancy rate and represents a relatively constrained market. Most of the authorities have a vacancy rates broadly around this level with only Stroud deviating from the trend with a healthier 7.8%.

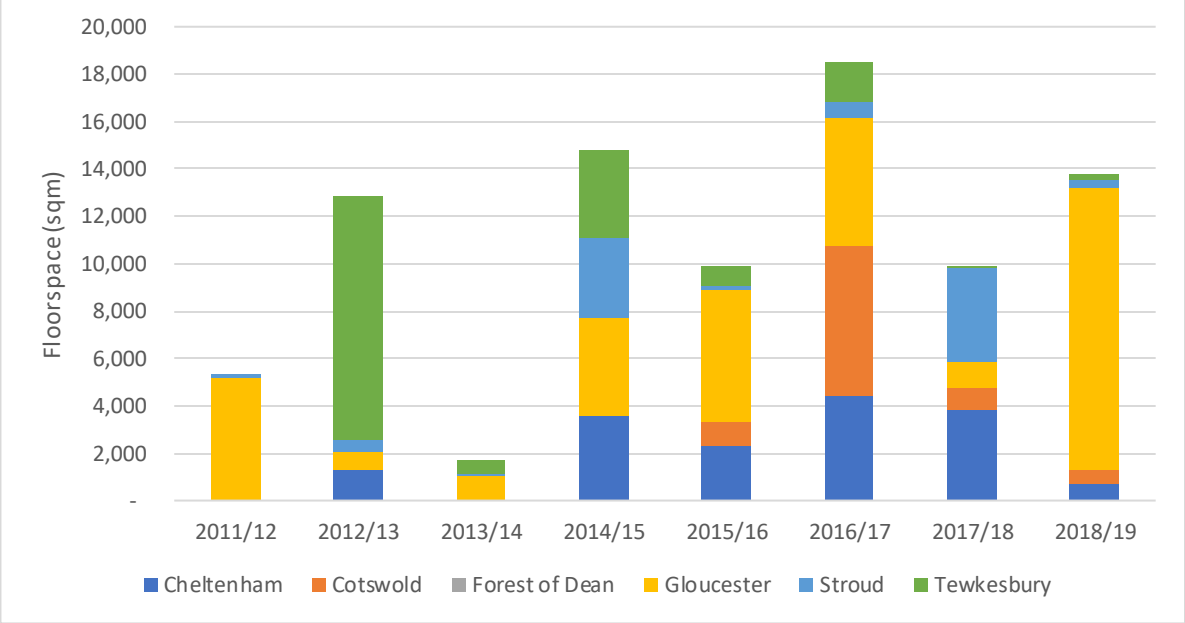
Table 17. Office Vacancy Rates, January 2020

Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Gloucester-shire
2.2%	0.7%	0.0%	1.6%	7.8%	3.8%	2.6%

Source: SPRU analysis of EG, CoStar, and VOA data

6.143 The quantum of office floorspace lost per year since 2011/12 is shown in the figure below. Over this period there has been an average of 10,800 sqm lost per annum across Gloucestershire. 40% of the total lost was in Gloucester, while 20% was in Tewkesbury and 19% in Cheltenham.

Figure 43. Loss of Office Floorspace, 2011-19



Source: SPRU analysis of Local Authority monitoring data

6.144 Comparing the losses figures against the gross completions figures provides the net gain in office floorspace for each authority over the period since 2011, as shown in Table 18. This shows that overall across Gloucestershire there has been a net gain of 15,597 sqm of office floorspace since 2011. Stroud has seen a particularly high net gain of 29,746 sqm of office space over this period. Conversely Gloucester has seen particularly high losses resulting in a net loss of 25,292 sqm of office floorspace over this period.

Table 18. Net Gain of Office Floorspace, 2011-19 (sqm)

	Gross Gain	Gross Loss	Net Gain
Cheltenham	20,727	16,140	4,587
Cotswold	11,161	8,867	2,294
Forest of Dean	-	-	-
Gloucester	9,793	35,085	- 25,292
Stroud	38,982	9,236	29,746
Tewkesbury	21,626	17,364	4,262
Gloucestershire	102,289	86,692	15,597

Source: SPRU analysis of local authority monitoring data

c) Past Completions Trends

6.145 The completions data compiled via local authority monitoring, and analysed above, can be used as a measure of future employment land needs, assuming development in each authority were to continue at the same rate as seen since 2011.

6.146 The annual average B Class completions for each authority is shown in the table below. The past completions trend forecast is based on the past data over the 8 years from 2011-19, and extrapolated forward to cover the 20 year forecasting period. The past completions data from each authority have been sifted so that they provide a consistent basis of measuring gross completions[8]. The data shows gross completions of new (B Class) employment floorspace, excluding change of use within the Use Class.

Table 19. B Class Completions Per Annum by Local Authority, 2011-19 (sqm)

	B1a/b	B1c/B2	B8	Total
Cheltenham	2,591	394	238	3,223
Cotswold	2,790	2,461	2,014	7,265
Forest of Dean	-	850	125	975
Gloucester	1,224	2,229	1,818	5,272
Stroud	4,873	3,779	3,227	11,880
Tewkesbury	2,703	2,595	7,958	13,256
Gloucestershire	12,786	11,077	14,374	38,237

Source: Local Authority Monitoring Data

6.147 Extrapolating the past completions forward over a twenty-year period provides a basic way to estimate of the future requirements in Gloucestershire for the period 2021-41. In accordance with national guidance, the past completions trends should be considered against alternative approaches to considering future needs (such as labour demand and labour supply approaches, which are considered in Sections 10 and 11 of this report), in the context of the latest contextual data on commercial market and economic trends. A comparison of the different scenarios is set out in Section 12 of this report.

[8] This has meant that for Cotswold only figures for 2015-19 have been used due to previous data not being consistent with the other years and authorities.

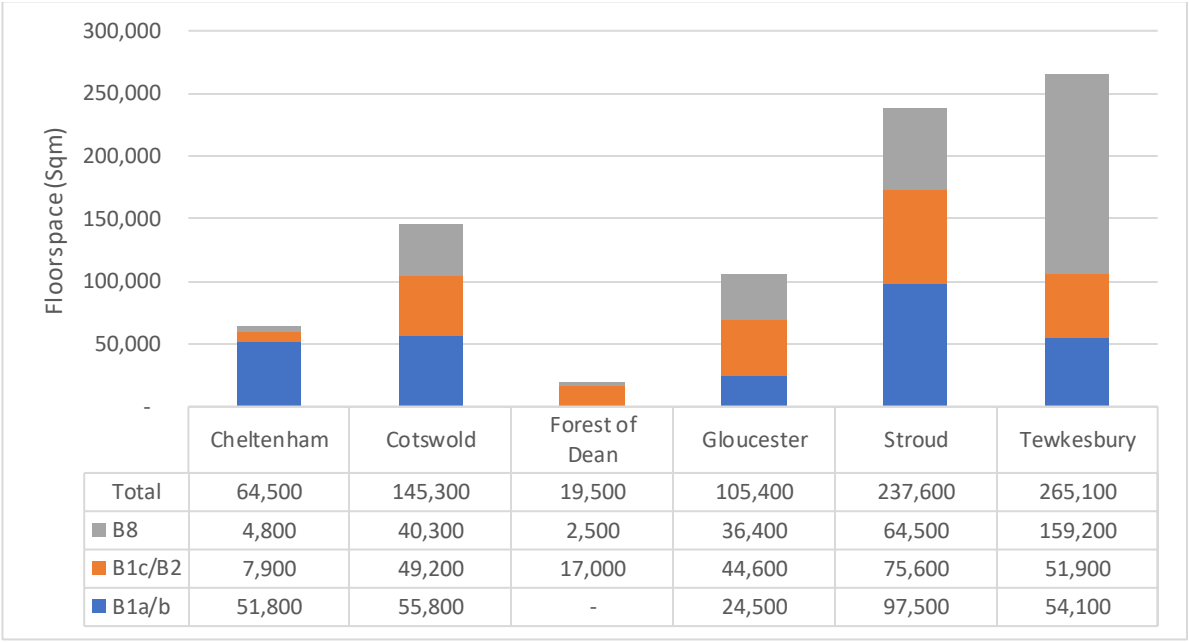
6.148 Estimating future employment land needs based on a simple extrapolation of past completion trend data has the benefit of being straightforward and transparent. It is easy to understand the implications in terms of delivery rates being a continuation of existing patterns.

6.149 However, there are disbenefits of this approach: It potentially models forward historic or existing supply-side constraints; and it reflects the market context of the time period considered which may not be representative of the forecasting period.

6.150 The completions trend forecast should therefore be considered with these caveats in mind.

6.151 For consistency of data the past trend analysis has been undertaken in terms of a floorspace requirement and then translated to land needs. The floorspace requirement for each authority is shown in the table below.

Figure 44. 20 Year Floorspace Requirement Based on Past Completions Trend (sqm)



	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury
Total	64,500	145,300	19,500	105,400	237,600	265,100
B8	4,800	40,300	2,500	36,400	64,500	159,200
B1c/B2	7,900	49,200	17,000	44,600	75,600	51,900
B1a/b	51,800	55,800	-	24,500	97,500	54,100

6.152 Using an assumed plot ratio of 40% which is consistent with the other forecasting approaches, this is converted into the following gross employment land requirement.

Table 20. 20-Year Land Requirement Based on Past Completions Trend (ha)

	B1a/b	B1c/B2	B8	Total
Cheltenham	13.0	2.0	1.2	16.1
Cotswold	14.0	12.3	10.1	36.3
Forest of Dean	0.0	4.3	0.6	4.9
Gloucester	6.1	11.1	9.1	26.4
Stroud	24.4	18.9	16.1	59.4
Tewkesbury	13.5	13.0	39.8	66.3
Gloucestershire	70.9	61.5	76.9	209.3

6.153 Figure 44 and Table 20 provide estimates of the employment land needs over the next 20 years assuming past rates of development continue. However, as noted above, there are

risks to this approach of forecasting forward past and existing levels of constraint in the supply.

6.154 The qualitative and quantitative analysis in this section suggests the following conclusions regarding the trends in past completions in each of the Gloucestershire authorities:

- Gloucestershire has a strong existing base of manufacturing businesses and skilled workforce. The key industrial locations are primarily along the M5 corridor particularly focussed at the Junctions from J9 in Tewkesbury through to J13 in Stroud.
- A key message from the stakeholder engagement was that recent completions data has been negatively impacted by low levels of supply, and demand for employment space is considerably higher. This is reflected in the quantitative data which show that overall across Gloucestershire the recent average annual delivery of industrial floorspace has been relatively low compared to existing stock levels.
- This is particularly evident in Cheltenham and Gloucester which, except for the Forest of Dean, have seen the lowest levels of development despite the commercial market dynamics showing strong demand in both authorities. This partly reflects the relatively tight local authority boundaries. Conversely, Tewkesbury borough has seen higher levels of delivery to support the needs arising from Cheltenham and Gloucester. However, the figures for the JCS area still show relatively low rates of growth.
- In Stroud there are relatively high levels of traditional employment floorspace and it is this which explains the relatively low development rates in the district. Stroud, along with Tewkesbury, have seen the greatest quantum of delivery of new industrial space since 2011 and have delivered 28% and 41% of the Gloucestershire total over this period.
- Cotswold has seen a relatively high level of industrial growth, albeit over a shorter time period, which has been spread over the district reflecting the diffuse nature of the district's industrial activity.
- Forest of Dean has seen the lowest level of growth of industrial floorspace both in terms of quantum and rate of growth. This reflects not only relatively low levels of recent demand but also, like Stroud, relatively high levels of traditional existing employment stock.
- Gloucestershire's office market is focussed in Cheltenham and Gloucester and these areas have the greatest quantum of existing stock. However, Gloucester in particular has seen low levels of completions in recent years and high levels of losses.
- Meanwhile Stroud and Tewkesbury have seen large growth in office developments reflecting, to some degree, growth being displaced from Gloucester and Cheltenham.
- Overall, this has meant across Gloucestershire as a whole the rate of delivery of office space has been relatively healthy in recent years although vacancy rates are low.

6.155 The past completions trend data should therefore be considered alongside the other forecasting approaches (labour demand and labour supply) set out in sections 7-11, as well as the wider commercial market context set out in this section. A comparison of the scenarios, and conclusions on future employment land needs is set out in Section 12.

d) Summary

6.156 This chapter provides a qualitative and quantitative assessment of Gloucestershire's commercial property market. The first part provides a qualitative assessment based on feedback received from stakeholder engagement. The second part provides a quantitative assessment based on a range of data sources. The final part of this chapter looks at the future employment land requirement for each authority based on a past completions trend and interprets this in the context of the commercial market signals.

6.157 Interest in industrial space in Gloucestershire is focussed primarily along the M5 corridor,

and most strongly at the junctions between J9-J11a spanning Tewkesbury Borough and serving Cheltenham and Gloucester; and J12 in Stroud district, which serves the Gloucester and Stroud markets. J13 is also a popular location although the distance from Gloucester and Cheltenham means this is a slightly market area. The M5 corridor is also the most significant location for distribution uses in Gloucestershire.

6.158 One of the key determinants of location being a desire to retain existing staff, and as such most occupiers considering relocation are keen to stay within easy commuting range of their existing staff. Gloucestershire has a very skilled workforce – particularly relating to certain high-end manufacturing sub-sectors, and other highly skilled sectors such as nuclear energy, other forms of energy, and cyber security. For this reason the majority of occupiers would not generally seek to move beyond the M5 corridor into other locations within Gloucestershire.

6.159 Beyond the M5 corridor, the Stroud Valleys along the A46 and A419 principally comprise more traditional employment sites which are generally smaller sites and units comprising more dated stock. In the Forest of Dean the majority of demand for employment space is for local and indigenous businesses and most enquiries come from businesses within the district. Demand in these areas is mostly from local businesses with agents reporting larger businesses in these areas generally seeking to relocate to larger premises

6.160 In Cotswold commercial interest is focussed around Cirencester and South Cerney in the south of the district. This area forms a very different market to the other Gloucestershire authorities along the M5 corridor, and while these areas are considered distinct to the M5 corridor they benefit from strong links to the south and east with access to Swindon and the M4 corridor.

6.161 Demand for office space is principally focused in Gloucester, Cheltenham, and neighbouring businesses parks. Gloucester City Centre and Cheltenham Town Centre are the most sought-after locations due to the proximity to town centre retail, leisure and amenities and public transport links. Cheltenham Town Centre is the most attractive location due to the higher quality of the environment and regency stock proving popular. Other desirable factors are the proximity to town centre retail, leisure, and amenities. This is reflected in significantly higher prices in the town.

6.162 Gloucester City Centre is another popular office location, with the Gloucester Quays area considered the most popular location for office occupiers. Beyond the city centre, Quedgeley and the area around J12 in Gloucester/Stroud district provides a business park type offer which is a popular location.

6.163 Cirencester is seen as an attractive office location albeit much smaller market than Cheltenham or Gloucester. Gloucester and Cotswold have also seen a considerable quantum of office space lost via permitted development rights to residential uses.

6.164 It will be important to provide sufficient land to provide for the natural growth and expansion of indigenous businesses, as well as to cope with future inward investment opportunities. However, it is not clear at present the scale of what this might be. It is therefore necessary to include flexibility in the supply to adapt to changing requirements. The nature of the distribution sector is also rapidly evolving meaning a flexible approach would be beneficial to support future growth and the changing demands of the sector. It would also be beneficial to provide supporting ancillary uses at employment locations – retail, leisure, and amenities – to ensure employee's needs are met.

6.165 Since 2011 across Gloucestershire there has been a net gain of 88,165 sqm of industrial floorspace since 2011. The majority (75%) of this has been in Tewkesbury borough. Cheltenham and Forest of Dean have seen an overall net loss of industrial floorspace over this period, this is due to relatively low levels of gross completions rather than particularly

high levels of loss.

6.166 The rate of gross completions of industrial floorspace compared to stock levels in each authority shows that since 2011 Tewkesbury has seen the highest rate of growth relative to stock at 1.2% per annum and is the only authority with a growth rate above 1% per annum, while Cotswold has seen a growth of 1.0%. For the Forest of Dean this likely reflects the relatively high levels of historic floorspace in the district compared to relatively low levels of current demand and low rental values. The same is true for parts of Stroud such as the Stroud Valleys where there is significant traditional stock and relatively constrained opportunities for new development. For Cheltenham and Gloucester the trend likely indicates a constrained supply of industrial land which has seen the majority of industrial development serving the towns taking place beyond the local authority boundaries.

6.167 For industrial units, the size band with the highest number of completions was smaller units 100-1,000 sqm (roughly 1,000-10,000 sqft). These constituted over half (54%) of the total developments and were spread relatively evenly across all areas. In terms of overall floorspace, the most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a third of all floorspace delivered within this range.

6.168 The vacancy data shows a vacancy rate for industrial units across Gloucestershire of just under 7% which is very slightly on the low side but not drastically so. Some of the main markets – Gloucester and Stroud having rates over 10%.

6.169 There has been a total of 102,300 sqm of office floorspace delivered across Gloucestershire since 2011. This is an average of 12,800 sqm per annum, equivalent to 1.4% of current total stock levels. Stroud saw the highest level of office floorspace gained with 39,000 sqm – this is equivalent to a 5% growth of the district's office stock per annum, which is very high. Conversely, the level of delivery in Gloucester is notably low with only 1,200 sqm delivered per annum – equal to a growth rate of 0.5% per annum. This reflects the very constrained nature of Gloucester's supply which has resulted in the delivery of office space in neighbouring areas such as Tewkesbury (Gloucester Business Park) and Stroud (Quedgeley).

6.170 The most was delivered at medium sized units in the 2,000-5,000 sqm range (roughly 20,000-50,000 sqft) with a quarter of all floorspace delivered within this range and a further 25% in larger space. However, it's clear than in terms of the number of units taken up the smaller units are more popular with 40% of take up being for units sized 100-500 sqm and a further third of all take up being for units under 100 sqm. Combined this accounts for over 70% of all units completed.

6.171 The data shows a vacancy rate for office units across Gloucestershire of around 2.6% which represents a low vacancy rate and represents a relatively constrained market. Most of the authorities have a vacancy rates broadly around this level with only Stroud deviating from the trend with a healthier 7.8%.

6.172 The completions data has been used as a measure of future employment land needs, assuming development in each authority were to continue at the same rate as seen since 2011. This approach has the benefit of being straightforward and transparent. However, there are disbenefits of this approach in that it has potential to models forward historic supply-side and market constraints.

6.173 Overall, for Gloucestershire the past completions trend identifies a need for 70.9ha of B1a/b office space, 61.5ha of B1c/B2 industrial space, and 76.9ha of B8 warehouse/distribution space. This provides a total demand for 209.3ha of employment land for the period 2021-41.

7.0 ECONOMIC FORECASTS

7.1 This section sets out the future employment growth identified by the econometric forecasts.

Three econometric forecasts have been assessed:

- Cambridge Economics (CE) forecasts
- Oxford Economics (OE) Baseline forecast
- Oxford Economics Medium-High forecast

7.2 These forecasts are dated May 2019 and were used in the Gloucestershire Local Housing Needs Assessment to ensure alignment between the studies. The forecasts run to 2041 and provide different conclusions on future jobs growth in the Gloucestershire authorities.

a) Cambridge Econometrics (CE)

7.3 The approach taken by the CE forecast is perhaps the simplest of the forecasting houses, insofar as it assumes that economic growth in the local area is not constrained by supply-side factors – such as population and the supply of labour. Therefore, the CE forecast makes no estimates of population, activity rates and unemployment rates of the local population. The forecast only provides outputs for total employment, which is equivalent to workforce jobs.

7.4 The CE forecast simply assumes that there will be enough labour (either locally, or through commuting and future in-migration) with the right skills to fill the jobs. The forecast provides no outputs on demographic or local population labour supply. If, in reality, the labour supply is not there to meet projected growth in employment, growth could be constrained.

7.5 The CE forecast is based on historic growth trends assessed in terms of the local area's performance relative to the region or UK trend – whichever has the strongest relationship with the local area. This process is undertaken on a sector by sector basis.

7.6 The forecast assumes that those relationships continue into the future. Thus, if an industry in the local area outperformed the industry in the region (or UK) in the past, then it will be assumed to continue to do so in the future. Similarly, if it underperformed the region (or UK) in the past then this will be projected forward in the future.

7.7 The CE national projections include consideration of the impacts of Brexit at the UK level. The CE local area projections do not include assumptions for Brexit explicitly at the local level. However, as the local area modelling is aligned to the national performance, the forecast assumptions that were developed at the national level are implicitly captured in the local level forecasts.

b) Oxford Economics (OE)

7.8 The Oxford Economics forecasts sit within their global and national forecasts. This ensures macro-economic factors (such as developments in the Eurozone and UK Government fiscal policy) have an appropriate impact on the forecasts at a local authority level. This means the trends in OE's global, national and sectoral forecasts have an impact on the local area forecasts and means that the OE forecast is more than just an extrapolation of historical trends.

7.9 OE's local forecasting model depends essentially upon three factors:

- National/regional outlooks – consistency with the broader global and national forecasts;
- Historical trends in an area (which implicitly factor in supply side factors impinging on demand), augmented where appropriate by local knowledge and understanding of patterns of economic development; and
- Fundamental economic relationships which interlink the various elements of the outlook.

7.10 OE report in their data guide that the current macro-economic climate means that their local forecasts show most, if not all, local areas will face challenges in the short-term, irrespective

of how they have performed over the past 15 years.

7.11 The OE forecasts are produced within an integrated modelling framework, which takes account of labour supply-side factors such as migration, commuting and activity rates and both models' employment and population growth.

7.12 The starting point in producing employment forecasts is the determination of workplace-based employees in employment in each of broad sector consistent with the regional and UK outlooks. At local authority level sectoral growth is driven by a range of factors:

- Some sectors are driven predominantly by population estimates,
- Others by total employment in the area,
- The remainder relative to the regional performance (largely exporting sectors),
- All sectors are also influenced by past trends in the local area.

7.13 Total employment is calculated by adding the employees in employment, the self-employed and Her Majesty's Forces. Self-employment data by region is taken from Workforce jobs data which is then broken down into detailed sectors using both employee trends and the UK. Data for the local authorities is Census based (and scaled to the regional self-employed jobs estimates) and is broken down using the employees in employment sectoral structure. The sectors are forecast using the growth in the sectoral employees in employment data and the estimates are scaled to the regional estimate of self-employment by sector.

7.14 The OE framework models population as an output which is economically driven and thus forecasts differ from the official population projections. The OE model uses official births and deaths projections from the 2016-based population projections; however, they use different migration assumptions based on their modelled UK migration, and at the local level, migration is linked to the forecast employment rate.

7.15 Two forecasts have been purchased from OE – a Baseline forecast and a Mid-High forecast. Both of the OE forecasts are from OE's May 2019 release. Both assumed that the UK left the EU in 2019, although this didn't happen until January 2020.

7.16 The Baseline forecast assumes that there will be a transition period and a set of trading arrangements broadly similar to those set out in the Brexit Withdrawal Agreement agreed between then Prime Minister Theresa May's Government and the EU in November 2018. This agreement was rejected in the UK Parliament and was subject to revisions under Boris Johnson's renegotiation in December 2019 which adjusted approximately 5% of the original text.

7.17 The medium/high scenario also assumes faster economic growth assumptions which are consistent with those provided to West of England LEP in 2015. This will be achieved through:

- Increased investment and exports performance at the UK level. This provides a significant boost to manufacturing, information & communications and professional services.
- Consumers play less of a role in driving growth than in the high growth scenario. The faster growth in the above sectors fails to raise consumer confidence significantly and the multiplier effect on consumer led sectors is dampened.
- No change to public spending.

c) Forecasts at a Gloucestershire Level

7.18 Each forecast provides an alternate 'view' on how the economy might perform based on its sectoral composition; past performance; and in the OE model, their view on future economic and labour supply trends. The forecasts therefore provide different conclusions on the future job growth across the Gloucestershire authorities, both in terms of sectoral and overall jobs.

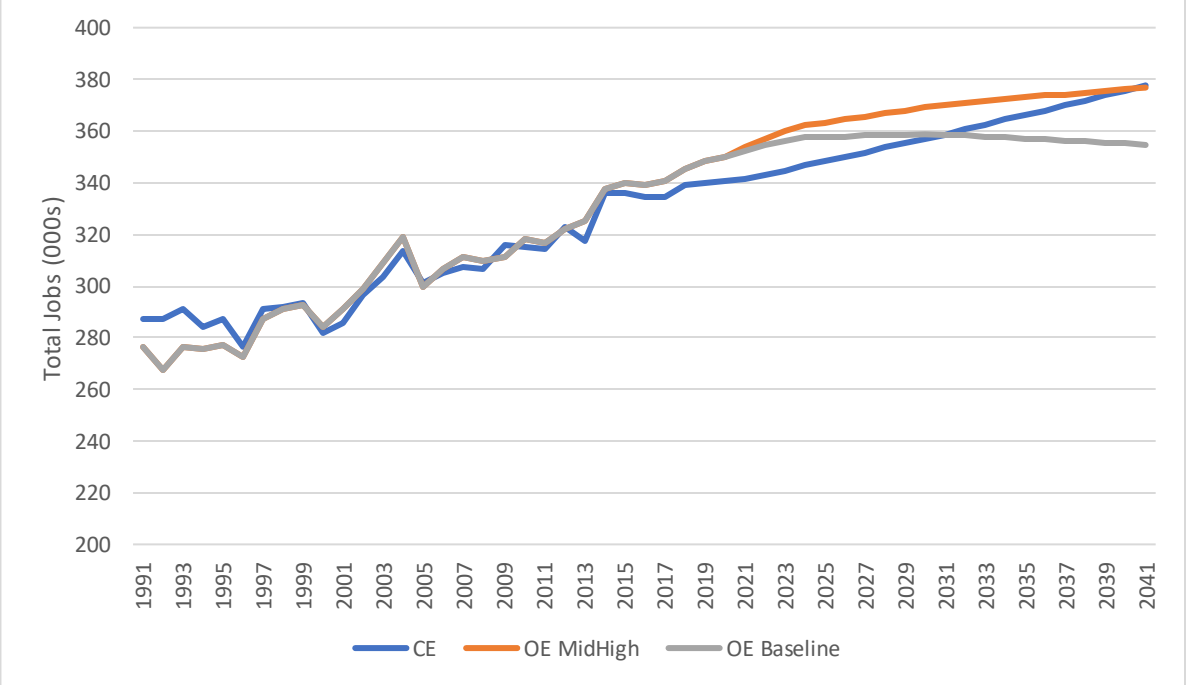
7.19 This sectoral analysis from here on will primarily focus on sectors which will impact on the quantum of employment floorspace and land required.

7.20 The analysis within this section considers the historic and projected growth for each of the forecasts and authorities. The analysis covers the following periods:

- 1996-2009 – this 13 year period covers the most recent 'trough to trough' and therefore represents the period of growth in the late 1990s and early 2000s as well as the subsequent economic decline at the end of the 2000s. This period is therefore broadly representative of a complete market cycle.
- 2009-2019 – this represents the ten year period from 2009 to the base-date of the forecasts. It provides a most recent ten year trend, and conveniently aligns with the availability of BRES data.
- 2021-41 – the future period considered by this study (except for Stroud which covers 2020-40).

7.21 Figure 45 and Table 21 show the longer-term trends and the forecasts to 2041 for Gloucestershire as a whole. The CE forecast shows a growth in total employment of just over 36,000 jobs over the period 2021-41 (an average annual growth rate of 0.50% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 23,240 jobs (0.32% per annum) while the OE Baseline shows a growth of only 2,700 jobs (0.04% per annum) due to several of the authorities having a forecast negative jobs growth in the OE Baseline forecast.

Figure 45. Gloucestershire – Forecasts Total Jobs, 1991-2041



Source: CE and OE

Table 21. Gloucestershire – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	36,005	10.54%	0.50%
OE Mid-high	23,239	6.57%	0.32%
OE Baseline	2,701	0.77%	0.04%

Source: SPRU analysis of CE and OE data

7.22 The historic and projected average annual growth rates for each of the forecasts are shown in the table below. This contextualises the low rates of growth shown in the forecasts going forward. Past growth rates are shown as averaging just over 1.0% per annum for the period 1996-2009, and while the forecasts differ in terms of their growth rates for 2009-19 the growth rate across Gloucestershire over this period averages 0.73% in the CE forecast and around 1.1% in the OE forecasts.

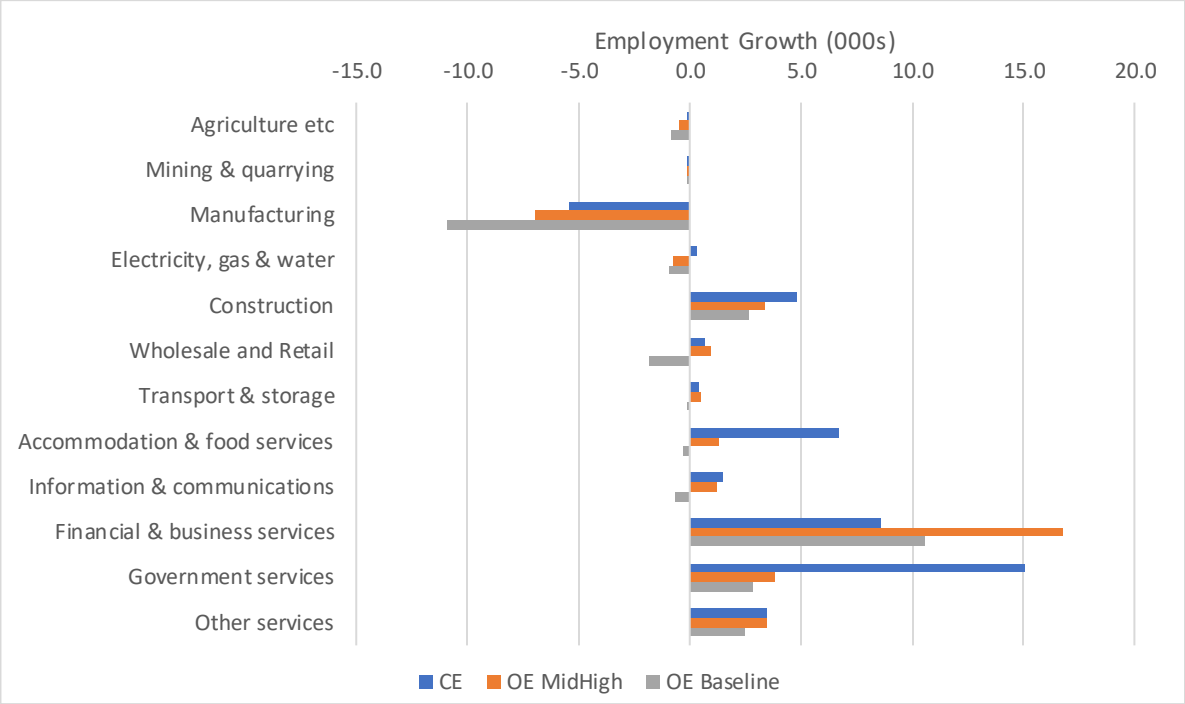
Table 22. Gloucestershire – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	1.04%	0.73%	0.50%
OE Mid-high	1.03%	1.14%	0.32%
OE Baseline	1.03%	1.13%	0.04%

Source: SPRU analysis of CE and OE data

7.23 The CE forecast also shows a high level of jobs growth in the Government services sector, predominantly driven by jobs in the Human health and social care sectors which have seen steady growth in jobs in Gloucestershire since 2011. However, jobs in these sectors do not generally impact on the demand for employment land and so have less impact on the findings of this study.

Figure 46. Gloucestershire – Annual jobs growth by sector, 2021-2041

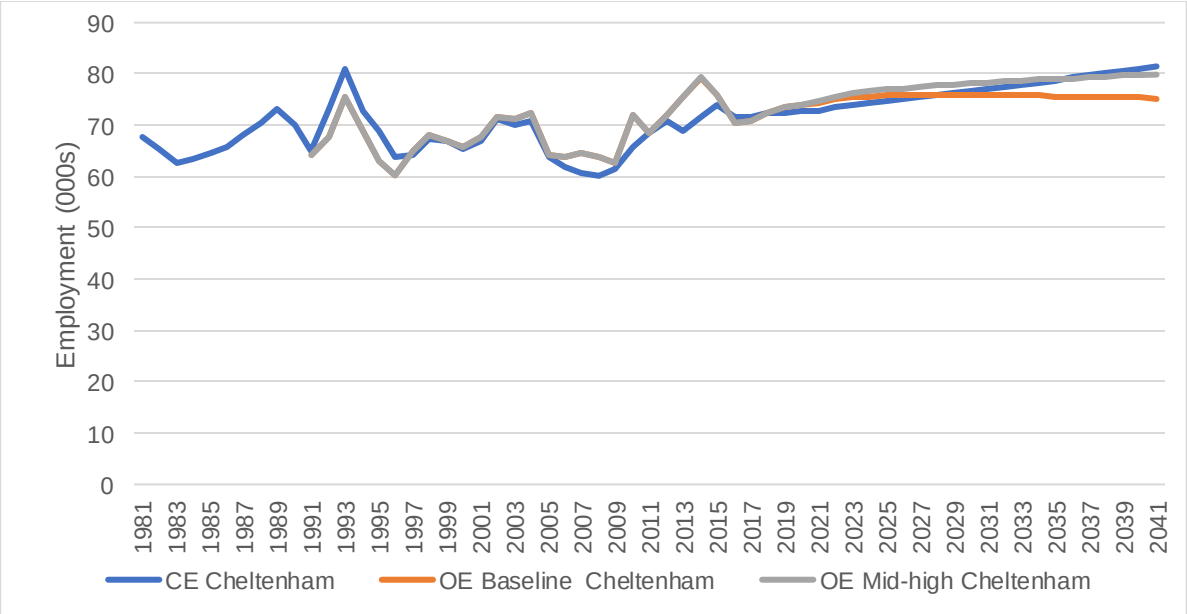


Source: SPRU analysis of CE and OE data

d) Forecasting Outputs for Cheltenham

7.24 Figure 47 and Table 23 show the longer-term trends and the forecasts to 2041 for Cheltenham. The CE forecast shows a growth in total employment of 8,500 jobs over the period 2021-41 (an average annual growth rate of 0.55% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 5,110 jobs (0.33% per annum) while the OE Baseline shows a growth of only 820 jobs (0.05% per annum).

Figure 47. Cheltenham – Forecast Total Jobs, 1981-2041



Source: CE and OE

Table 23. Cheltenham – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	+8,500	11.7%	0.55%
OE Mid-high	+5,110	6.8%	0.33%
OE Baseline	+820	1.1%	0.05%

Source: SPRU analysis of CE and OE data

7.25 The forecascts can be contextualised against the historic growth rates, which are shown for each of the forecasts in the table below. This shows the growth rates over the following periods:

- 1996-2009 – the CE forecast shows a slight decline in total employment over this peirod (-0.26% per annum) while OE shows a raltively small grwoth rate of 0.31% per annum.
- 2009-2019 – the last ten years have seen a considerably stronger rate of growth in Cheltenham's economy with both forecasts showing an annual growth rate of around 1.6% per annum.
- 2021-41 – The OE Baseline shows a growth rate slightly above zero, with the OE Mid-high broadly in-line with the 1996-2009 rate (0.33%) and the CE foreacsts showing the highest growth (0.55%). However, all three forecasts show considreably lower growth rates than seen over the last ten years.

Table 24. Cheltenham – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	-0.26%	1.63%	0.55%
OE Mid-high	0.31%	1.59%	0.33%
OE Baseline	0.31%	1.59%	0.05%

Source: SPRU analysis of CE and OE data

7.26 Consideration of the forecasts in more detail through the sectoral break down of jobs growth was conducted to identify which sectors are driving growth in the borough. Whist there are some differences between the forecasts, there are sectors that are consistently forecasting significant employment growth between 2021-2041. In Cheltenham these sectors include:

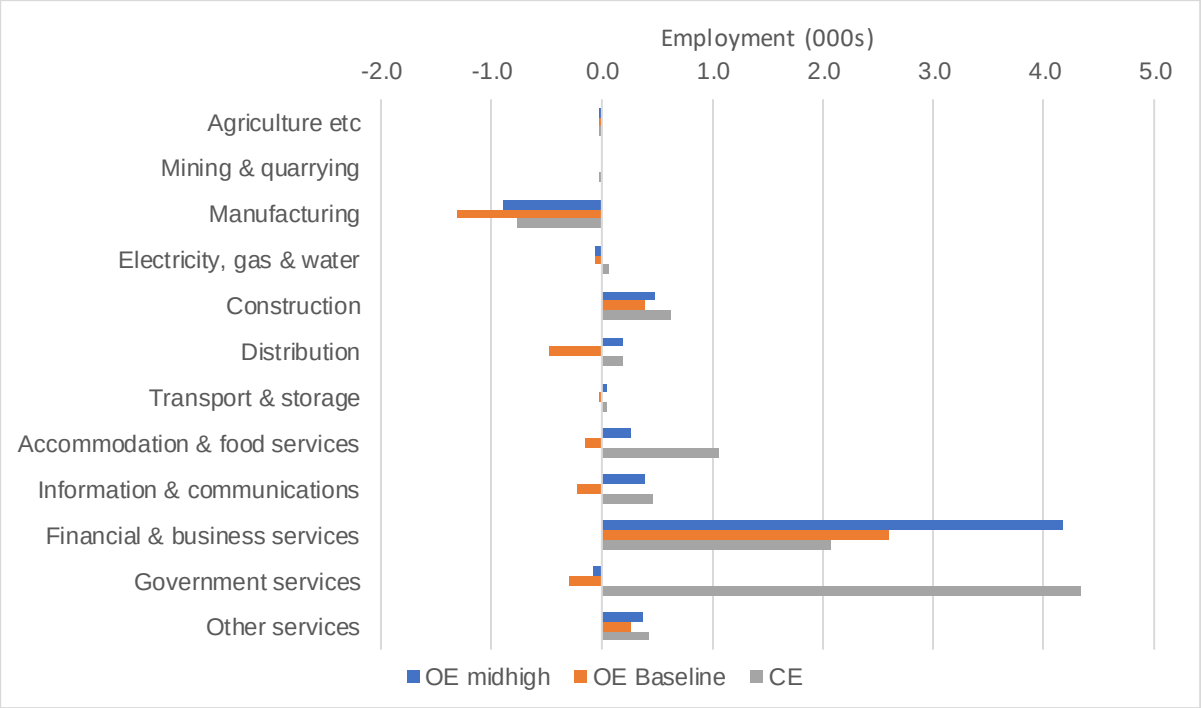
- Financial & Business services
- Construction
- Other services, including Creative industries and Recreation services

7.27 Other sectors see employment growth in the CE and OE Mid-High forecasts, but not in the OE Baseline forecast:

- Distribution
- Accommodation and food services
- Information and communications

7.28 Manufacturing displays a consistent jobs loss across all the forecasts.

Figure 48. Cheltenham – Employment Growth by Sector, 2021-41

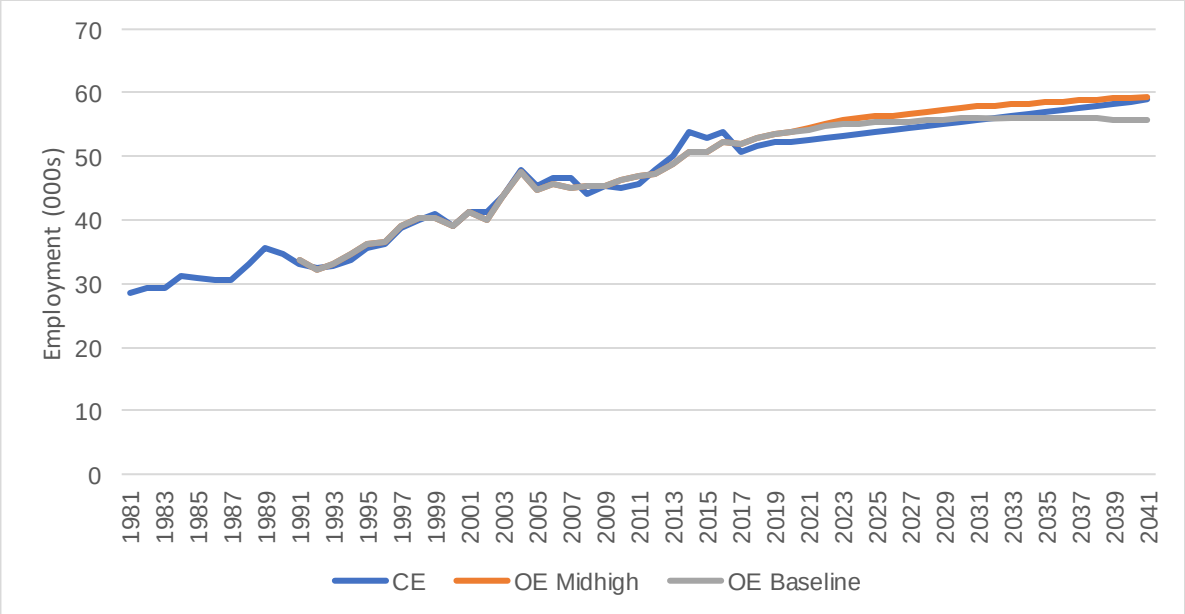


Source: SPRU analysis of OE and CE data

e) Cotswold

7.29 Figure 49 and Table 25 show the longer-term trends and the forecasts to 2041 for Cotswold. The CE forecast shows a growth in total employment of 6,550 jobs over the period 2021-41 (an average annual growth rate of 0.59% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 4,860 jobs (0.43% per annum) while the OE Baseline shows a growth of only 1,590 jobs (0.14% per annum).

Figure 49. Cotswold – Forecast Total Jobs, 1981-2041



Source: CE and OE

Table 25. Cotswold – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	6,551	12.49%	0.59%
OE Mid-high	4,860	8.29%	0.43%
OE Baseline	1,594	2.94%	0.14%

Source: SPRU analysis of CE and OE data

7.30 The historic and projected average annual growth rates for each of the forecasts are shown in the table below. This shows the growth rates over the following periods:

- 1996-2009 – both the CE and OE forecasts show a relatively strong increase in employment over this period, with OE showing a growth rate of 1.65% and CE being slightly higher at 1.78% per annum.
- 2009-2019 – over the last ten years, the OE forecasted growth rate has remained fairly consistent at 1.68% per annum. The CE forecasts show a slightly reduced growth rate of 1.39% per annum compared to the period 1996-2009.
- 2021-2041 – the OE baseline shows the lowest growth rate of 0.14% per annum, with the OE mid-high showing 0.43% per annum, and the CE forecasts showing the lowest growth rate of 0.59% per annum. However, all three forecasts show considerably lower growth rates than seen since 1996.

Table 26. Cotswolds – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	1.78%	1.39%	0.59%
OE Mid-high	1.65%	1.68%	0.43%
OE Baseline	1.65%	1.68%	0.14%

Source: SPRU analysis of CE and OE data

7.31 Consideration of the forecasts in more detail through the sectoral breakdown of jobs growth was conducted to identify which sectors are driving growth in the district.

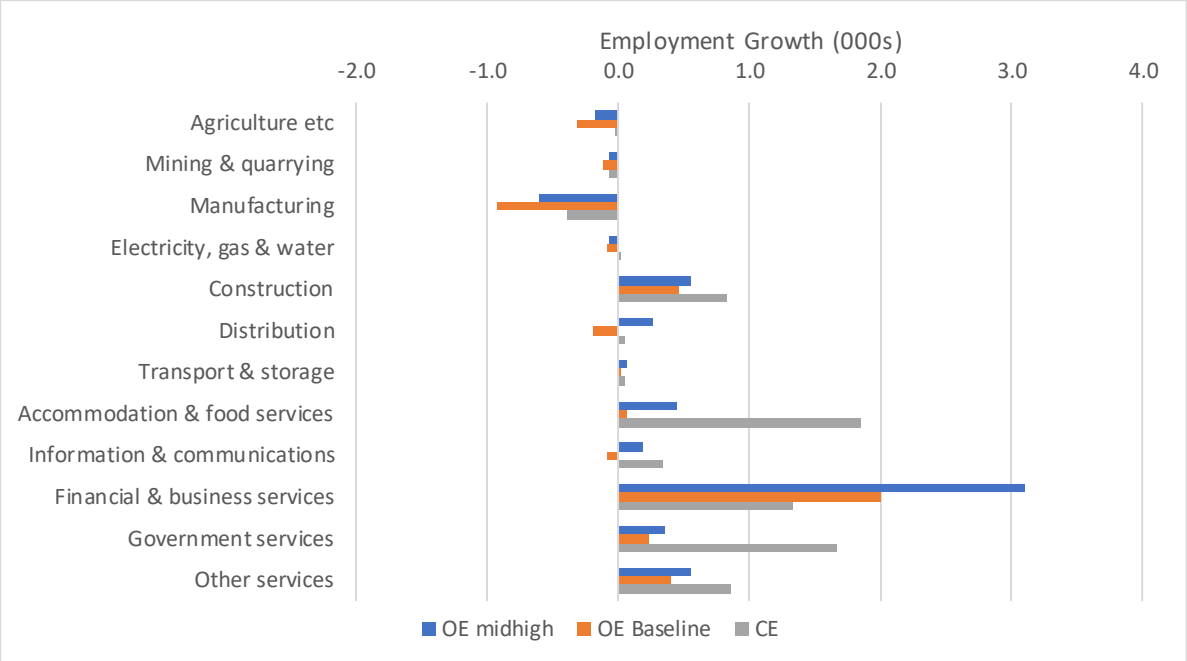
7.32 Whilst there are some differences between the forecasts, there are sectors that are consistently forecasting significant employment growth between 2021-2041. In the Cotswold District these sectors include:

- Financial & Business Services
- Construction;
- Government services; and
- Other services – including creative industries and recreational services

7.33 Information & Communications and Distribution see employment growth in the CE and OE mid-high forecasts but not in the OE Baseline forecast.

7.34 Manufacturing shows consistent decline across all three forecasts.

Figure 50. Cotswold – Employment growth by sector, 2021-2041

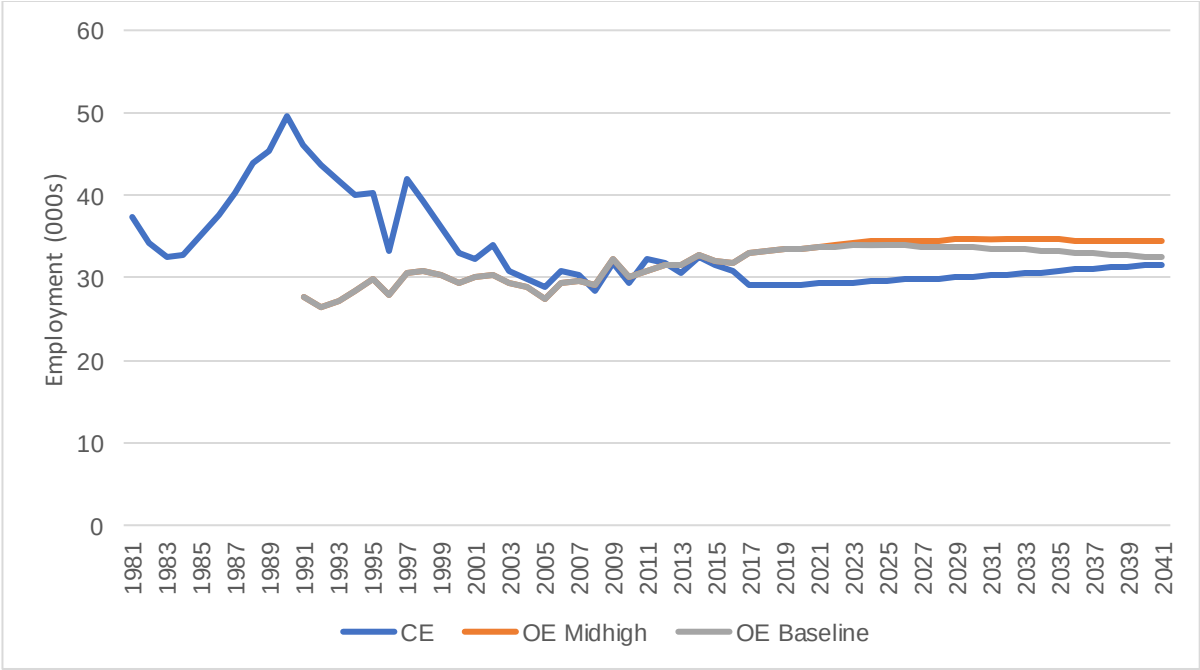


Source: SPRU analysis of CE and OE data

f) Forest of Dean

7.35 Figure 51 and Table 27 show the longer-term trends and the forecasts to 2041 for Forest of Dean. The CE forecast shows a growth in total employment of 2,380 jobs over the period 2021-41 (an average annual growth rate of 0.39% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 676 jobs (0.10% per annum) while the OE Baseline shows a net loss of 1,190 jobs (-0.18% per annum).

Figure 51. Forest of Dean – Forecast Total Jobs, 1981-2041



Source: CE and OE

Table 27. Forest of Dean – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	2,381	8.14%	0.39%
OE Mid-high	676	2.00%	0.10%
OE Baseline	-1,191	-3.54%	-0.18%

Source: SPRU analysis of CE and OE data

7.36 The historic and projected average annual growth rates for each of the forecasts are shown in the table below. This shows the growth rates over the following periods:

- 1996-2009 – the CE forecasts show a slight decline in employment over this period (-0.36% per annum) whilst the OE shows a relatively strong growth rate of 1.13% per annum.
- 2009-2019 – the CE forecasts show that over the last ten years, there has been further decline in employment growth (-0.84%). The OE forecasts show that there has been a lower growth rate over the last ten years compared to 1996-2009 (0.32%), although this still maintains employment growth.
- 2021-2041 – the OE Baseline shows a decline in employment over this period (-0.18%), OE mid-high maintains a slight increase in employment across the district albeit somewhat more moderate than previous, the CE shows a much stronger growth in employment compared to the past CE forecast since 1996.

Table 28. Forest of Dean – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	-0.36%	-0.84%	0.39%
OE Mid-high	1.13%	0.32%	0.10%
OE Baseline	1.13%	0.32%	-0.18%

Source: SPRU analysis of CE and OE data

7.37 Consideration of the forecasts in more detail through the sectoral breakdown of jobs growth was conducted to identify which sectors are driving growth in the district. This revealed some sectors where all three forecasts show substantial jobs growth, these include:

- Financial & Business Services
- Construction
- Government services; and
- Other services – including creative industries and recreational services.

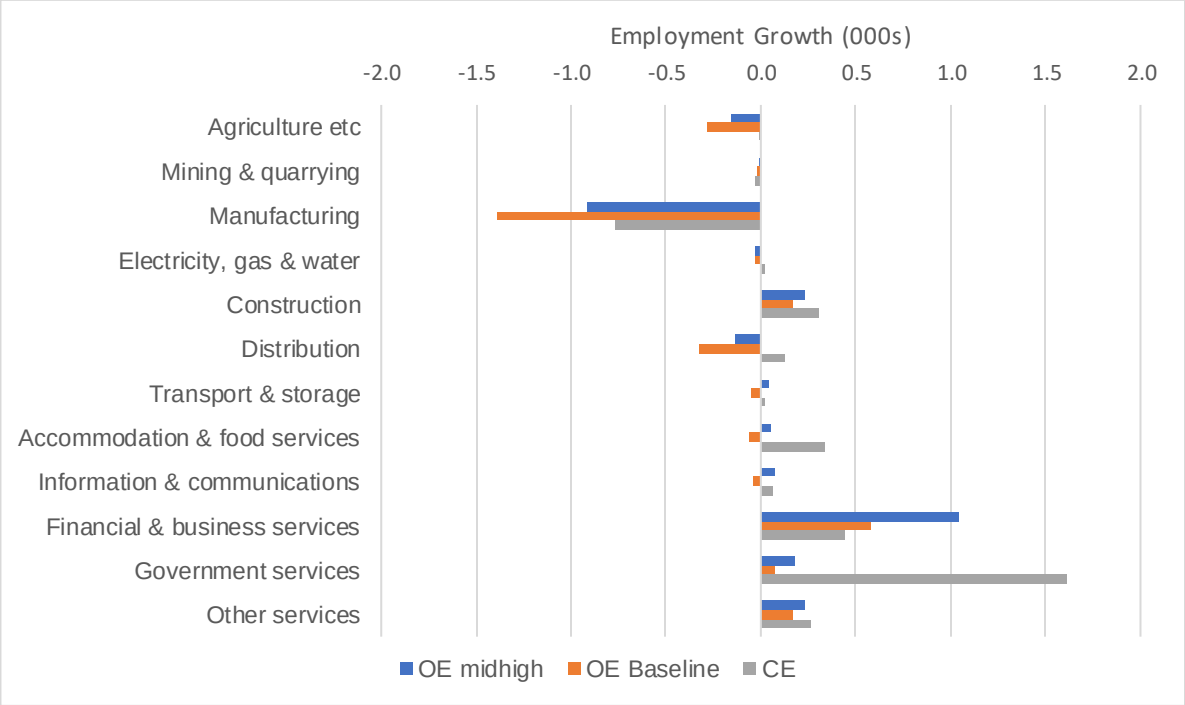
7.38 Other sectors see employment growth in the CE and OE Mid-High forecasts, but not in the OE Baseline forecast:

- Distribution
- Accommodation and food services
- Transport and Storage

7.39 Manufacturing displays a consistent jobs loss across all the forecasts. The OE Baseline forecast shows the greatest losses in manufacturing jobs which is greater than the gains

shown in the growth sectors – hence it shows a net loss of jobs overall.

Figure 52. Forest of Dean – Employment growth by sector, 2021-2041

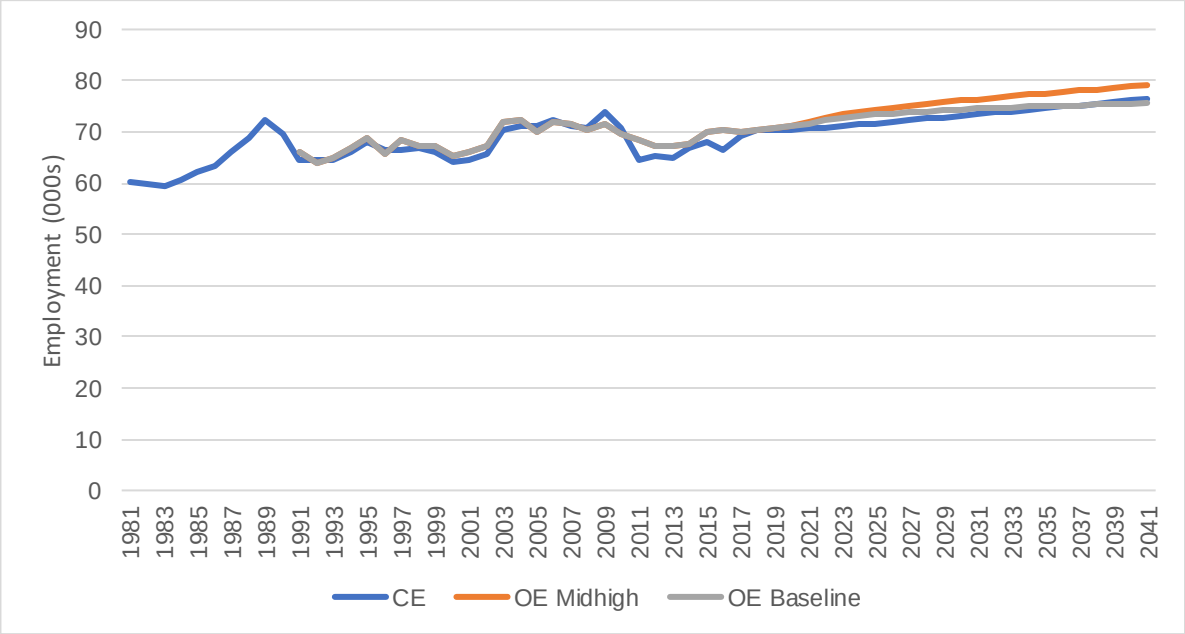


Source: SPRU analysis of OE and CE data

g) Gloucester

7.40 Figure 53 and Table 29 show the longer-term trends and the forecasts to 2041 for Gloucester. The CE forecast shows a growth in total employment of 5,840 jobs over the period 2021-41 (an average annual growth rate of 0.40% per annum). In Gloucester the OE MidHigh forecast shows a higher level of growth of 7,190 jobs (0.48% per annum) while the OE Baseline shows a growth of 3,990 jobs (0.27% per annum).

Figure 53. Gloucester – Forecast Total Jobs, 1981-2041



Source: CE and OE

Table 29. Gloucester – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	5,840	8.27%	0.40%
OE Mid-high	7,189	9.99%	0.48%
OE Baseline	3,987	5.56%	0.27%

Source: SPRU analysis of CE and OE data

7.41 The historic and projected average annual growth rates for each of the forecasts are shown in Table 30. This shows the growth rates over the following periods:

- 1996-2009 – the OE forecasts show a moderate growth in the total employment over this period of 0.64% per annum, while the CE forecasts show a slightly stronger growth of 0.85% per annum.
- 2009-2019 – the last ten years have seen a decline in Gloucester's economy with both forecasts showing a decline in total employment across the period; CE shows a much stronger decline of -0.52%, whilst OE shows a more moderate decline of 0.09% and 0.10%.
- 2021-2041 – all forecasts show growth in Gloucester's economy between 2021-2041. OE mid-high forecasts a growth of 0.48% per annum, CE forecasts a slightly lower growth rate of 0.40% per annum, and OE Baseline shows the lowest growth of 0.27% per annum.

Table 30. Gloucester – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	0.85%	-0.52%	0.40%
OE Mid-high	0.64%	-0.09%	0.48%
OE Baseline	0.64%	-0.10%	0.27%

Source: SPRU analysis of CE and OE data

7.42 Consideration of the forecasts in more detail through the sectoral breakdown of jobs growth was conducted to identify which sectors are driving growth in Gloucester.

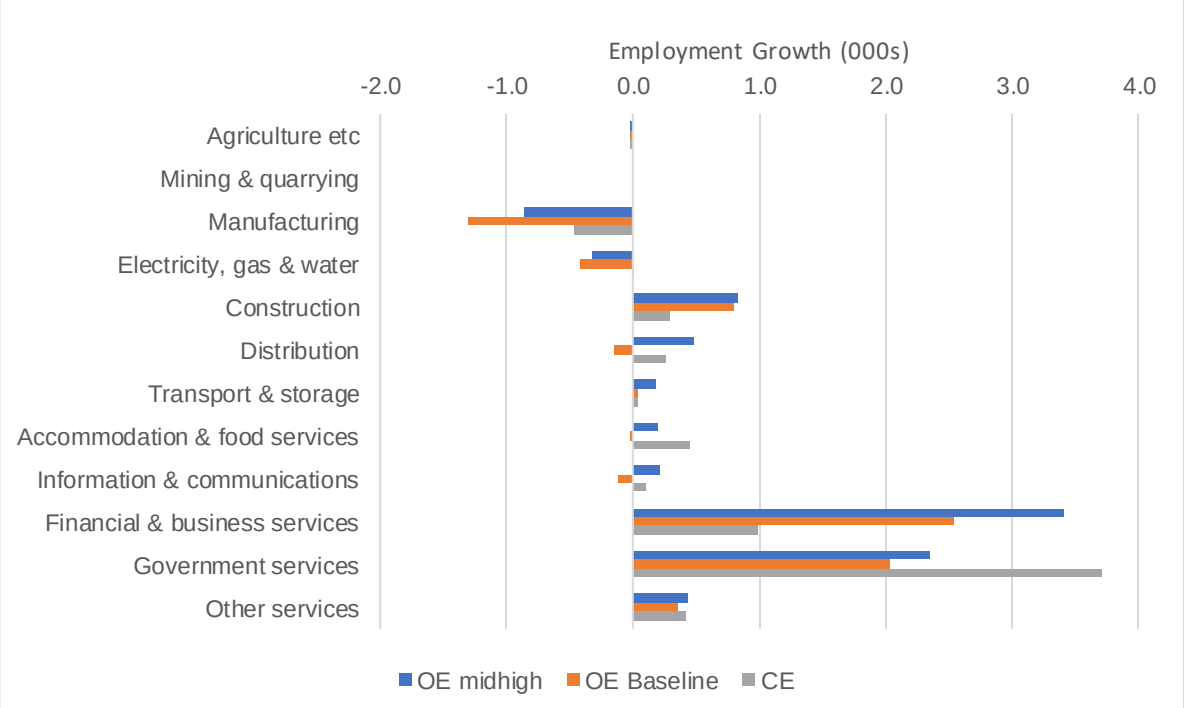
7.43 This revealed some sectors where all three forecasts show substantial jobs growth, these include:

- Financial & Business Services;
- Government services;
- Construction; and
- Other services – including creative industries and recreational services

7.44 Information & Communications and Distribution see employment growth in the CE and OE mid-high forecasts but not in the OE Baseline forecast.

7.45 Manufacturing shows consistent decline across all three forecasts.

Figure 54. Gloucester – Annual jobs growth by sector, 2021-2041

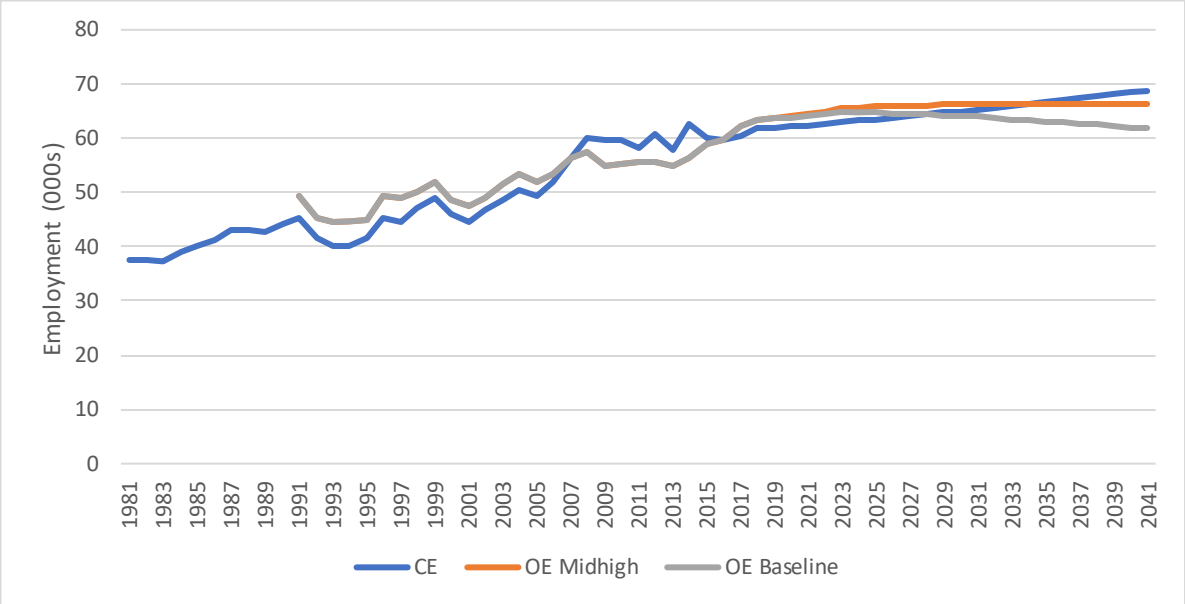


Source: SPRU analysis of OE and CE data

h) Stroud

7.46 Figure 55 and Table 31 show the longer-term trends and the forecasts to 2041 for Stroud. The CE forecast shows a growth in total employment of 6,400 jobs over the period 2021-41 (an average annual growth rate of 0.49% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 1,830 jobs (0.14% per annum) while the OE Baseline shows a net loss of 2,370 jobs (-0.19% per annum).

Figure 55. Stroud – Forecasts Total Jobs, 1981-2041



Source: CE and OE

Table 31. Stroud – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	6,396	10.26%	0.49%
OE Mid-high	1,830	2.84%	0.14%
OE Baseline	-2,374	-3.70%	-0.19%

Source: SPRU analysis of CE and OE data

7.47 The historic and projected average annual growth rates for each of the forecasts are shown in Table 32. This shows the growth rates over the following periods:

- 1996-2009 – the CE forecast shows a considerably stronger annual growth in total employment of 2.12% between 1996-2009, while OE shows a more moderate growth in employment of 0.86%.
- 2009-2019 – In contrast to the period 1996-2009, the CE forecast shows the more moderate growth in employment of 0.40% per annum, whilst the OE shows a stronger 1.48% growth per annum over this period.
- 2021-2041 – There is some disparity between the forecasts for employment growth between 2021-2041; the CE forecasts show a growth of 0.49% per annum which is inline with the growth between 2009-2019 (0.40%). The OE midhigh forecasts show an annual growth of 0.14% per annum, this is more moderate than both the previous periods of 1996-2009 and

2009-2019. The OE baseline shows a decline in employment in the district at the rate of -0.19%.

Table 32. Stroud – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	2.12%	0.40%	0.49%
OE Mid-high	0.86%	1.48%	0.14%
OE Baseline	0.86%	1.48%	-0.19%

Source: SPRU analysis of CE and OE data

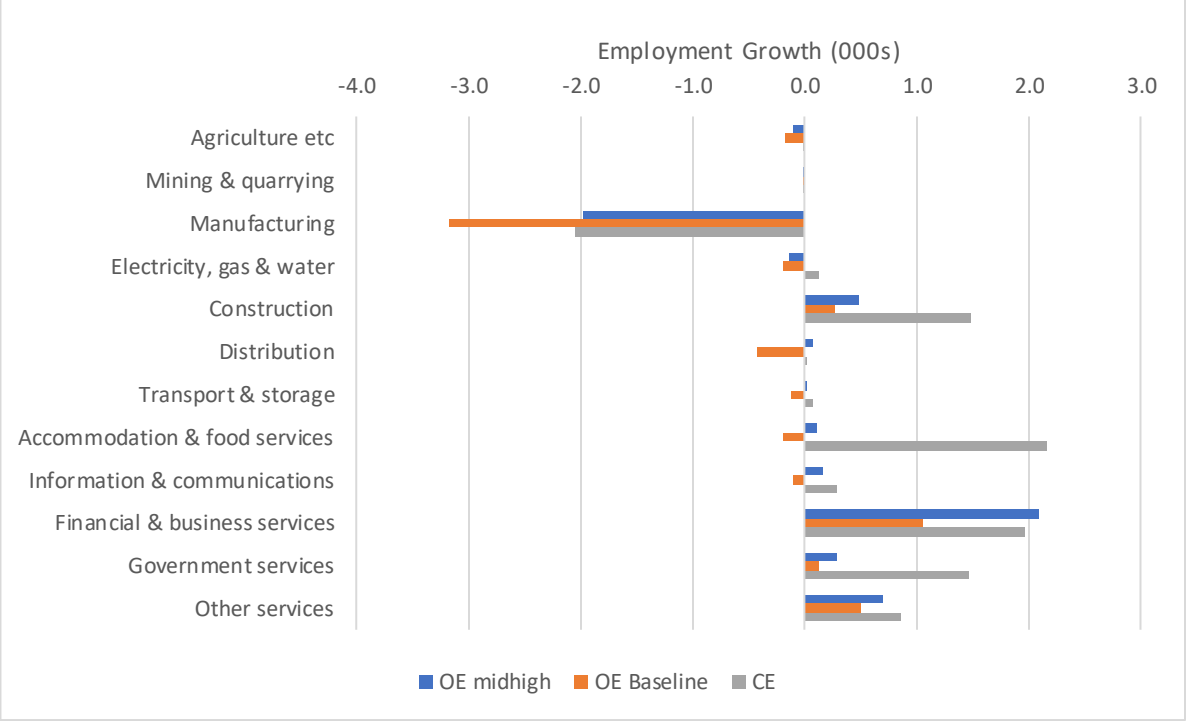
7.48 Consideration of the forecasts in more detail through the sectoral breakdown of jobs growth was conducted to identify which sectors are driving growth in the district.

7.49 Whilst there is some disparity between the forecasts, there are sectors that are consistently forecasting significant employment growth between 2021-2041. In Stroud, these sectors include:

- Financial & Business Services;
- Government services;
- Other services – including creative industries and recreational services

7.50 The forecasts for Stroud show manufacturing is consistently forecasted to decline. As with Forest of Dean, the OE Baseline forecasts a decline in the manufacturing sector which is larger than the net growth in the other growth sectors, resulting in an overall net loss of jobs.

Figure 56. Stroud – Annual jobs growth by sector, 2021-2041

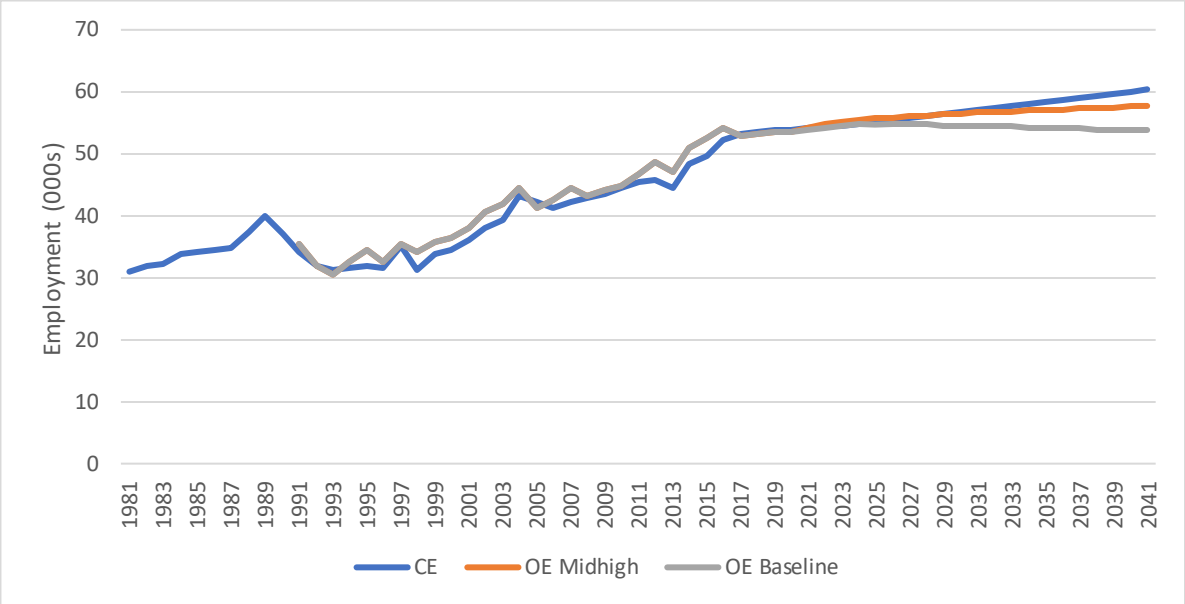


Source: SPRU analysis of CE and OE data

i) Tewkesbury

7.51 Figure 57 and Table 33 show the longer-term trends and the forecasts to 2041 for Tewkesbury. The CE forecast shows a growth in total employment of 6,340 jobs over the period 2021-41 (an average annual growth rate of 0.56% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 3,570 jobs (0.14% per annum) while the OE Baseline shows a small net loss of 134 jobs (-0.01% per annum).

Figure 57. Tewkesbury – Forecasts Total Jobs, 1981-2041



Source: CE and OE

Table 33. Tewkesbury – Comparison of Forecast Jobs Growth 2021-2041

Forecast	Total Jobs Growth	Percentage Increase in jobs 2021-2041	Average Annual Growth Rate (2021-2041)
CE	6,336	11.72%	0.56%
OE Mid-high	3,570	6.59%	0.32%
OE Baseline	-134	-0.25%	-0.01%

Source: SPRU analysis of CE and OE data

7.52 The historic and projected average annual growth rates for each of the forecasts are shown in Table 34. This shows the growth rates over the following periods:

- 1996-2009 – The CE and OE forecasts show a relatively strong growth in total employment over this period, the CE shows the highest rate of 2.50% per annum and the OE is slightly lower at 2.36% per annum.
- 2009-2019 – Over the last 10 years, a relatively strong growth has been maintained although is slightly lower than the previous period (1996-2009); the CE shows the highest growth at 2.12% per annum whilst the OE shows a slightly lower growth at 1.90% per annum.
- 2021-2041 – The CE shows the highest growth in total employment in the borough for this period of 0.56% per annum, this is slightly above the OE midhigh that shows 0.32% per annum, whilst the OE midhigh shows a decline in employment of -0.01% for this period. All of these forecasts show considerably lower growth rates than seen over the last ten years.

Table 34. Tewkesbury – Comparison of Historic Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	2.50%	2.12%	0.56%
OE Mid-high	2.36%	1.90%	0.32%
OE Baseline	2.36%	1.90%	-0.01%

Source: SPRU analysis of CE and OE data

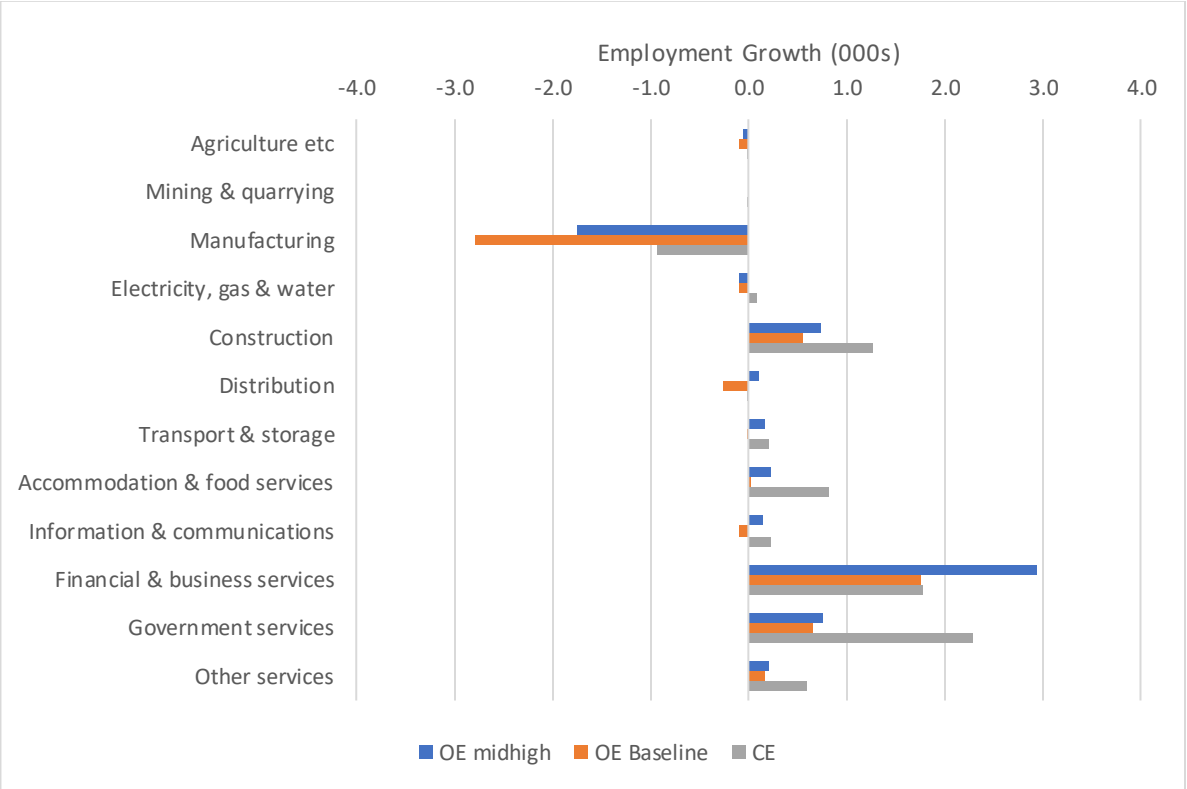
7.53 Consideration of the forecasts in more detail through the sectoral breakdown of jobs growth was conducted to identify which sectors are driving growth in the borough.

7.54 Whilst there is some disparity between the forecasts, there are sectors that are consistently forecasting significant employment growth between 2021-2041. In Tewkesbury, these sectors include:

- Financial & Business Services;
- Government services;
- Construction; and
- Other services – including creative industries and recreational services

7.55 All of the forecasts show a decline in manufacturing jobs between 2021-2041.

Figure 58. Tewkesbury – Annual jobs growth by sector, 2021-2041



Source: SPRU analysis of CE and OE data

j) Analysis of Forecasts

7.56 All of the forecasts are considerably more negative in the rate and levels of jobs growth forecast in Gloucestershire going forward compared to past trends. One of the reasons for this is the forecasters' views of how the sectors will perform following the UK's withdrawal from the EU. This is explored in more detail in Section 8.

7.57 However, another key reason for this is the forecasting companies' view of how the different sectors are expected to perform in the future, which in effect portrays the changing structure of the national economy from one focussed on manufacturing, to more focus on financial and businesses services. This reflects the longer term trend, dating back to the 1980s and 1990s, seen at the national level.

7.58 This is seen most clearly in the forecasts for Gloucestershire in two sectors:

- the Manufacturing sector is forecast a significant loss of jobs in all forecasts. This has a particular impact in authorities whose employment base is more strongly focussed on the manufacturing sector – Stroud, Tewkesbury and Forest of Dean. The larger proportion of manufacturing jobs in these districts results in greater job losses in the sector. In the case of the OE Baseline, this outweighs growth in the other sectors and results in net negative growth.
- the Financial and business services sector is forecast significant jobs growth in all forecasts. This has a particular impact on the authorities which have a higher representation of jobs in these sectors – Cheltenham, Gloucester, and Cotswold. These authorities are forecast significant jobs growth in this sector which makes up a large proportion of their overall jobs growth.

7.59 The forecasting companies' view of the manufacturing and financial and business services sectors are influenced by the expected sectoral performance for these sectors at a national level. This is then disaggregated to a local level based on the relative strengths of these sectors in the Gloucestershire economy. However, there is a risk that this does not take account of local trends and growth drivers in the local economy.

7.60 The section below therefore considers the growth sectors in the Gloucestershire economy and the extent to which growth in these sectors is indicated in the recent trend data from ONS, how this is captured in the forecasts historical data, and how this compares to the future forecast performance for each sector. This is important to ensure that local economic drivers are not overlooked in the forecasting process.

k) LEP Growth Sectors

7.61 This section considers the growth sectors in the GFirst LEP's Local Industrial Strategy (LIS) and the extent to which performance in these sectors is reflected in the employment data from the BRES data for the past 10 years, and how this has been captured and is reflected in the future economic forecasts from CE and OE.

7.62 The BRES data are one of the key data sources feeding into the forecasts, however as discussed above the future jobs growth forecasts are produced to align with a range of other metrics and the national and regional forecasts. This means local variance and performance may not be captured in the BRES data. It also allows more fine grained sub-sectoral analysis, which is also smoothed out in the forecasts.

i) Advanced Manufacturing

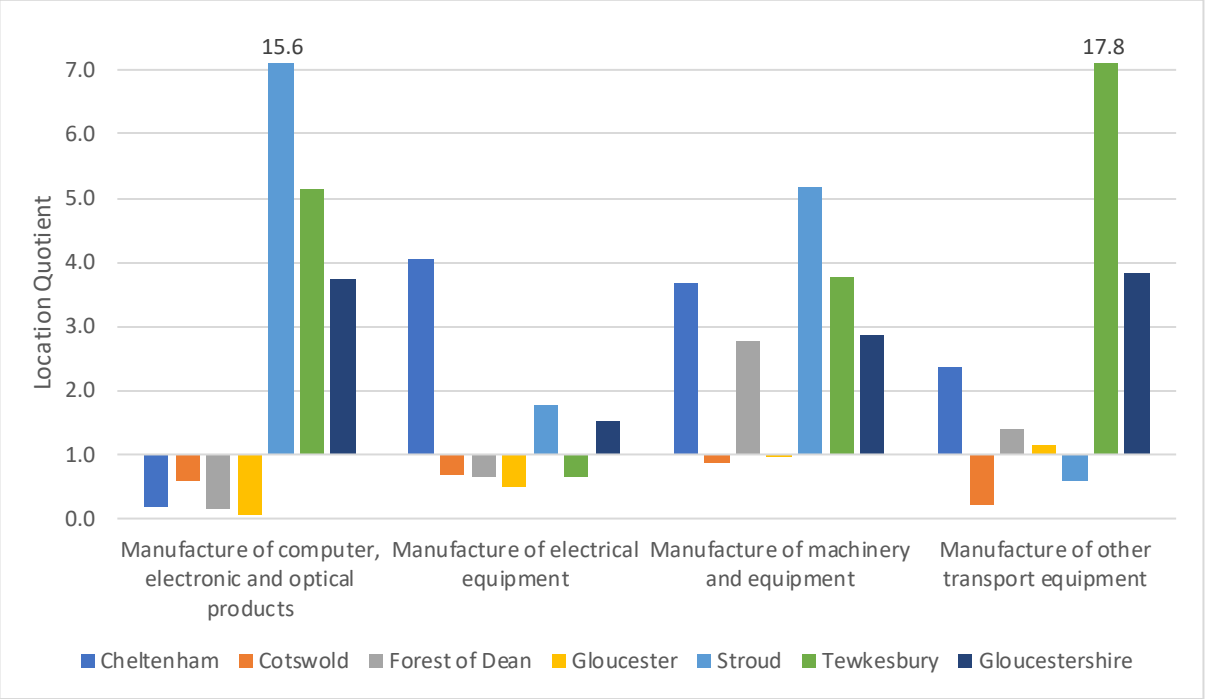
7.63 Figure 59 shows the location quotient of advanced manufacturing sub sectors for each authority and Gloucestershire overall. This shows that Gloucestershire has an LQ greater than 1 in each sub-sector indicating a local specialism in the sub-sector. The LQ data for local authorities identifies some very strong sectoral specialisms:

- Manufacture of computer, electronic and optical products – very high representation in Stroud

(with an LQ of 15.6 – indicting 15.6 times the national average representation of jobs within the sub-sector), many in engineering firm Renishaw PLC headquartered in Wotton-Under-Edge, and manufacturing cluster at Stonehouse. Tewkesbury also has a high LQ in the sub-sector (5.2) with a cluster of businesses at J9 of the M5.

- Manufacture of electrical equipment – specialism in Cheltenham (4.0) including Kohler Mira Ltd.
- Manufacture of machinery and equipment – high LQ in four authorities (Cheltenham (3.7), Forest of Dean (2.8), Stroud (5.2), and Tewkesbury (3.8)) spanning a range of manufacturing sub-sectors including the manufacture of pumps, taps and valves, bearings, engines and turbines, and specialist machinery.
- Manufacture of other transport equipment – relates largely to aerospace manufacturing in Tewkesbury (17.8) – Ontic, GE Aviation Systems at Bishops Cleeve.

Figure 59. Location Quotient, Advanced Manufacturing



Source: BRES, 2018

7.64 Table 35 shows the growth rate in manufacturing jobs in Gloucestershire over the past ten years. This shows that for the manufacturing sector as a whole the number of jobs in Gloucestershire has remained relatively consistent with an average annual growth rate of 0.2% per annum.

7.65 However if we consider the jobs growth trend for advanced manufacturing – comprising the four sub-sectors included in the figure above – there has been a much stronger growth rate of 2.1% per annum. Conversely, the other manufacturing sectors combined have seen a decline in the number of jobs averaging -0.9% per annum.

Table 35. Manufacturing Jobs Trend, Gloucestershire 2009-18

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	CAGR
All Manufacturing	34,690	33,025	36,045	35,565	36,685	35,815	34,710	35,500	34,035	35,320	0.2%
Advanced Manufacturing	11,850	12,500	15,250	15,000	16,000	15,000	15,000	14,750	15,000	14,250	2.1%
Other Manufacturing	22,840	20,525	20,795	20,565	20,685	20,815	19,710	20,750	19,035	21,070	-0.9%

Source: SPRU analysis of BRES data

7.66 This demonstrates that within the manufacturing sector there has been strong performance in the advanced manufacturing sub-sectors which all demonstrate a particular strength in the Gloucestershire economy and have supported strong and steady jobs growth across the county over the past ten years.

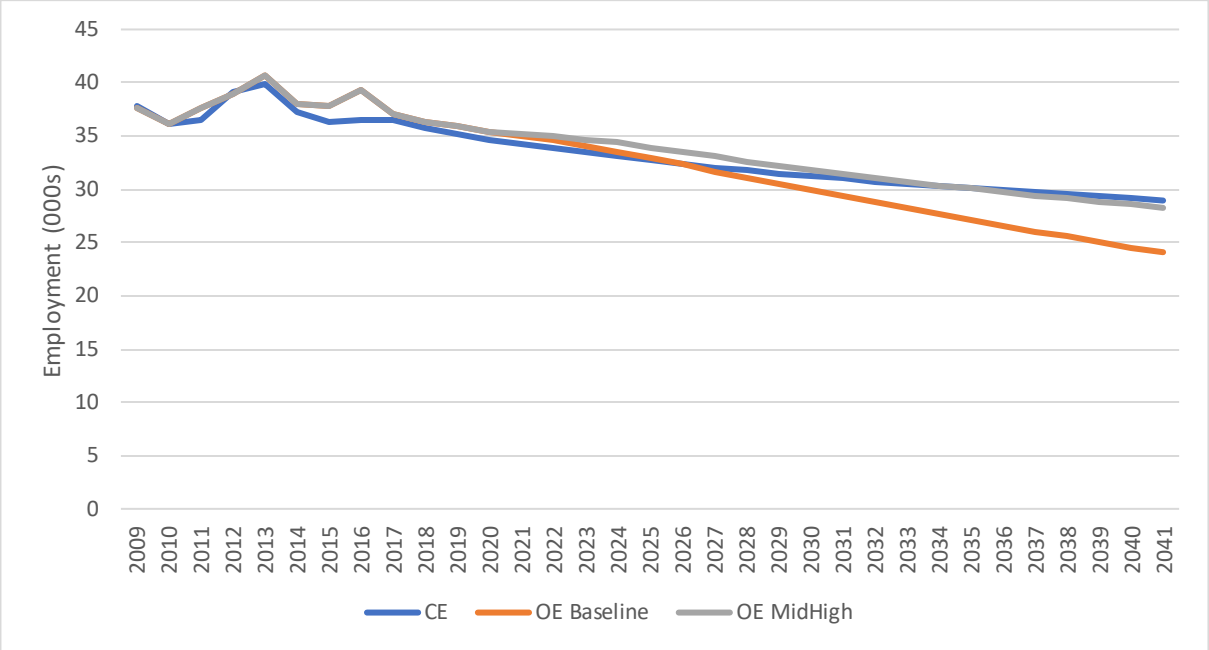
7.67 However, this is not reflected in the econometric forecasts which show an overall decline of between -0.4% and -0.6% per annum in employment in the Manufacturing sector over the period 2009-18. Moreover, looking forward the forecasts show a worsening rate of decline of between -0.9% to -1.8% per annum. This results in a net loss of between 5,400 and 10,900 manufacturing jobs over the forecasting period – equivalent to a loss of 15-30%.

Table 36. Manufacturing Jobs Trend Forecasts, 2009-41

	2009-18	2021-41		
	Growth Rate	Growth Rate	Jobs Loss	Loss %
CE	-0.6%	-0.9%	-5,400	-15%
OE Baseline	-0.4%	-1.8%	-10,900	-30%
OE MidHigh	-0.4%	-1.1%	-7,000	-19%

Source: SPRU analysis of CE and OE data

Figure 60. Manufacturing Jobs Trend Forecasts, 2009-41



Source: CE and OE

7.68 The forecast data does not accord with the analysis of the more detailed local sectoral data for Gloucestershire, particularly those regarding the strong performance of the advanced manufacturing sector. The data on past completions show a considerable demand for industrial floorspace in most of the local authorities.

7.69 Nonetheless, the forecasts show the sector returning to steady decline. The forecasts reflect the long-term decline in manufacturing seen across the UK through the 1980s and 1990s.

7.70 The stakeholder engagement revealed that a significant restructuring of Gloucestershire's economy took place during this period resulting in the loss of many manufacturing jobs. However, this trend has not continued in more recent years, with the data for the last ten years showing an overall levelling off of jobs in the Manufacturing sector as a whole and considerable growth in some Manufacturing sub-sectors.

7.71 Looking forward, the evidence suggests that the performance of the Advanced manufacturing sector is more likely to continue in-line with recent performance. While there may still be losses in other Manufacturing sub-sectors, these are not expected to be of the quantum seen historically or shown in the forecasts going forward.

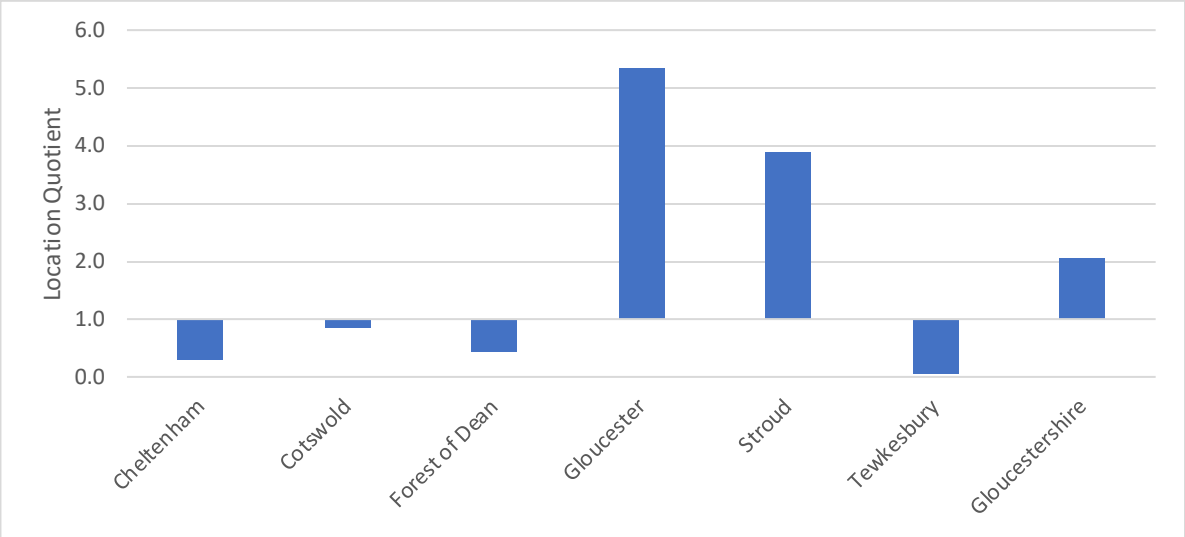
7.72 The evidence shows that there has broadly been a net levelling off of manufacturing jobs overall over the past decade. However, there has clearly been growth in a number of the Advanced manufacturing sub-sectors over this time, and the wider evidence suggests this is likely to continue. This suggests there will be gross growth in these sub-sectors and this growth will require new premises. Conversely, there will likely be gross losses in other manufacturing sub-sectors.

7.73 However, it would be unreasonable to assume that all of the existing premises could or would be suitable for direct reuse to support the growth in advanced manufacturing activities. This isn't supported by the wider market evidence, or the recent completions data showing new sites are required. There will be a need to provide sites to support growth in the advanced manufacturing sub-sectors.

ii) Energy

7.74 The energy sector is particularly well represented in Gloucestershire with more than twice the national average number of jobs in the sector. Gloucester has an LQ of 5.3 while Stroud has an LQ of 3.9, reflecting employment focussed around the EDF energy site in Barnwood and Ecotricity headquarters in Stroud.

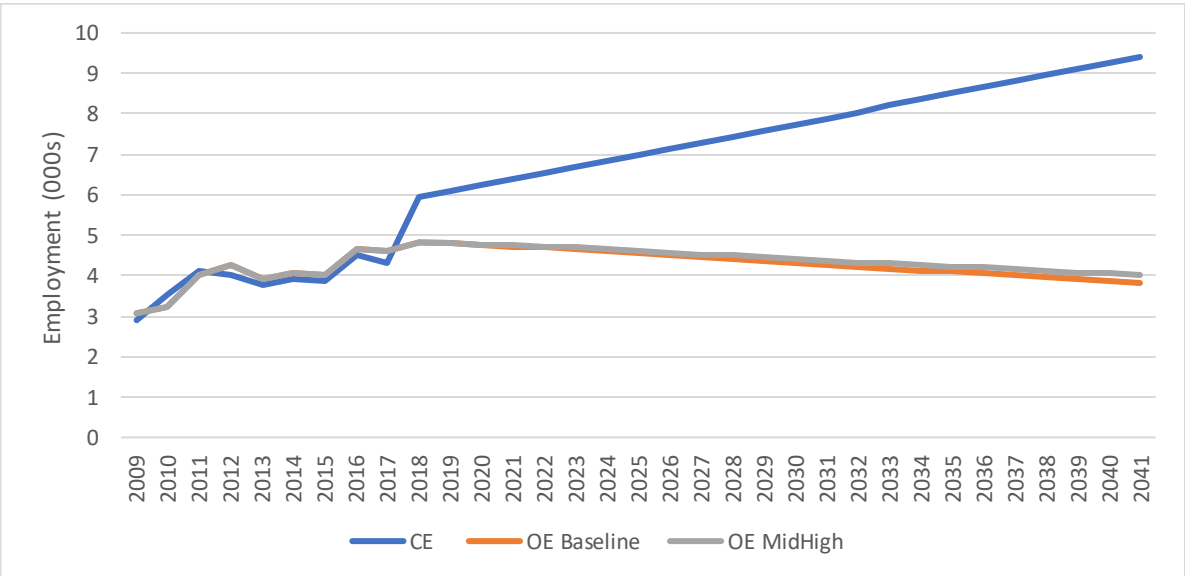
Figure 61. Location Quotient, Energy, Gas, Steam Supply



7.75 Since 2009 the sector in Gloucestershire has seen a growth of 3,000 jobs – more than doubling the number of jobs in the sector. The vast majority of these additional jobs have been in Gloucester and Stroud.

7.76 This level of growth is implicit within the CE forecast which recognises the strong growth in the sector and forecasts forward a jobs growth of a further 3,000 jobs over the period 2021-41. Both of the OE forecasts however show the recent jobs growth but then forecast a decline of 700-900 jobs over the period 2021-41.

Figure 62. Electricity, Gas and Water Supply Forecasts, 2009-2041

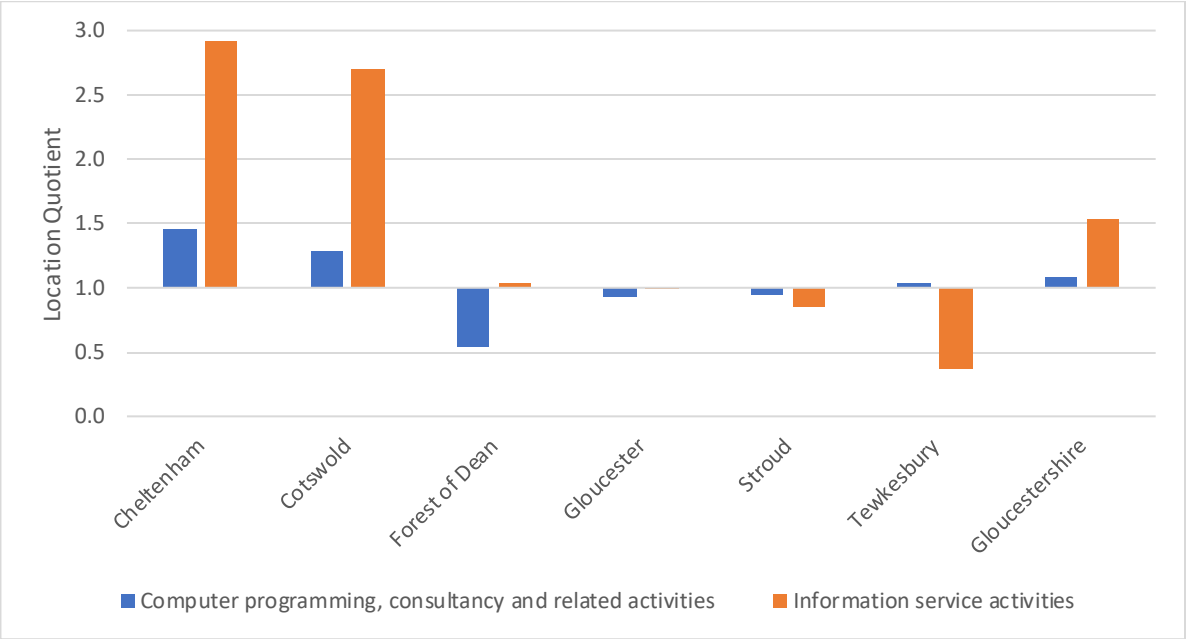


Source: CE and OE

iii) Cyber Security

7.77 Cyber Security is one of the LEP's key growth sectors. However, this sector is not well defined within the SIC code classifications used in the forecasts. The Computer programming and IT services sector includes a range of sub-sectors including cyber security. These sectors show a particular strength in Cheltenham and to a lesser extent in Cirencester in Cotswold. Sectoral jobs in this sector does not include jobs directly at GCHQ which are included in the Public administration and defence sector (which Cheltenham has a high LQ of 2.3).

Figure 63. Computer Programming and IT services



Source: BRES, 2018

7.78 The BRES data shows the Computer programming and IT services sectors have shown significant growth of around 3,500 jobs in Gloucestershire since 2009. This level of growth has been primarily focussed in Cheltenham and Gloucester (both 25% of Gloucestershire total growth) and Cotswold (around 20%).

7.79 The Computer programming and IT sub-sectors make up 75% of the Information and Communication sector. While Computer programming and IT have seen strong jobs growth in Gloucestershire in recent years, the same cannot be said of these other sectors, which combined saw a slight net loss of jobs over this period. This means these two sectors account for more than 100% of jobs growth in the sector.

7.80 This level of strong performance is evidenced in the graph below which shows how the sectoral performance is captured and projected to change in future. All three forecasts capture this strong rate of growth in recent years, showing an annual growth rate of 4.2-5.2% (differing on the number of sectoral jobs in 2009).

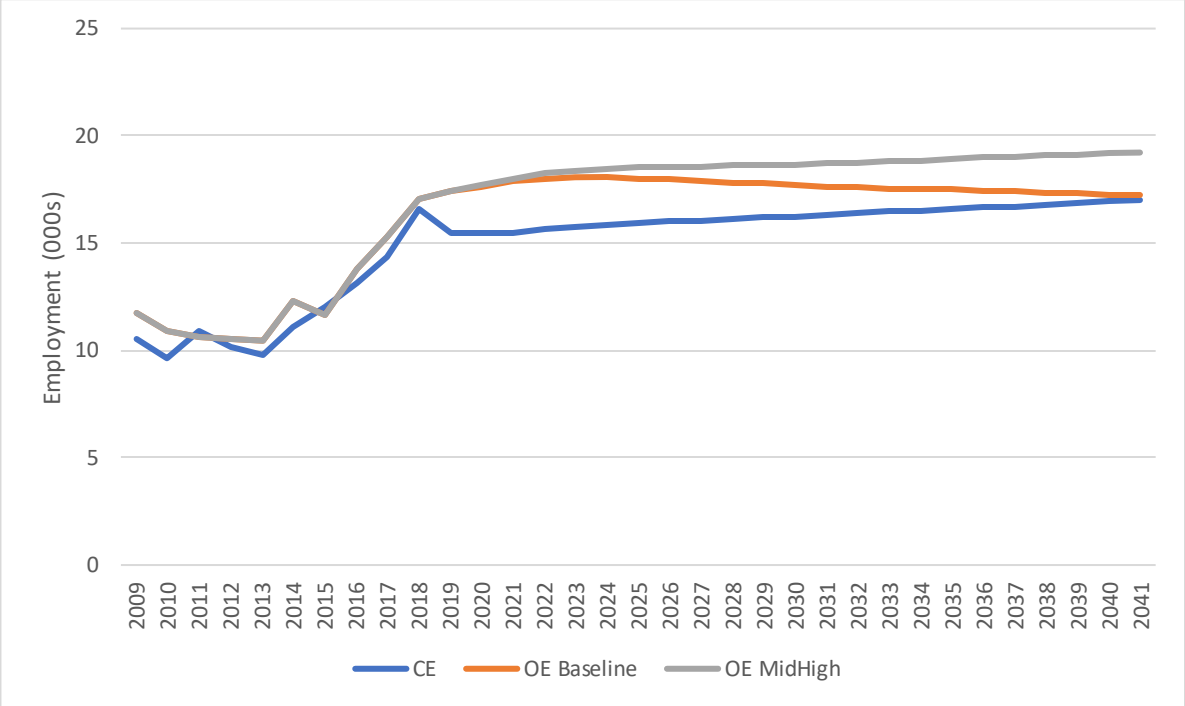
7.81 However, looking forward, none of the projections show these trends continuing. The CE and OE MidHigh forecasts show future jobs growth of 1,500 and 1,200 jobs respectively equating to much more modest annual growth rates of 0.5% and 0.3%. The OE Baseline actually shows a net loss of 660 sectoral jobs over this period.

Table 37. Information and Communications Forecasts, 2009-2041

	2009-18		2021-41	
	Growth Rate	Job Growth	Growth Rate	Job Growth
CE	5.2%	6,050	0.5%	1,490
OE Baseline	4.2%	5,310	- 0.2%	- 660
OE MidHigh	4.2%	5,310	0.3%	1,190

Source: SPRU analysis of CE and OE

Figure 64. Information and Communications Forecasts, 2009-2041



Source: CE and OE

7.82 The more detailed analysis of these three sectors – Advanced manufacturing, Energy, and Cyber Security – suggest that the recent trends in growth and growth prospects in Gloucestershire may not be adequately reflected in the levels of growth shown in the forecasts.

7.83 In response to this we have modelled alternative growth rates for these sectors based on the past performance of the sectors since 2009. This captures the positive growth in these sectors seen within the Gloucestershire (and individual authorities) economy. These alternative growth rates have been used to inform two Growth forecasts, which are set out in detail in Section 10.

l) Comparison with 2014 forecasts

7.84 The section below compares the 2019 forecasts set out above, with the forecasts from the Councils' previous employment land evidence documents – forecasts with a base date of 2014. A comparison of the forecasts is present below including:

- The projected annual growth in jobs between 2011-2031 based on the previous forecasts;
- The jobs growth between 2011-2018 recorded in the Business Register and Employment

Survey (BRES); and

- The projected annual growth in jobs between 2021-2041.

7.85 Due to the differing time periods all analysis has been undertaken in terms of average annual growth rates. This will enable comparison between the forecasts, and provide an indication of what has changed since the previous forecasts and why the projected rate of jobs growth may have changed.

7.86 As explained previously, the forecasts are based on numerous factors, however previous jobs growth form one of these influencing factors. Therefore, comparing the previous and updated projections with the jobs growth that took place between the base dates of these forecasts may provide some indication of why the projected jobs growth rate has changed since the previous projections.

i) Cheltenham

7.87 The 2014 forecasts from CE showed a jobs growth of 0.51% per annum over the period 2011-31, while the OE forecasts predicted a growth rate of 0.96%. Looking at the BRES data for the first part of this period (2011-18) shows the actual jobs growth was lower at 0.20% per annum.

7.88 The 2019 CE forecast show a similar level of jobs growth as the 2014 CE forecast, with a growth rate between 2021-2041 at 0.55% per annum. The 2019 OE forecast shows an annual jobs growth for 2021-2041 is 0.33% for the OE midhigh, and 0.05% for the OE baseline. This is considerably lower than the previously projected rate of 0.96% per annum for 2011-2031, although more reflective of the actual annual jobs growth between 2011-2019.

Table 38. Cheltenham - Annual Growth Rates Comparison

<table>
<tr><th></th><th>Annual Jobs Growth 2011 - 2031 (2014 forecasts)</th><th>Annual Jobs Growth 2011 – 2018 BRES</th><th>Annual Jobs Growth 2021 – 2041 2019 forecasts</th></tr>
<tr><td>CE</td><td>0.51%</td><td rowspan="3">0.20%</td><td>0.55%</td></tr>
<tr><td>OE Midhigh</td><td rowspan="2">0.96%</td><td>0.33%</td></tr>
<tr><td>OE Baseline</td><td>0.05%</td></tr>
</table>

7.89 Looking at the forecasts at a sectoral level the following observations are made:

- Jobs falling that fall under the B1 use class were previously projected growth in 2014 forecasts. The data on actual growth shows that whilst there was some growth across B1 job sectors such as Professional, Scientific and Technical, there were also considerable losses in others such as Public Administration and Defence. As such, for the 2019 projections, the B1 sector jobs have been projected more modest growth compared to the 2014 dataset.
- Manufacturing was projected to have negative growth across all forecasting houses in the 2014 forecasts, and this negative growth has been maintained in the 2019 forecasts.
- The 2014 projections projected negligible growth for B8 sector jobs between 2011-2031. Between 2011-2018 there was negative growth in these sectors. Accordingly, the 2019 forecasts all show negative growth between 2021-2041.

ii) Cotswold

7.90 In Cotswold, the CE and OE projections previously forecasted similar rate of jobs growth of 0.48% and 0.46% respectively. However, since 2011 the actual annual jobs growth, as shown in the BRES data, has been considerably higher than this at 1.78% per annum.

7.91 This higher rate of growth is partially reflected in the 2019 CE forecasts which show a growth rate of 0.59% per annum. Conversely, the OE Midhigh forecast shows a growth for 2021-2041 of 0.43%, which is broadly in line with the 2014 projections; while the OE Baseline forecast shows a much lower annual growth rate of 0.14% per annum. This likely reflects OE's modelling assumptions regarding the impact of Brexit on the labour supply.

Table 39. Cotswold - Annual Growth Rates Comparison

	Annual Jobs Growth 2011 – 2031 (2014 forecasts)	**Annual Jobs Growth 2011 – 2018 BRES**	**Annual Jobs Growth 2021 – 2041 2019 forecasts**
CE	0.48%	1.78%	0.59%
OE Midhigh	0.46%		0.43%
OE Baseline			0.14%

7.92 Looking at the forecasts at a sectoral level the following observations are made:

- All 2014 forecasts showed a moderate growth in the Information and Communication sector. However, this sector has seen much stronger growth over the period 2011-2018. However, the 2019 forecasts for the period 2021-2041 project mixed growth; CE projected growth that was moderately lower than the 2014 forecasts, OE baseline projected negative growth, and OE Midhigh projected stronger growth than that of the 2014 forecasts.
- For Financial Services, there was mixed projections in 2014; CE predicted negative jobs growth in 2014, and OE projected moderate jobs growth. However, between 2011-2018 the sector saw strong jobs growth. The 2019 forecasts have changed significantly, now moderate jobs growth is projected by CE, the OE Midhigh projects strong growth, whilst the OE baseline projects negative growth between 2021-2041.
- The Manufacturing sector was forecast moderate jobs growth in all 2014 forecasts. Between 2011-2018 there was negligible growth. The 2019 forecasts are more negative all showing net job losses in the sector.
- For B8 sectors, moderate jobs growth was projected in the 2014 forecasts. There was negligible growth between 2011-2018. For the 2019 forecasts the prospects for the sector have reduced, the CE forecast shows more modest growth than the 2014 forecast, OE Baseline forecasts negligible growth, and OE Midhigh forecasts negative growth.

iii) Forest of Dean

7.93 The 2014 CE and OE forecasts showed a similar rate of jobs growth in Forest of Dean – CE showed a growth rate of 0.38% per annum and OE a growth rate of 0.40% per annum.

7.94 The BRES data records actual jobs growth of 0.43% per annum, this is broadly in line with the 2014 based projections for 2011-2031. This is inclusive of considerable jobs growth in accommodation and food services of 6.05% per annum and property of 4.56% per annum.

7.95 The 2019 CE forecasts broadly align with the 2014 forecasts and BRES data showing an annual jobs growth rate of 0.39% for the period 2021-2041. The 2019 OE forecasts however show a much lower growth rate of 0.10% per annum for the Midhigh scenario, and a net loss of -0.18% per annum for the Baseline scenario.

Table 40. Forest of Dean – Annual Growth Rates Comparison

	Annual Jobs	**Annual Jobs**	**Annual Jobs**

	Growth 2011 – 2031 (2014 forecasts)	Growth 2011 – 2019 BRES	Growth 2021 – 2041 2019 forecasts
CE	0.38%	0.43%	0.39%
OE Midhigh	0.40%		0.10%
OE Baseline			-0.18%

7.96 Looking at the forecasts at a sectoral level the following observations are made:

- For Information and Communications, the 2014 CE forecast showed a strong growth while the OE forecast showed strong decline. Between 2011-2018 there was fairly strong growth in these sectors. For the 2019 forecasts OE Midhigh shows a strong growth, while CE has retained a similar level of growth.
- For Finance Activities, both CE and OE the forecast moderate growth in this sector in the 2014 forecasts and this has been maintained in the CE and OE Midhigh forecasts for 2019. This is despite a loss of jobs in the sector between 2011-2018 shown in the BRES data.
- For Manufacturing, the 2014 OE forecasts shows moderate jobs growth and CE projected negative growth. The BRES data shows that there was strong jobs growth in manufacturing between 2011-2018. Nonetheless, the CE and OE Baseline forecasts show negative growth between 2021-2041 for manufacturing jobs, whilst OE Midhigh is more positive showing moderate jobs growth.

iv) Gloucester

7.97 In Gloucester, the 2014 forecasts showed the annual jobs growth for 2011-2031 was relatively modest, forecast to be 0.23% per annum by OE and 0.38% per annum by CE. The BRES data records actual annual jobs growth between 2011-2018 as 0.28% per annum – midway between the forecasts.

7.98 The 2019 forecasts for Gloucester are slightly more positive, the CE projections show an annual jobs growth rate of 0.40% per annum between 2021-2041 while the OE forecasts show a growth of 0.48% for the Midhigh forecast and 0.27% for the Baseline forecast.

Table 41. Gloucester – Annual Growth Rates Comparison

	Annual Jobs Growth 2011 – 2031 (2014 forecasts)	Annual Jobs Growth 2011 – 2019 BRES	Annual Jobs Growth 2021 – 2041 2019 forecasts
CE	0.38%	0.28%	0.40%
OE Midhigh	0.23%		0.48%
OE Baseline			0.27%

7.99 Looking at the forecasts at a sectoral level the following observations are made:

- For jobs affecting B1 use class employment spaces, the 2014 forecasts showed modest prospects with jobs loss of -0.13% per annum (CE) and growth of 0.09% per annum (OE). However, all of the 2019 forecasts show much stronger growth in the Financial and business services sector despite this sector showing negligible growth in the BRES data for 2011-18.
- For Manufacturing, the 2014 CE forecast showed moderate growth whilst OE projected moderate decline in jobs per annum. Between 2011-2018, the BRES data records a

considerable annual decline in manufacturing jobs. For the 2019 forecasts, both CE and OE forecast a decline in manufacturing jobs between 2021-2041.

- The 2014 forecasts for jobs affecting B8 use class employment space, OE projected negligible growth, and CE projected decline in jobs per annum. Between 2011-2018, there was growth in Motor trade, wholesale and retail sector, and decline in Transport & Storage sector both of which heavily influence B8 use class employment space. For the 2019 forecasts, Transport & Storage jobs are projected to have small growth between 2021-2041 by CE and OE Baseline, and decline in the OE Midhigh forecast.

v) Stroud

7.100 In Stroud, the 2014 forecasts showed an annual jobs growth rate of 0.72% per annum and 0.42% per annum for the CE and OE forecasts respectively.

7.101 The BRES data records the actual growth rate between 2011-2018 of just over 1% per annum – higher than any of the 2014 forecasts.

7.102 However, all of the 2019 forecasts have downgraded their levels of jobs growth compared to the 2014 issue. For CE the 2019 forecast growth rate has dropped to 0.49% per annum. The OE Midhigh forecast shows a jobs growth of 0.14% per annum, while the OE Baseline shows a jobs loss of -0.19% per annum.

Table 42. Stroud – Annual Growth Rates Comparison

	Annual Jobs Growth 2011 – 2031 (2014 forecasts)	**Annual Jobs Growth 2011 – 2018 BRES**	**Annual Jobs Growth 2021 – 2041 2019 forecasts**
CE	0.72%	1.06%	0.49%
OE Midhigh	0.42%		0.14%
OE Baseline			-0.19%

7.103 Looking at the forecasts at a sectoral level the following observations are made:

- In the 2014 forecasts there was strong growth forecast in the Professional, scientific and technical services and Information and communication sectors. The BRES data shows these sectors seeing negligible growth over the period 2011-18. The 2019 CE and OE Baseline forecasts show positive growth in these sectors but at a lower rate than the 2014 forecasts. The OE Midhigh forecast shows strong growth in all of these sectors.
- For manufacturing, the 2014 forecasts both forecast moderate rates of job losses in the sector. However, the BRES data has shown net zero growth across the sector for 2011-18. The 2019 CE and OE Baseline forecasts continue to show negative growth in the sector, with a stronger rate of decline than the 2014 forecasts. The OE Midhigh forecast shows very slight positive growth.
- Jobs in the energy sector were forecast strong growth in the 2014 OE forecast, and negative growth in the 2014 CE forecast. BRES data shows there has been strong growth over the period 2011-18. This strong performance is reflected in the 2019 OE Midhigh forecast but not in the 2019 CE forecast (low growth) or OE Baseline (negative growth).

vi) Tewkesbury

7.104 In Tewkesbury, the 2014 forecasts showed a growth of 0.49% per annum for the CE forecast, and 0.54% for the OE forecast. BRES data for 2011-2018 records a considerably higher rate of jobs growth of 1.67% per annum.

7.105 However, this is not reflected in the 2019 forecasts. The 2019 CE forecast shows a slightly higher rate of growth than the 2014 version. However, both OE forecasts show considerably lower growth than the 2014 version despite the strong growth in the intervening period.

Table 43. Tewkesbury – Annual Growth Rates Comparison

	Annual Jobs Growth 2011 – 2031 (2014 forecasts)	Annual Jobs Growth 2011 – 2018 BRES	Annual Jobs Growth 2021 – 2041 2019 forecasts
CE	0.49%	1.67%	0.56%
OE Midhigh	0.54%		0.32%
OE Baseline			-0.01%

7.106 Looking at the forecasts at a sectoral level the following observations are made:

- For the job sectors affecting the B1 sector, moderate to strong growth was projected by all forecasting houses in 2014 for the period 2011-2031. For the sectors influencing B1 employment land uses there was mixed growth between 2011-2018; with Information and communications and Professional, scientific and technical services sectors performing particularly well. All of the 2019 forecasts shows continued growth in these sectors albeit at a more modest scale.
- For the Manufacturing sector, the 2014 forecasts showed moderate decline for the period 2011-2031. Between 2011-2018, the BRES data for Tewkesbury showed strong growth in manufacturing jobs – an average growth rate of 0.7% per annum. This was primarily driven by growth in advanced manufacturing sub-sectors which saw an average growth of 1.2% per annum. However, all of the 2019 forecasts show a decline in manufacturing jobs between 2021-2041. The 2019 CE and OE Baseline forecasts show a steeper decline than the 2014 forecasts whereas OE Midhigh shows more modest decline.
- For jobs affecting B8 use class employment floorspace, the 2014 OE forecast showed moderate growth, whilst the 2014 CE forecast showed slight decline. Between 2011-2018, the BRES data shows there was moderate growth in the jobs sectors primarily influencing B8 employment floor space uses. The 2019 CE and OE Midhigh forecasts show growth broadly in line with the 2014 OE forecast, but lower than the recent trend in the BRES data. The 2019 OE Baseline shows negative growth.

vii) Commentary on Comparison with Previous Forecasts

7.107 It is worth noting that due to the differences in considerations and assumptions used for each forecast, the influence of previous jobs growth varies. Analysing the data for the Gloucestershire authorities suggests that as a general observation the CE forecast is more strongly influenced by past trends and as a result the 2019 CE forecast is relatively similar to the 2014 CE forecast in terms of overall jobs growth and sectoral performance, although there are some differences for certain sectors and authorities.

7.108 The BRES data shows that almost all of the authorities have seen stronger jobs growth over the period 2011-18 than was predicted in the 2014 forecasts. This notwithstanding, the 2019 CE forecast does not show any significant uplift on the 2014 version in terms of overall jobs growth, and for the majority of authorities the OE MidHigh forecast is more negative. The one exception to this is Gloucester, which actually saw relatively lower levels of growth in the BRES data. The OE Baseline forecast in particular shows very negative growth much lower than the 2014 iteration.

7.109 It is standard practice for the forecasting houses to update their forecasts to reflect changes to the macro-economic context. Since the production of the 2014 forecasts, the UK voted to leave the European Union in 2016 and Brexit has subsequently been implemented in January 2020. This has had significant and wide-ranging effects on the UK's economy and particularly on the labour supply. For Gloucestershire both 2019 OE forecasts show significant constraints to labour supply, alongside much lower jobs growth for most authorities.

7.110 Similarly, in 2020 the UK was hit by the Coronavirus (COVID-19) pandemic which has had a significant impact on the global, national, and Gloucestershire economy. This took place after the publication of the OE and CE forecasts used in this report. While the forecasters will no doubt be updating their models to take account of COVID-19, the full scale of the impact is currently still emerging and, due to the unprecedented nature of the event, the future impact remains highly uncertain.

7.111 The impacts and risks associated with Brexit and COVID-19 are explored in more detail in sections 8 and 9.

7.112 On a sectoral level, most sectors in the OE forecast are expected to perform worse in the 2019 forecasts than the 2014 version. The exception to this is Professional, scientific and technical services sector which sees significant growth in many of the authorities. Hence authorities with higher representation in the sector – Cheltenham, Cotswold, and Gloucester – show stronger growth in the OE forecasts, and particularly the OE Midhigh forecast.

7.113 Conversely, authorities with a higher proportion of jobs in the manufacturing sector are forecast to see smaller (or negative) jobs growth in both the 2014 and 2019 forecasts but forecast growth is lower for both OE and CE in the 2019 versions than in 2014.

m) Summary

7.114 This section sets out the future employment growth identified by the econometric forecasts. Three econometric forecasts have been assessed:

- Cambridge Economics (CE) forecasts
- Oxford Economics (OE) Baseline forecast
- Oxford Economics Medium-High forecast

7.115 For Gloucestershire as a whole, the CE forecast shows a growth in total employment of just over 36,000 jobs over the period 2021-41 (an average annual growth rate of 0.50% per annum). The OE forecasts show lower levels of growth: the OE MidHigh forecast shows a growth of 23,240 jobs (0.32% per annum) while the OE Baseline shows a growth of only 2,700 jobs (0.04% per annum) due to several of the authorities having a forecast negative jobs growth in the OE Baseline forecast.

7.116 The historic rate of jobs growth in Gloucestershire is considerably higher than that shown in the forecasts. Past growth rates are shown as averaging just over 1.0% per annum for the period 1996-2009, and 0.73-1.1% per annum for 2009-19.

7.117 The 2019 forecasts were compared against the forecasts from the Councils' previous employment land evidence documents – forecasts with a base date of 2014. The BRES data shows that almost all of the authorities have seen stronger jobs growth over the period 2011-18 than was predicted in the 2014 forecasts. This notwithstanding, the 2019 CE forecast does not show any significant uplift on the 2014 version in terms of overall jobs growth, and for the majority of authorities the OE MidHigh forecast is more negative. The OE Baseline forecast in particular shows very negative growth much lower than the 2014 iteration.

7.118 One of the reasons for this is the forecasters' views of how the sectors will perform following the UK's withdrawal from the EU. However, another key reason for this is the forecasting companies' view of how the different sectors are expected to perform in the future, which in

effect portrays the changing structure of the national economy from one focussed on manufacturing, to more focus on financial and businesses services. This is then disaggregated to a local level based on the relative strengths of these sectors in the Gloucestershire economy. However, there is a risk that this does not take account of local trends and growth drivers in the local economy.

7.119 The section therefore considers the growth sectors in the Gloucestershire economy and the extent to which growth in these sectors is indicated in the recent trend data from ONS, how this is captured in the forecasts historical data, and how this compares to the future forecast performance for each sector.

7.120 Within the manufacturing sector there has been strong performance in the advanced manufacturing sub-sectors which all demonstrate a particular strength in the Gloucestershire economy and have supported strong and steady jobs growth across the county over the past ten years. This is reinforced by the wider market evidence, or the recent completions data showing new sites are required.

7.121 However, this is not reflected in the econometric forecasts which show an overall decline of between -0.4% and -0.6% per annum in employment in the Manufacturing sector over the period 2009-18. Moreover, looking forward the forecasts show a worsening rate of decline of between -0.9% to -1.8% per annum. This results in a net loss of between 5,400 and 10,900 manufacturing jobs over the forecasting period – equivalent to a loss of 15-30%.

7.122 Similarly, the energy sector is particularly well represented in Gloucestershire with more than twice the national average number of jobs in the sector. Since 2009 the sector in Gloucestershire has seen a growth of 3,000 jobs – more than doubling the number of jobs in the sector. The vast majority of these additional jobs have been in Gloucester and Stroud.

7.123 This level of growth is implicit within the CE forecast which recognises the strong growth in the sector and forecasts forward a jobs growth of a further 3,000 jobs over the period 2021-41. Both of the OE forecasts however show the recent jobs growth but then forecast a decline of 700-900 jobs over the period 2021-41.

7.124 The Computer programming and IT services sector includes a range of sub-sectors including cyber security. These sectors show a particular strength in Cheltenham and to a lesser extent in Cotswold. All three forecasts show a strong rate of growth in the sector in recent years, showing an annual growth rate of 4.2-5.2%.

7.125 However, looking forward, none of the projections show these trends continuing. The CE and OE MidHigh forecasts show future jobs growth of 1,500 and 1,200 jobs respectively equating to much more modest annual growth rates of 0.5% and 0.3%. The OE Baseline actually shows a net loss of 660 sectoral jobs over this period.

7.126 In response to this we have modelled alternative growth rates for these sectors based on the past performance of the sectors since 2009. This captures the positive growth in these sectors seen within the Gloucestershire (and individual authorities) economy. These alternative growth rates have been used to inform two Growth forecasts, which are set out in detail in Section 10.

8.0 IMPLICATIONS OF BREXIT

8.1 The UK voted to leave the EU in a referendum vote in June 2016. Since then, a number of proposed leave dates have been agreed and subsequently revised, with the UK eventually leaving in January 2020.

8.2 At the macroeconomic level, Brexit will inevitably have numerous implications for the UK's economy. However, the nature of the political arrangement between the UK and the EU following Brexit remains unclear, and therefore forecasting the economic implications of Brexit is a difficult process.

8.3 This notwithstanding, CE and OE have both incorporated the implications of Brexit into their forecasting approaches. The CE and OE models estimate the impacts of Brexit based on what they consider to be the most likely outcomes, given announcements and published reports by think-tanks, non-profit organisations and the UK government.

8.4 All three of the forecasts (CE, OE Baseline, and OE Med-High) analysed in the Section 7 take account of the implications of Brexit. However, each of the forecasts make different assumptions regarding the impacts of Brexit and accordingly provide different outputs in terms of future economic growth in Gloucestershire.

8.5 The CE national projections include consideration of the impacts of Brexit at the UK level. The CE local area projections do not include assumptions for Brexit explicitly at the local level. However, as the local area modelling is aligned to the national performance, the forecast assumptions that were developed at the national level are implicitly captured in the local level forecasts.

8.6 The two forecasts from OE – a Baseline forecast and a Mid-High forecast – both assumed that the UK left the EU in 2019, although this didn't happen until January 2020.

8.7 The Baseline forecast assumes that there will be a transition period and a set of trading arrangements broadly similar to those set out in Therese May's deal.

8.8 The medium/high scenario also assumes more optimistic economic growth assumptions which are consistent with those provided to West of England LEP in 2015. This will be achieved through:

- Increased investment and exports performance at the UK level. This provides a significant boost to manufacturing, information & communications and professional services.
- Consumers play less of a role in driving growth than in the high growth scenario. The faster growth in the above sectors fails to raise consumer confidence significantly and the multiplier effect on consumer led sectors is dampened.

8.9 Since publication of the CE and OE forecasts in 2019 there has been a general election won by the Conservatives with a significant majority. This provided the political mandate to proceed with Brexit at the end of January 2020. However, the political particulars of the future relationship with the EU have not been agreed, and so at this point in time there is no greater certainty on the assumptions in the forecasts:

- there is no "cliff-edge" moment as the UK obtains a transitional deal with the EU[1];
- the UK agrees a bespoke deal with the EU;
- the UK secures an ability to reduce EU migration;
- the UK can remain in the single market for goods but not services (so there is no financial services passporting); and
- there are likely to be some continued payments for access to the EU from the UK (although these are negligible in macroeconomic terms).

8.10 These assumptions have been converted into economic modelling assumptions, which provide inputs for the model used in the forecasting process. For the purposes of forecasting, the macroeconomic impacts of Brexit are considered in terms of three main factors:

a) Export assumptions

8.11 The CE modelling assumptions include that there will be restrictions to trade with the EU. For the forecast, CE assume that the degree of restrictions to UK exports will differ at the sectoral level. CE make no assumptions on the specific types of trade restriction measures that will be adopted. However, at the broadest level CE assume that the impacts on goods will be small, while the impact on services trade will be relatively larger.

8.12 The CE model utilises an estimate of UK exports to the EU based on broad sectors. Based on the political assumptions outlined above, this results in a diminished level of export growth, with impacts stratified by broad sector.

8.13 For trade between the UK and the rest of the world, the CE model assumes that the UK will form trade arrangements similar to those in place at present.

b) Migration Assumptions

8.14 Movement of labour is a primary consideration of the Brexit deal for both the UK and the EU, and will likely incur a plethora of political, economic and social impacts on households and the national economy.

8.15 The population assumptions in the CE forecast are based on ONS central population projections, which were adjusted for the effect of Brexit on total net migration to the UK. This is comparable with the lower-end impact estimates of Brexit on net migration.

8.16 It assumes that migration restrictions will manifest as restrictions on low-skilled migration. At the same time, however, lower immigration of high-skilled workers is also assumed due to concerns over the economic outlook in the UK, and the anticipated costs of work permit proceedings. This effect is expected to have started taking place immediately after the outcome of the referendum in 2016.

8.17 While it is anticipated that there will be a replacement effect of the future higher net migration from the rest of the world, there is an implicit assumption that the EU workers will not be fully replaced by domestic and rest of the world workers.

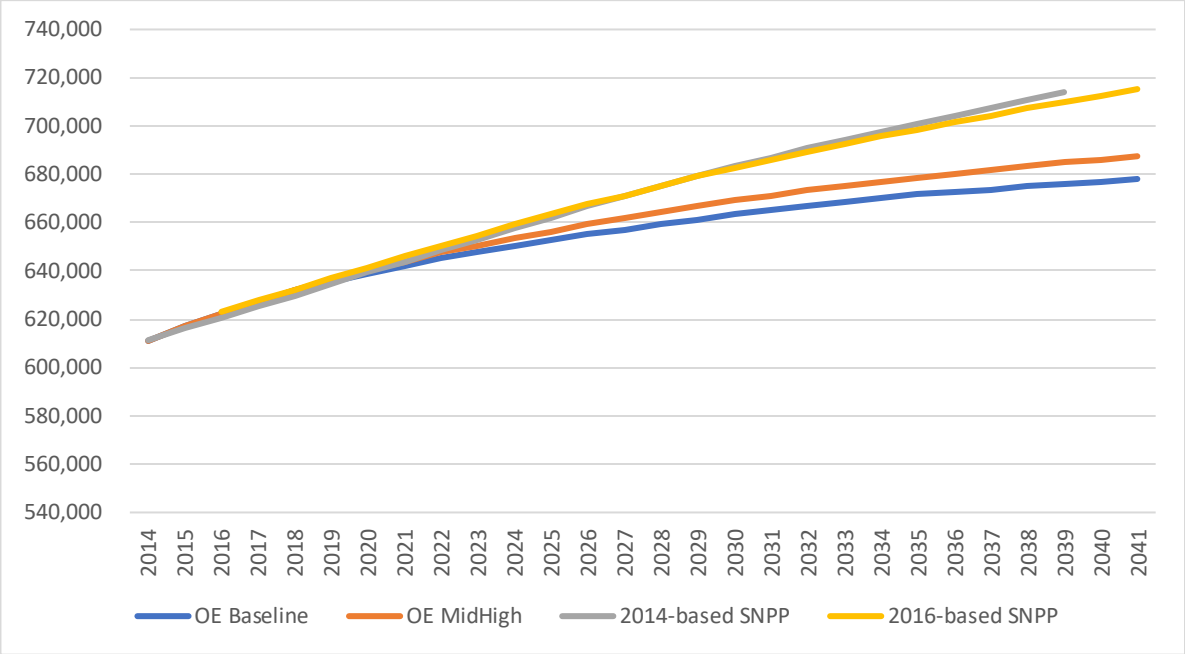
8.18 The estimated decline in annual net migration is distributed across sectors according to their estimated reliance on EU workforce.

8.19 The migration limitations are clearly demonstrated in the OE forecasts. The OE forecast is a holistic model which means it considers population growth as one of the factors within the model alongside jobs growth. The OE forecast models population as an output which is economically driven and thus forecasts differ from the official population projections.

8.20 The OE model uses official births and deaths projections from the 2016-based population projections; however, they use different migration assumptions based on their modelled UK migration, and at the local level, migration is linked to the forecast employment rate.

8.21 Figure 65 sets out the differences in the projected population growth in the OE forecasts set against the projected growth in the 2014-based and 2016-based Sub National Population Projections (SNPP).

Figure 65. Projected Population Growth in Gloucestershire, OE vs SNPP



Source: ONS and OE

8.22 This shows the OE model considers that net migration into Gloucestershire will be considerably lower than either of the SNPPs. The OE Baseline forecast shows a population growth of 35,764 persons over the period 2021-41 while the OE MidHigh forecast shows a growth of 43,581 persons over this period.

8.23 Both OE forecasts are considerably lower than either iteration of the SNPP – the 2016-based SNPP shows a growth of 69,327 over this period and the 2014-based SNPP shows a growth of 70,212 over the period 2021-39 (the end of the projection).

8.24 Overall the OE forecasts show a population growth which is approximately half that shown in the 2014-based SNPP. This reflects a constraint on population growth due to inward migration assumptions in the OE model. This reflects OE's assumptions regarding migration flows, including changes due to Brexit. This has the effect of considerably constraining the rate of employment growth in the OE forecasts.

Table 44. Comparison of Population Growth Forecasts, Gloucestershire

	Population Growth 2021-41	Population Growth Per Annum	% of 2014-based SNPP
OE Baseline	35,764	1,788	46%
OE MidHigh	43,581	2,179	56%
2014-based SNPP (2021-39)	70,212	3,901	100%
2016-based SNPP	69,327	3,466	89%

Source: SPRU analysis of OE and ONS data

c) Investment Assumptions

8.25 The CE model includes assumptions on the level of foreign direct investment for each broad sector according to several simplifying categories:

- there would be no change in investment levels;
- investment would slow down, due to some businesses moving a proportion of their activity out of the UK. This would result in a decrease in investment, proportional to the diminished level of activity in the UK;
- investment would adjust based on changes to public spending plans.
- investment would slow down, due to some businesses moving a proportion of their activity out of the UK, but also as a result of the diminished growth prospects of that particular sector within the UK. This could further dampen investment intentions within the UK, as multi-national organisations within those sectors may choose to divert a disproportionate amount of their investment to countries with better growth prospects.

8.26 In the last case, expectations of diminished growth prospects may stem from factors such as lack of Single Market access, or skill shortages that have been further exacerbated by migration restrictions.

d) Brexit Risk on Growth in Gloucestershire

8.27 The table below presents CE's overview of the specific long-term economic assumptions of the impacts of Brexit by broad sector:

Table 45. Brexit Forecast Assumptions

Sector	Export Impact	Workforce Impact	Investment Impact
Agriculture	Mild slowdown in EU demand	Strong employment constraints	Mild slowdown in investment
Mining and Quarrying	No specific impact	Moderate employment constraints	Moderate to pronounced slowdown in investment
Low and medium-low tech manufacturing	Mild slowdown in EU demand	Moderate employment constraints	Moderate to pronounced slowdown in investment
High and medium-high tech manufacturing	Mild to moderate slowdown in EU demand	Moderate employment constraints	Moderate to pronounced slowdown in investment
Construction	Mild slowdown in EU demand	Moderate employment constraints	Moderate to pronounced slowdown in investment
Utilities and energy	Mild slowdown in EU demand	Moderate employment constraints	No specific impact
Transport, distribution, retail and wholesale trade	Moderate to pronounced slowdown in EU demand	Strong employment constraints	Moderate to pronounced slowdown in investment
Accommodation and food service	Moderate to pronounced slowdown in EU demand	Strong employment constraints	Moderate to pronounced slowdown in investment
Administrative and support services	Moderate to pronounced slowdown in EU demand	Strong employment constraints	Moderate to pronounced slowdown in investment
Information and communication	Pronounced slowdown in EU demand	No specific impact	Moderate to pronounced slowdown in investment
Financial and insurance	Pronounced slowdown in EU demand	No specific impact	Moderate to pronounced slowdown in investment

Real estate	Pronounced slowdown in EU demand	No specific impact	Moderate to pronounced slowdown in investment
Professional, scientific and technical	Pronounced slowdown in EU demand	No specific impact	Moderate to pronounced slowdown in investment
Government services	Mild slowdown in EU demand	Moderate employment constraints	Mild slowdown in investment
Arts, recreation, and other services	Mild slowdown in EU demand	Moderate employment constraints	Mild slowdown in investment

Source: CE

8.28 Aggregating the results for each of the three impacts shows the following sectors are the most at risk sectors due to Brexit:

- Transport, distribution, retail and wholesale trade
- Accommodation and food service
- Administrative and support services

8.29 The following sectors are at moderate risk due to Brexit:

- Agriculture
- Mining and quarrying
- Low and medium-low tech manufacturing
- High and medium-high tech manufacturing
- Construction
- Information and communication
- Financial and insurance
- Real estate
- Professional, scientific and technical

8.30 The following sectors are at low risk due to Brexit:

- Utilities and energy
- Government services
- Arts, recreation, and other services

8.31 This analysis has been used to identify the scale of risk in the sectoral jobs growth forecasts for Gloucestershire over the period 2021-41 (2020-40 for Stroud). The scale of jobs growth in each sector is set out in Table 46 along with the risk rating identified above.

8.32 This shows that Gloucestershire's economy is not particularly reliant on the sectors identified as a high risk due to Brexit. However, accommodation & food services is forecast the largest quantum of growth in a high risk sector and this particularly features in the Cotswold and Stroud economies. However, in terms of employment land requirements this sector has a relatively small impact on overall needs.

Table 46. Forecast Jobs Growth and Brexit Risk Rating, Gloucestershire

Sector	OE Baseline	OE MidHigh	CE	Growth	Brexit Risk
Agriculture etc	- 880	- 480	- 90	- 90	Moderate
Mining & quarrying	- 150	- 90	- 100	- 100	Moderate
Manufacturing	- 10,900	- 7,000	- 5,420	3,780	Moderate
Electricity, gas & water	- 900	- 720	340	3,020	Low
Construction	2,640	3,360	4,820	4,820	Moderate
Wholesale and retail trade	- 1,840	1,000	670	670	High
Transport & storage	- 150	500	480	480	High
Accommodation & food services	- 330	1,300	6,700	6,700	High
Information & communications	- 660	1,190	1,500	6,880	Moderate
Financial & business services	10,550	16,780	8,590	8,590	Moderate
Government services	2,850	3,880	15,070	15,070	Low
Other services	2,460	3,510	3,340	3,340	Low
Total	**2,700**	**23,240**	**35,900**	**53,150**	

8.33 The tables below sums the total number of jobs growth forecast in Gloucestershire categorised by the identified risk rating due to Brexit. This is shown in the tables below by total jobs growth and the proportion of jobs in each risk rating.

8.34 The tables show that for all forecasts the majority of jobs growth is in the Moderate and Low risk categories and a relatively minor proportion of jobs are in the High risk category. For the CE Baseline forecast there is already a forecast net decline in high risk jobs. High risk jobs growth ranges from 12-22% with the CE forecast shows the highest proportion of high risk jobs and even then it only represents 22% of total jobs growth.

8.35 Overall, this analysis suggests that the majority of growth sectors within the Gloucestershire economy are not considered to be at high risk of negative consequences of Brexit.

Table 47. Forecast Jobs Growth by Brexit Risk Rating, Gloucestershire

	OE Baseline	OE MidHigh	CE	Growth
High	- 2,320	2,800	7,850	7,850
Moderate	600	13,760	9,300	23,880
Low	4,410	6,670	18,750	21,430

Table 48. Proportion of Forecast Jobs Growth by Brexit Risk Rating, Gloucestershire

	OE Baseline	OE MidHigh	CE	Growth
High	-86%	12%	22%	15%
Moderate	22%	59%	26%	45%
Low	163%	29%	52%	40%

e) Stakeholder Views on Brexit

8.36 As part of the stakeholder consultation, consultees were asked about their views on the effect that Brexit has had and is expected to happen in the commercial property market or within their sector in Gloucestershire. A summary of views is provided below.

8.37 There was a noticeable downturn in activity following the vote to leave the European Union in 2016 and the uncertainty which has followed. However, commercial agents reported that confidence has increased, and companies have been starting to look again. While there remains some uncertainty, the commercial property market is expected to return to normal in the short rather than long term.

8.38 Agents reported several manufacturers who had relocated back from China to Gloucestershire in order to be close to suppliers in the area. These businesses had principally sought to move back to the M5 corridor.

8.39 With regards to Brexit there were a range of different views expressed. However, it was unanimously agreed that uncertainty had had a detrimental effect on the market as businesses delayed decisions on relocation or expansion. This has led to a slowing of the commercial property market in Gloucestershire which lead through from the referendum to leave in 2016 through to the second part of 2019. However, there was a sentiment that this uncertainty has now abated since the last general election and withdrawal was confirmed in January 2020.

8.40 Inevitably there is a limited time period that businesses can delay businesses decisions regarding rent renewal, relocation, or expansion. However there was disagreement as to whether this period had now passed or was expected to impact in future. One view was that the first two quarters of 2020 were expected to see good performance in the commercial property market with the second half of the year seeing slower performance. Other views were less optimistic expecting this period of uncertainty to continue for a number of years.

8.41 The impacts of Brexit were generally expected to have a short-term negative impact on the Gloucestershire property market – much of this stemming from the high level of uncertainty.

8.42 Some identified the threat of Brexit to the supply chain via increased prices on import tariffs. This has highlighted as having potential impact on the Food and drink sector as import checks and lack of infrastructure to handle short shelf life products from overseas; less choice on the shelves and impact on prices and margins further squeezed with potential reduction in available working capital for innovation and product development. The Food and drink sector also currently relies on immigration from the EU, particularly relying on seasonal workers to work the fields.

8.43 However, the view of commercial agents was generally that companies with expansion plans will still need additional land to grow and develop, its just a matter of when. Most agreed that the economic fundamentals are stronger and more secure than during the previous financial crisis following the global financial crisis in 2018.

f) Summary

8.44 This section considered the potential impacts of Brexit on Gloucestershire's economic prospects and growth, identifies the sectors which are considered most at risk, and considers the impact this might have on Gloucestershire's overall economic growth.

8.45 At the macroeconomic level, Brexit will inevitably have numerous implications for the UK's economy. However, the nature of the political arrangement between the UK and the EU following Brexit remains unclear, and therefore forecasting the economic implications of Brexit is a difficult process.

8.46 This notwithstanding, CE and OE have both incorporated the implications of Brexit into their

forecasting approaches. For the purposes of forecasting, the macroeconomic impacts of Brexit are considered in terms of three main factors:

- Import / export
- Migration / labour force
- Inward investment

8.47 These factors will have differing impacts on each sector of Gloucestershire's economy. The risks of each factor has been identified for each sector and this shows that the following sectors are the most at risk sectors due to Brexit:

- Transport, distribution, retail and wholesale trade
- Accommodation and food service
- Administrative and support services

8.48 This analysis has been used to identify the scale of risk in the sectoral jobs growth forecasts for Gloucestershire. This shows that Gloucestershire's economy is not particularly reliant on the sectors identified as a high risk due to Brexit. However, the Accommodation & food services sector is the high risk sector with the highest level of forecast growth. This will particularly impact on the economies of Cotswold and Stroud. However, in terms of employment land requirements this sector has a relatively small impact on overall needs.

9.0 IMPLICATIONS OF COVID-19

9.1 In 2020 the UK was hit by the Coronavirus (COVID-19) pandemic which has had a significant impact on the global, national, and Gloucestershire economy. This took place after the publication of the OE and CE forecasts used in this report. While the forecasters will no doubt be updating their models to take account of COVID-19, the full scale of the impact is currently still emerging and, due to the unprecedented nature of the event, the future impact remains highly uncertain.

9.2 This section considers the impact that COVID-19 might have on Gloucestershire's economy. We will consider a range of factors, including:

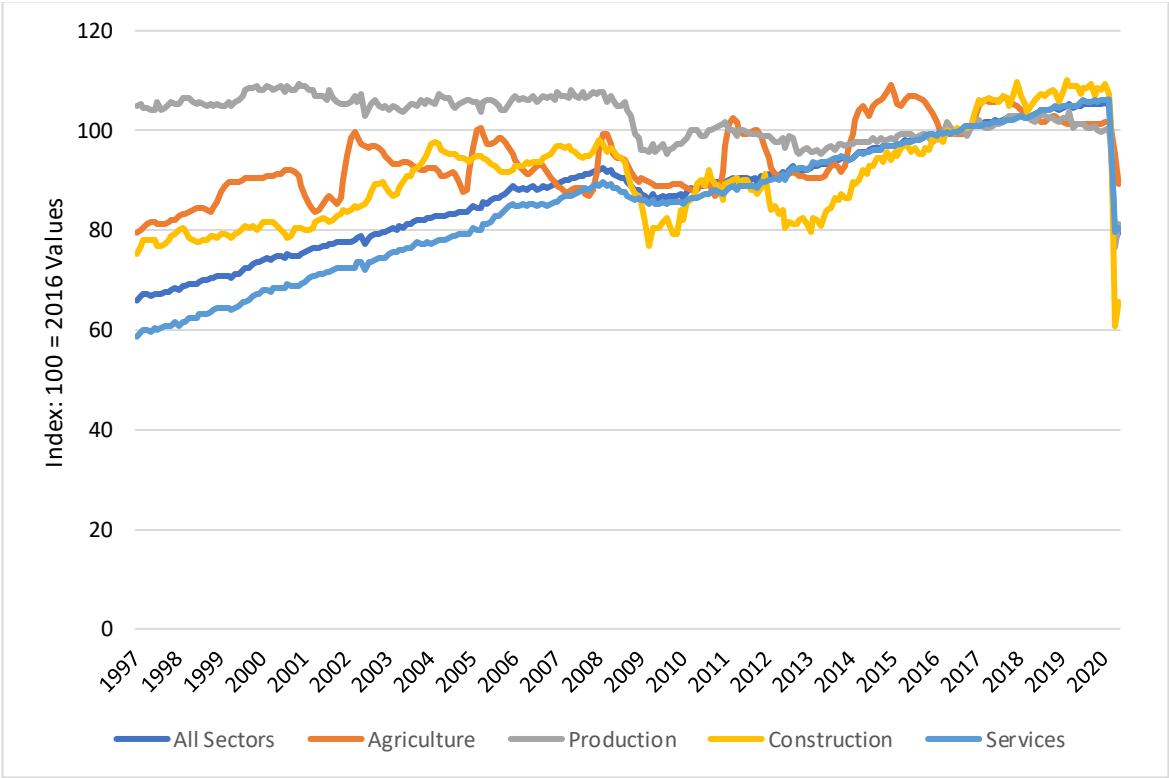
- The risk to existing jobs and job creation in different sectors of the economy; and
- The impact on employment land requirements, to support growth sectors, due to changes in working patterns and increased home working.

a) Impact on Employment

9.3 Nationally, GDP fell by 2% in Q1 of 2020 and by a further 14% in Q2, which was an unprecedented post-war contraction. This is highlighted in the figure below showing that all sectors have been severely impacted.

9.4 Overall, the economy is forecast to shrink by 8.3% in 2020. Although output is expected to rebound by 7.8% next year, the forecast does not see the economy returning to its pre-crisis size until the end of 2021.

Figure 66. Monthly GDP, 1997-2020, UK

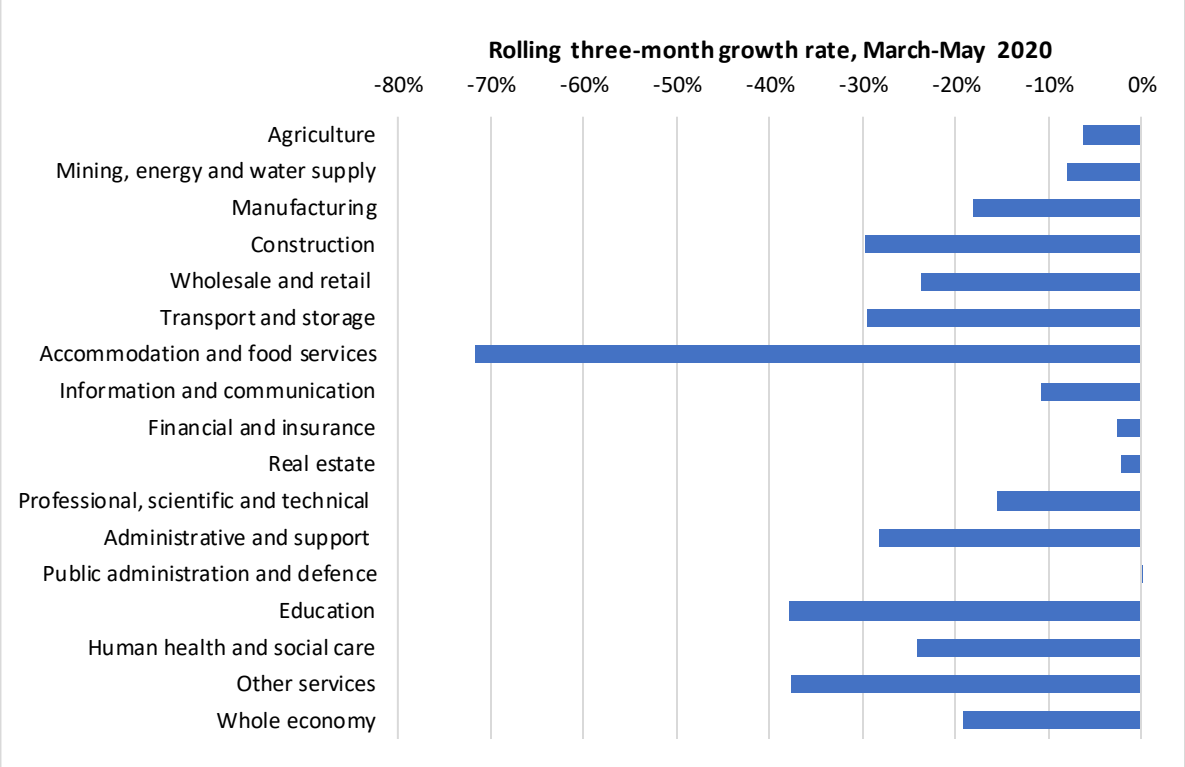


Source: ONS

9.5 Figure 67 shows how different sectors of the economy have been impacted. All sectors have seen a reduction in GDP with the exception of Public Administration and Defence which has seen zero growth. Across all sectors GDP was down 19.1% over the period from March-May

2020. The Accommodation and Food Service sector has been hardest hit with a GDP contraction of -70% through this period reflecting the fact that the majority of businesses in the sector have been closed throughout this time.

Figure 67. GDP by Sector, March to May 2020, UK



Source: ONS GDP monthly estimate

9.6 Predicting the longer-term impacts that COVID might have on the economy will be an important exercise to inform a wide range of disciplines, including land use planning. However, given the lack of precedent for a pandemic of this scale in modern times, forecasting future economic performance remains highly uncertain. Oxford Economics (OE) identify a range of factors, set out below, which provide considerable uncertainty, the majority of which pose significant downside risks. This means any changes are likely to have negative, rather than positive, implications:

- **Coronavirus becomes more virulent and the lockdown period is extended.** This would result in the UK entering a deeper recession in 2020 and a slower subsequent recovery. OE sensitivity modelling shows this resulting in GDP growth of 2.1 percentage points per annum below the baseline forecast over the 2020-22 period.
- **Long-term changes to market confidence and consumer attitudes to spending.** The current crisis results in less confidence in spending and risk-taking behaviour resulting in a long-running adverse effect on investment, entrepreneurship and innovation, weighing on the productive capacity of the economy. This could mean the long-term damage to the UK economy proves more significant than expected.
- **A second (or more) waves of the virus resulting in a second (or more) lockdown.** This would generate a 'W-shaped' path for the economy as activity initially rebounded before being hit again. This would result in greater uncertainty and greater risks of long-term behavioural change (see above).
- **Economic recovery is heavily reliant on intervention of government policy.** Any

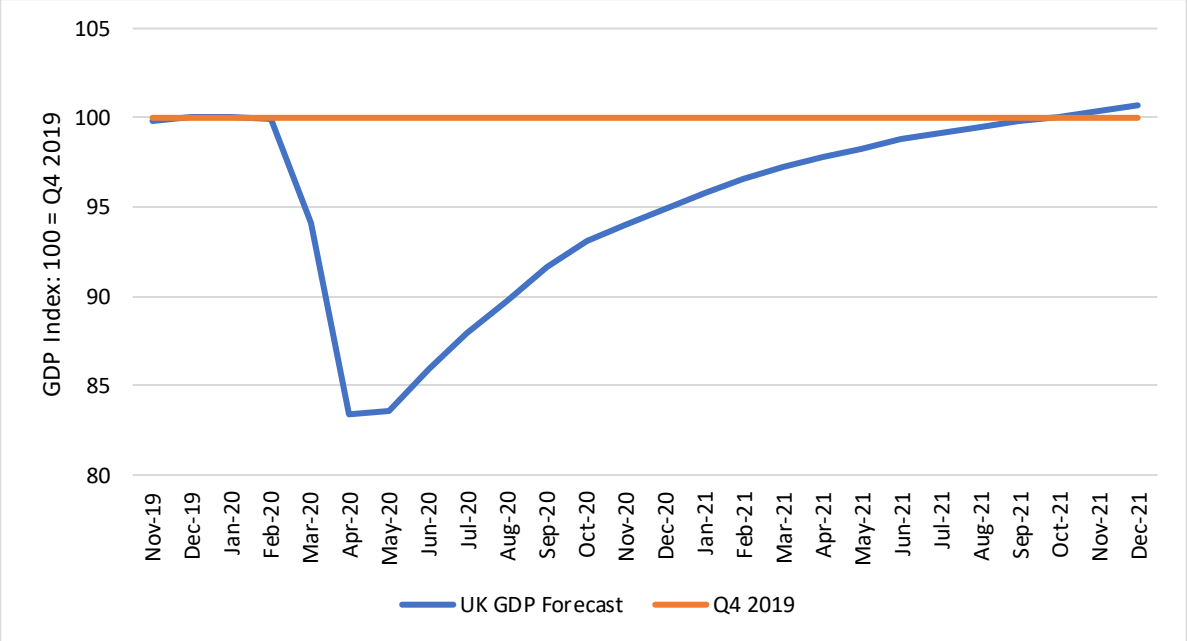
changes to government policy or spending would have significant impacts, more so than usual.

- **Impact on negotiating post-Brexit deals.** The UK formally left the EU on 31 January and is now in a transition period, due to last until end-2020 while the UK and EU negotiate a future relationship. However, the disruption caused by COVID-19 has meant a necessary switch of political priorities. This could impact on negotiations, leaving the UK and EU to trade under WTO rules from 2021, further impacting on the UK's economic recovery.

9.7 Oxford Economics forecasts GDP to shrink in the short-term by 8.3% over 2020 but shows a strong and relatively swift recovery. The economic downturn is the result of a planned partial shutdown of the economy rather than due to imbalances in the private sector or public sector policy mistakes, which are more usual causes for entering a recession. Similarly, unlike a natural disaster there is no damage to the country's physical capital, such as buildings and infrastructure. This means the fundamentals of the economy can be regarded as stronger than is typical for an economy entering recession.

9.8 This provides optimism that there could be a strong 'bounce back'. OE's modelling assumes a relaxation of the lockdown over the summer, and with government support schemes (including the Coronavirus Job Retention Scheme (CJRS) and loans to businesses) seeing a strong take up throughout the year. With these assumptions, OE forecasts the economy should return to growth through the second half of this year and into 2021. OE forecasts GDP to rise by 7.8% next year, although in level terms output is not expected to regain its end-2019 level until Q4 2021.

Figure 68. UK GDP Forecast, Nov 19-Dec 21



Source: Oxford Economics

9.9 Some sectors will be affected much more than others. For many service sectors, GDP has been lost permanently. For example, accommodation and food services not purchased during lockdown have been lost for ever. Conversely, spending on durable goods, such as cars, may have simply been deferred, which would lead to a post-lockdown bounce in demand and production. The size and duration of this bounce depends on consumer confidence and mindset, as well as retaining the means to spend. This will depend in part

on how long restrictions are in place and the effectiveness of policies to maintain existing companies and jobs.

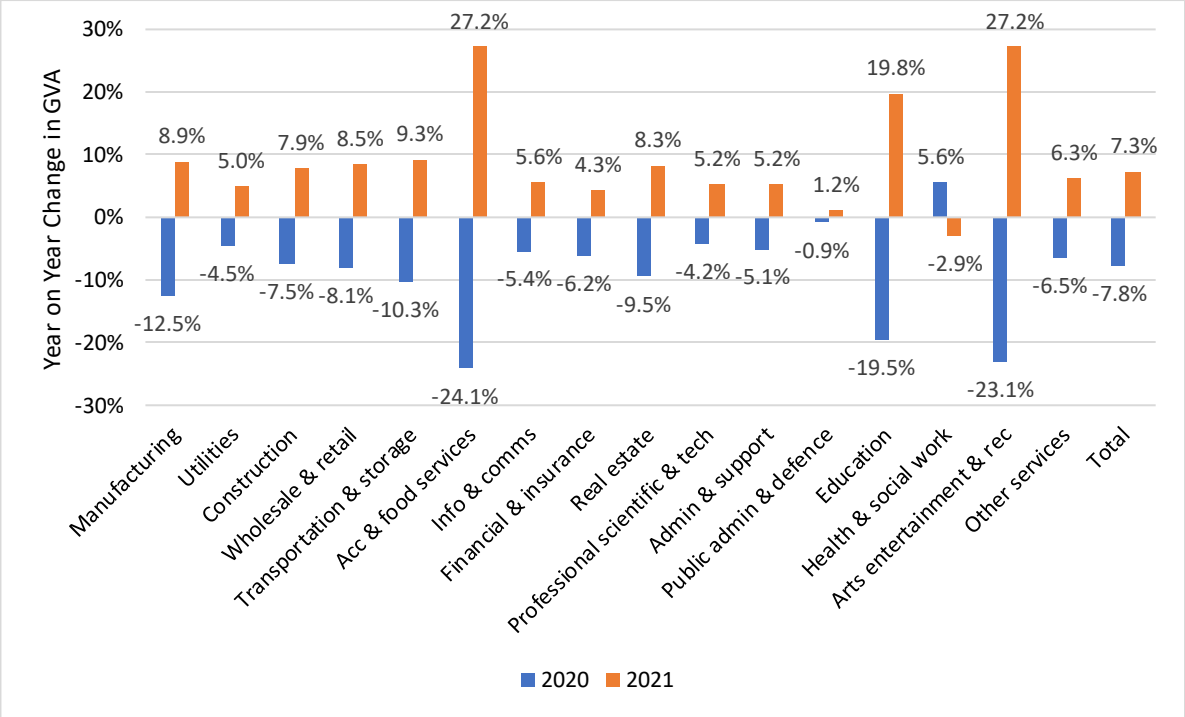
9.10 Oxford Economics have also produced GDP forecasts at a sectoral level for the remainder of 2020 and 2021. The figure below shows this data for the South West Region.

9.11 Overall, GDP in the South West was down 7.8% on 2019 levels. This compares to a normal rate of growth of around 1-2% per annum. Virtually all sectors will see a significant reduction in GDP compared to 2019 levels. The Accommodation and Food Service; Arts, Entertainment and Recreation; and Education sectors have seen the largest decline, while Health and Social Work was the only sector to see growth.

9.12 However, the data also shows the bounce expected in 2021 affecting almost all sectors (again except for the Health and Social Work sector). These are year on year figures, so the largest bounces are in the sectors expected to see the greatest decline in 2020. Across all sectors there is forecast a GDP growth of 7.3% in 2021.

9.13 The medium-term forecast shows this bounce lessening in 2022 and returning to normal levels from 2023 onwards.

Figure 69. Employment Change 2020 and 2021, South West



Source: ONS, Oxford Economics

b) Risks to the Gloucestershire Economy

9.14 As set out above there are significant challenges to forecasting the economic impacts that COVID-19 might have on the economy. However, there are a number of characteristics of an economy which will be more or less susceptible to the impacts of COVID-19. These have been identified by Oxford Economics in their Regional Scorecards for UK Regions (ICAEW UK Economic Report, May 2020).

9.15 This identifies the following characteristics of a local economy which determine how severely an area's economy is impacted by COVID-19:

- **Exposure to hospitality & tourism:** hospitality and tourism services will take a large hit as people suspend their travel plans and social activities.
- **Exposure to retail:** non-essential shops have closed across Europe, with consumers also delaying long-term purchases, such as of cars.
- **Exposure to manufacturing:** manufacturing to be the most hit by supply-chain disruptions.
- **Trade intensity:** regions with high exposure to supply chains will take larger hit from their disruptions due to the outbreak.
- **Share of self-employed:** self-employed workers do not earn wages when they self-isolate or contract the virus, leading to an immediate consumption hit
- **Share of small firms (with 0-9 employees):** small firms are at a higher risk of bankruptcy due to lower cash buffers and more restricted access to credit.
- **Working from home capabilities:** the speed at which firms can adapt to remote working will depend on previous experience and whether tasks can realistically be performed remotely.
- **Internet access:** as containment measures such as lockdowns are imposed, many people (especially in services) will have to work from home
- **Share of population 65+:** mortality rates of COVID-19 are significantly higher for older people.
- **Hospital beds per 100,000 population:** proxy for the capacity of the healthcare system to deal with a large-scale outbreak.
- **Population density (number of people per square kilometre):** regions with higher density may have increased transmission rates, increasing the likelihood of longer/more extensive lockdowns.

9.16 For the South West Region, OE make the following conclusions:

- Output and employment are likely to fall by slightly more than the UK average in 2020 and the 2021 recovery may be a little weaker. Over the full period 2020-25 the South West will probably slightly underperform the UK.
- Despite a strong rebound, employment in 2021 is still forecast to be slightly lower than it was in 2019, at 2.99m compared with 3.04m.
- The region has the lowest population density in the UK, which may help during the crisis. However, it also has an older population and high reliance on both tourism and self-employment.

9.17 However, the South West is a diverse region with Gloucestershire located at its northern edge. We can therefore consider how these factors affect Gloucestershire and its constituent local authorities and how these compare against other areas.

9.18 For Gloucestershire, Table 49 sets out the key characteristics of the local economy, which provides an indication of how susceptible Gloucestershire's economy might be to the impacts of COVID-19. It also provides data at a local authority level indicating areas where any of the Gloucestershire authorities might be particularly susceptible.

Table 49. Characteristics of Gloucestershire's economy which increase risks of COVID-19

Characteristic	Gloucestershire Context
Exposure to hospitality & tourism	In Gloucestershire 9.0% of employment is in the Accommodation and Food Service sector. This is lower than the South West rate of 9.7% but higher than the national average of 7.5%. This ranks 6th out of the 38 LEP areas in England. Of the Gloucestershire authorities, Cotswold has the highest rate of sectoral employment with 13.6%. This ranks 11th out of 317 local authorities in England. Cheltenham also has a relatively high rate of 11.1%, ranking 29th.
Exposure to retail	Gloucestershire has 8.9% of employment in the Retail sector. This ranks 28th out of the 38 LEP areas. None of the Gloucestershire authorities rank very high. The highest is Cheltenham which has 11.1% of jobs in Retail, ranking it 79th out of 317 local authorities in England. Gloucester is next highest with 10.9%, ranking 94th.
Exposure to manufacturing	11.8% of employment in Gloucestershire is in the Manufacturing sector. This is higher than the national (8.2%) and regional (8.5%) averages. Gloucestershire ranks 13th of the 38 LEP areas. Tewkesbury and Stroud rank highly in terms of the proportion of jobs in Manufacturing. Tewkesbury has 21.7% of jobs in this sector, ranking 14th out of 317 local authorities in England. Stroud has 18.4%, ranking 17th. Forest of Dean is next highest with 16.7% ranking 49th.
Trade intensity	The Business Impact of Coronavirus (COVID-19) Survey (BICS) data set out below shows that, at a national level, the sectors which have been most affected by import/export restrictions due to COVID are Transport and Storage, Wholesale and Retail, and Manufacturing. Employment rates in Gloucestershire in Retail and Manufacturing are set out above. Transport and Storage is not a large sector in Gloucestershire, with 3.0% of total employment. This ranks 36th out of 38 LEP areas. Forest of Dean is the highest ranking authority with 5.6% jobs in the sector, ranking 102nd out of 317 local authorities in England.
Share of self-employed	Gloucestershire has a self-employment rate of 12.5%, which is higher than the national average of 10.9%. This ranks 12th out of the 38 LEP areas in England. Of the Gloucestershire authorities, Cotswold has the highest rate of self-employment at 14.3%, Tewkesbury at 13.6%, and Stroud and Cheltenham at 13.0%. Gloucester (10%) is the only authority with a rate lower than the national average.
Share of small firms (with 0-9 employees)	In Gloucestershire 89.0% of businesses have 0-9 employees. This is slightly higher than the national average of 87.0%. Gloucestershire ranks 20th out of the 38 LEP areas in England.

	Of the Gloucestershire authorities, Forest of Dean has the highest proportion of small firms with 91.5%. This ranks 52nd out of 317 local authorities in England.
Working from home capabilities	The BICS data set out below shows, at a national level, that the sectors which have seen the lowest changes in home working are Human Health and Social Work, Manufacturing, Construction, Accommodation and Food Service, and Utilities. For Human Health and Social Work this most likely represents the higher demand for services rather than the capability to work from home. For the other sectors this likely reflects lower capabilities. Manufacturing and Accommodation and Food Service have been considered above. For Construction, Gloucestershire ranks 10th out of 38 LEP areas. Tewkesbury has the highest proportion of jobs in the sector at 7.1%, ranking 40th of the 317 authorities in England. For Utilities, Gloucestershire ranks 8th out of 38 LEP areas with Stroud and Gloucester both ranking highly – 19th and 22nd respectively. This notwithstanding, employment in these sectors is relatively low, at 2.6% and 2.5% of total jobs in each area.
Internet access	The latest data (2019) from ONS shows that in Gloucestershire 8.6% of the population have not used the internet within the last 3 months or have never used it. This is higher than the South West Region average of 7.6% but lower than the UK average of 9.1%.
Share of population aged 65+	ONS's 2019 Mid-Year Estimates (MYE) of population show that 21.6% of Gloucestershire's population is aged 65 and above. This is higher than the UK average of 18.5%. Of the Gloucestershire authorities, Cotswold has the highest proportion of 65+ population with 25.9%, ranking 33rd of the 317 authorities in England. Forest of Dean is next highest with 24.7%, ranking 53rd.
Hospital beds per 100,000 population	The latest data from the NHS provides the total hospital bed numbers for each of its commissioning regions. Combining this with the latest ONS MYE population figures shows the South West has 219 hospital beds per 100,000 population. This is slightly lower than the UK average of 229 beds per 100,000.
Population density	Based on the 2019 MYE data, Gloucestershire has a population density of 236 people per sq km. This is below the England average of 423 people per sq km. Unsurprisingly, this is higher in the larger settlements. Of the Gloucestershire authorities, Gloucester has the highest population density with 3,163 people per sq km, ranking 54th in England. For Cheltenham the figure is 2,496 people per sq km, ranking 73rd.

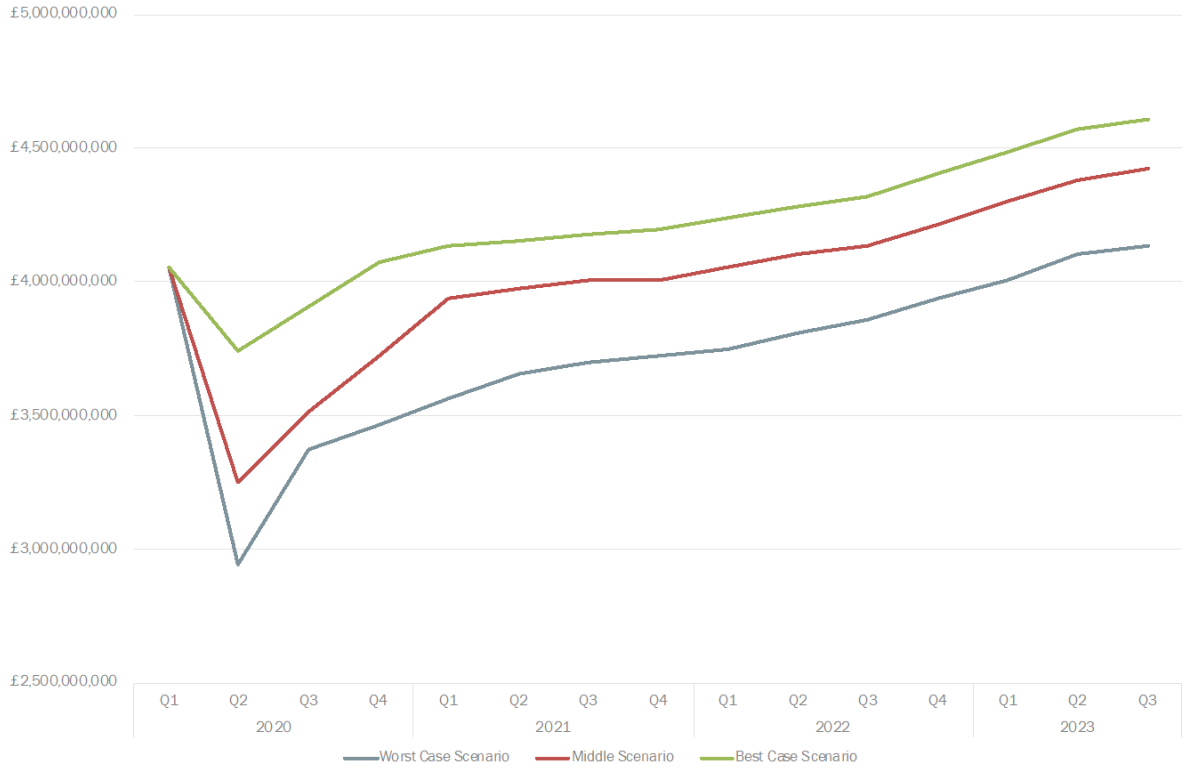
9.19 Overall, this analysis highlights a number of characteristics of Gloucestershire's economy which suggest the effects of COVID-19 might have greater impact:

- Prominence of the Accommodation and Food Service sector – particularly in Cotswold and Cheltenham.
- Prominence of the Manufacturing sector – particularly in Tewkesbury, Stroud and Forest of Dean.
- High levels of self-employment – in all areas except Gloucester.
- High levels of small businesses – particularly in Forest of Dean.
- Prominence of sectors which have low capability to work from home, including Manufacturing and Accommodation and Food Service, but also Construction and Utilities – which will particularly impact on Gloucester and Stroud.
- A higher proportion of elderly population – particularly in Cotswold and Forest of Dean.

9.20 GFirst LEP have commissioned Hardisty Jones Associates (HJA) to prepare forecasts estimating the economic impact of COVID-19 on the Gloucestershire Economy over the period 2020-23. HJA produced 3 forecasts – Worst Case, Middle Scenario, and Best Case.

9.21 Like the OE forecast figures these show significant impact on the economy in Q2 of 2020 followed by a rebound of different magnitudes. In the Best Case Scenario levels of GVA have returned to pre-COVID levels by the end of 2020. In the Middle Scenario recovery is slower with GVA returning by Q1 2022. In the Worst Case Scenario GVA returns to pre-COVID levels by Q2 2023.

Figure 70. Total GVA for Gloucestershire, 2020-23



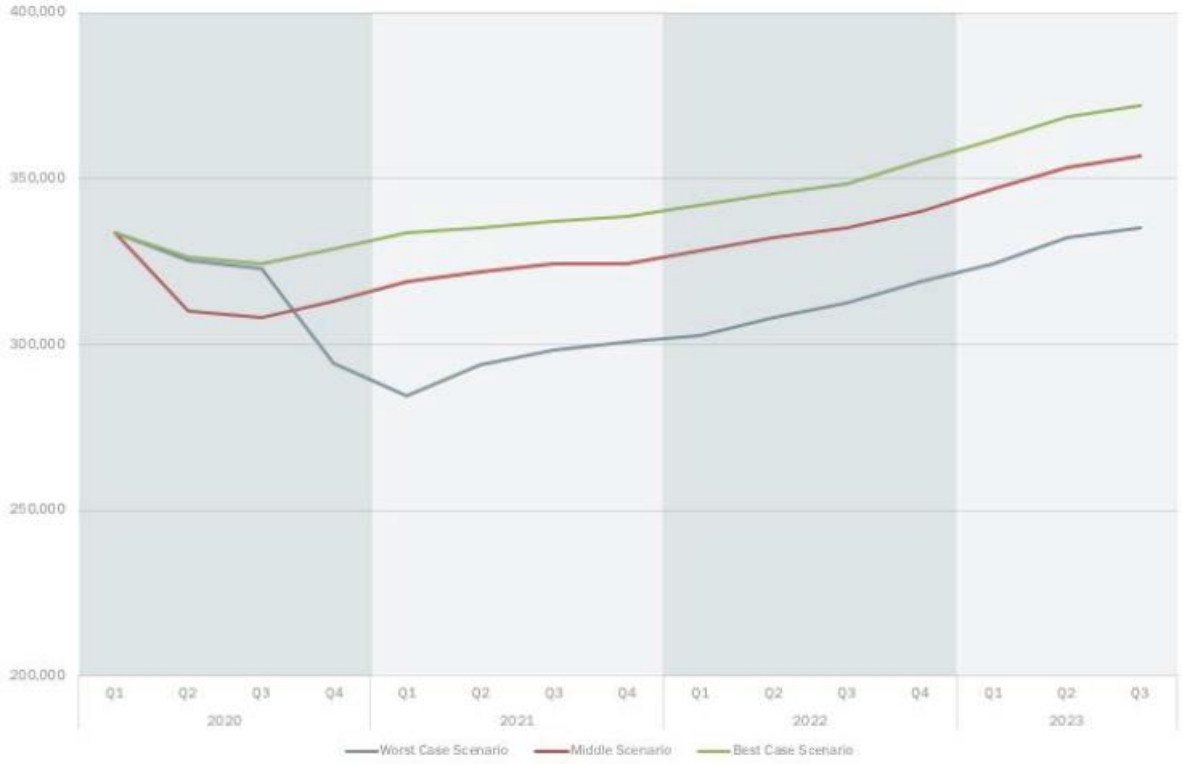
Source: Hardisty Jones Associates, 2020

9.22 HJA report that while there is normally a strong correlation between GVA and employment, the strength of this link has decoupled somewhat due to central government schemes to

maintain employment and support the self-employed. Nonetheless the HJA forecasts still show COVID-19 having an impact on employment levels in Gloucestershire in the short term:

- **The Best Case Scenario** – this scenario shows that even with the government schemes mitigating impacts of COVID-19 there will still be 9,200 job losses in 2020. The economy sees growth returning by Q4 2020 and employment has returned to pre-COVID levels in Q1 2021 with continued growth thereafter.
- **The Middle Scenario** – this scenario sees a much sharper impact with job losses totalling 25,500 through Q2 and Q3 2020. The economy sees growth returning by Q4 2020 and steady growth returns employment levels to pre-COVID levels by Q3 2022.
- **The Worst Case Scenario** – this scenario shows a longer and deeper impact of COVID-19 resulting in a greater number of job losses over a longer period. In total it shows a loss of 49,000 jobs continuing into 2021 when the economy starts to see growth again. Employment levels do not return to pre-COVID levels until 2024.

Figure 71. Total Employment (incl. government supported) for Gloucestershire, 2020-23



Source: Hardisty Jones Associates, 2020

c) Sectoral Impact of Coronavirus

9.23 Data from the Business Impact of Coronavirus (COVID-19) Survey (BICS) can be assessed to identify the impact COVID-19 has had on the economy to date. The BICS is produced by ONS and the indicators are based on responses from the voluntary fortnightly business survey, which captures businesses' responses on how their turnover, workforce prices, trade and business resilience have been affected in the two week reference period.

9.24 The BICS data covers the period from March to June 2020. As such it represents a very short time period from which to draw conclusions. It also reflects business performance in the context of changing Government guidance and policy responses – for example the

Coronavirus Job Retention Scheme.

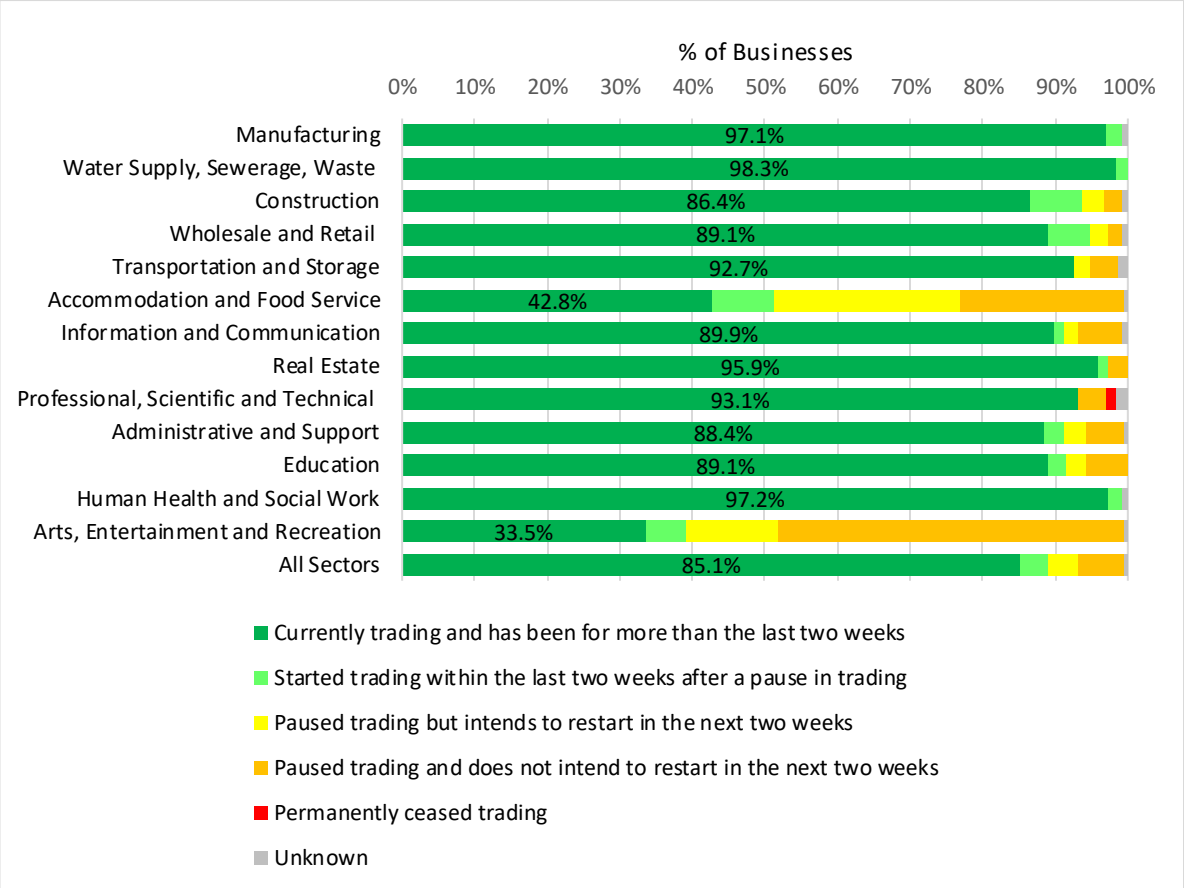
9.25 Estimates from the BICS are currently unweighted and should be treated with caution when used to evaluate the impact of COVID-19 across the UK economy.

9.26 This means that while the BICS provides the latest data in terms of the range of economic performance indicators, they should not be treated as providing an indication of long-term economic performance or employment trends. The data do show which sectors have been hardest hit by COVID-19 and this provides an indication of the expected future sectoral performance in the short to medium term.

9.27 The figure below shows the trading status of businesses in each sector as of June 2020. This shows that 85.1% of all businesses were continuing to trade and had been for more than the previous two weeks. This figure increases to 88.9% when including businesses which had resumed trading in the previous two weeks.

9.28 However, there are two sectors where this figure is considerably lower. For Accommodation and Food Service just 51.3% of businesses are currently trading. For Arts, Entertainment and Recreation this figure is even lower at 39.1%.

Figure 72. Business Trading Status, UK



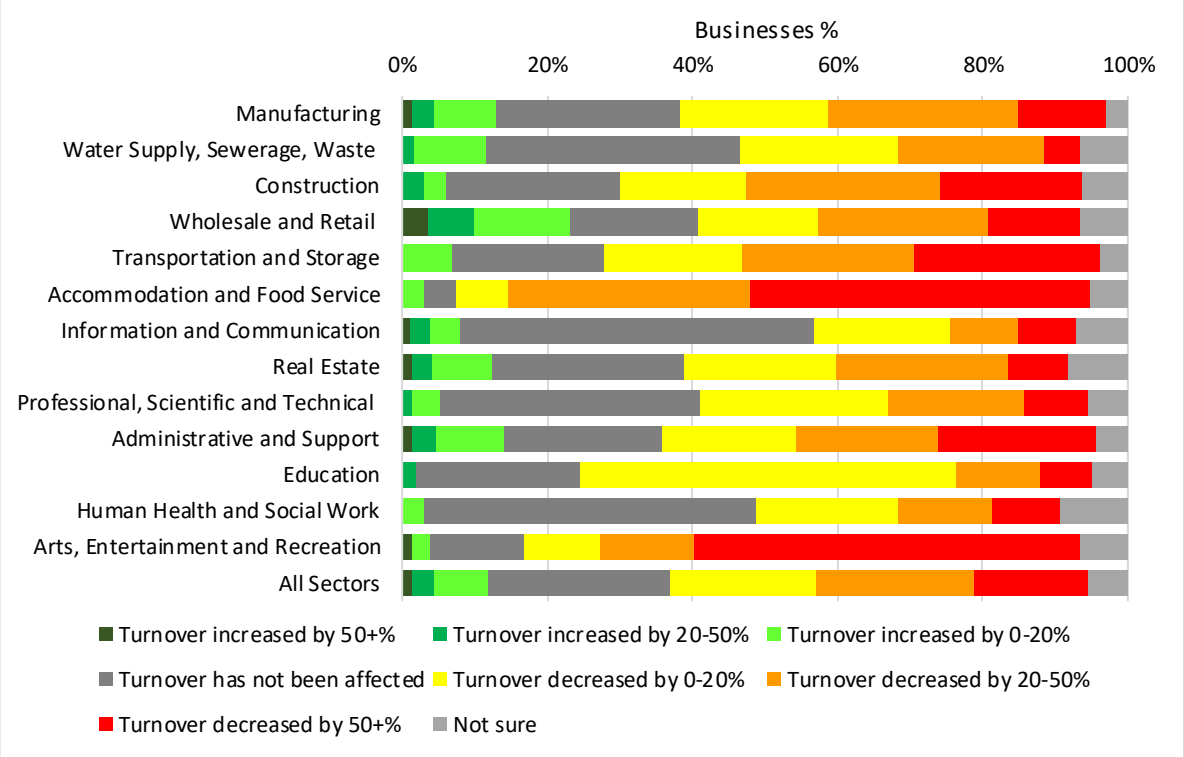
Source: ONS BICS June 2020

9.29 Figure 73 shows the reported change in turnover in 2020 compared to the same period in 2019. Across all sectors, 57.6% of businesses reported a drop in turnover. The data again shows the worst hit sectors have been the Accommodation and Food Service sector (86.0% reporting lower turnover), and the Arts, Entertainment and Recreation sector (76.6% lower). However, the following sectors all had the majority of businesses reporting a lower turnover

compared to 2019:

- Accommodation and Food Service (86.0%)
- Arts, Entertainment and Recreation (76.6%)
- Education (69.3%)
- Transportation and Storage (67.1%)
- Construction (62.9%)
- Administrative and Support Services (59.6%)
- Manufacturing (58.7%)
- Professional, Scientific and Technical (53.1%)
- Real Estate (52.7%)
- Wholesale and Retail (52.6%)

Figure 73. Change in turnover from same time in 2019, UK



Source: ONS BICS June 2020

9.30 One of the key factors affecting businesses who are continuing to trade is the decreasing availability and increasing cost of importing and exporting goods. This has particularly impacted businesses who trade overseas due to differing restrictions of trade and movement in different jurisdictions, and different countries enforcing and relaxing lockdown restrictions at different times.

9.31 Overall, nearly half (44.6%) of businesses reported having challenges relating to exporting. The sectors most widely hit have Transportation and Storage, Wholesale and Retail trade, and Manufacturing.

Table 50. COVID impacts on exporting

	Manufacturing	Wholesale and Retail Trade	Transportation and Storage	Information and Communication	Professional, Scientific and Technical	Administrative and Support	Education	All Sectors
Coronavirus-related transport restrictions	22.5%	25.0%	55.0%	17.4%	21.1%	21.7%	50.0%	23.9%
Increases in transportation costs	28.7%	33.6%	35.0%	15.2%	9.2%	13.0%	10.0%	25.5%
Closure of infrastructure used to export goods or services	7.9%	16.4%	40.0%	10.9%	3.9%	8.7%	0.0%	10.0%
Destination countries changing their border restrictions	9.6%	14.3%	45.0%	17.4%	10.5%	17.4%	10.0%	12.3%
Other	2.0%	2.1%	10.0%	2.2%	9.2%	8.7%	0.0%	3.5%
Did not experience any challenges with exporting	58.2%	50.0%	30.0%	56.5%	59.2%	52.2%	40.0%	55.4%

Source: ONS BICS June 2020

9.32 Restrictions on imports have had a similar impact to a wide range of sectors with Transportation and Storage, Administration and Support, Wholesale and Retail trade, and Manufacturing most affected.

Table 51. COVID impacts on importing

	Manufacturing	Construction	Wholesale and Retail	Transportation and Storage	Information and Communication	Professional, Scientific and Technical	Administrative and Support	Education	All Sectors
Coronavirus-related transport restrictions	27.8%	20.0%	26.6%	50.0%	18.8%	21.6%	30.0%	41.2%	27.7%
Increases in transportation costs	28.8%	10.0%	32.4%	40.9%	15.6%	13.7%	20.0%	5.9%	27.1%
Closure of infrastructure used to import goods or services	8.7%	20.0%	14.4%	22.7%	12.5%	7.8%	13.3%	0.0%	10.9%
Source countries changing their border restrictions	8.4%	0.0%	9.0%	40.9%	9.4%	9.8%	13.3%	5.9%	10.2%
Other	2.3%	0.0%	4.5%	0.0%	9.4%	7.8%	0.0%	0.0%	3.7%
Did not experience any challenges with importing	53.8%	70.0%	46.4%	40.9%	53.1%	60.8%	53.3%	58.8%	51.6%

Source: ONS BICS June 2020

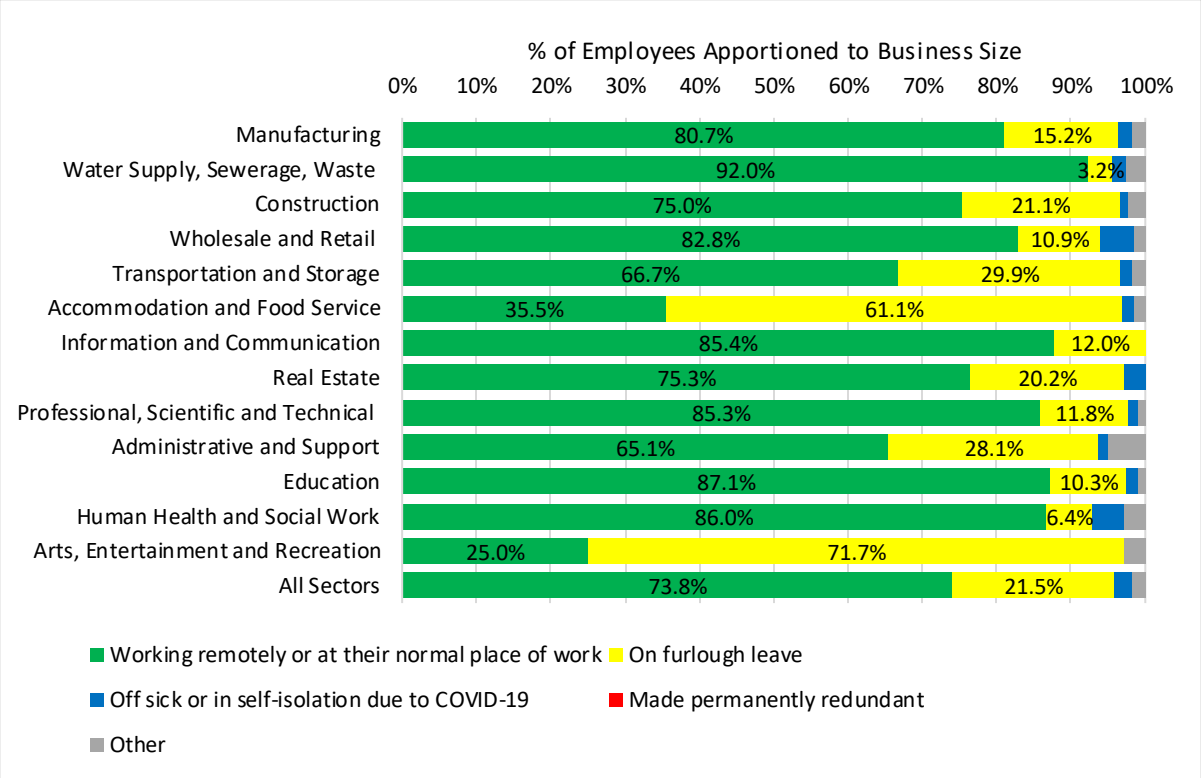
9.33 This exceptionally challenging economic environment has had a significant impact on businesses' ability to retain employees. Figure 74 shows the employee status of all businesses which have not permanently stopped trading (i.e. including those continuing to

operate or those who have temporarily ceased operations). This shows that across all sectors 21.5% of staff have been placed on furlough leave, while 73.8% continue to work (either at their normal place of work or remotely).

9.34 The data again shows the worst hit sectors have been the Accommodation and Food Service sector (61.1% on furlough), and the Arts, Entertainment and Recreation sector (71.7% on furlough). Other sectors which have seen higher than average rates of staff furloughing are Transportation and Storage (29.9%) and Administrative and Support Services (28.1%).

9.35 The data shows very few staff have been made permanently redundant, although this is expected to change as the Government's Coronavirus Job Retention Scheme tapers off through August-October 2020.

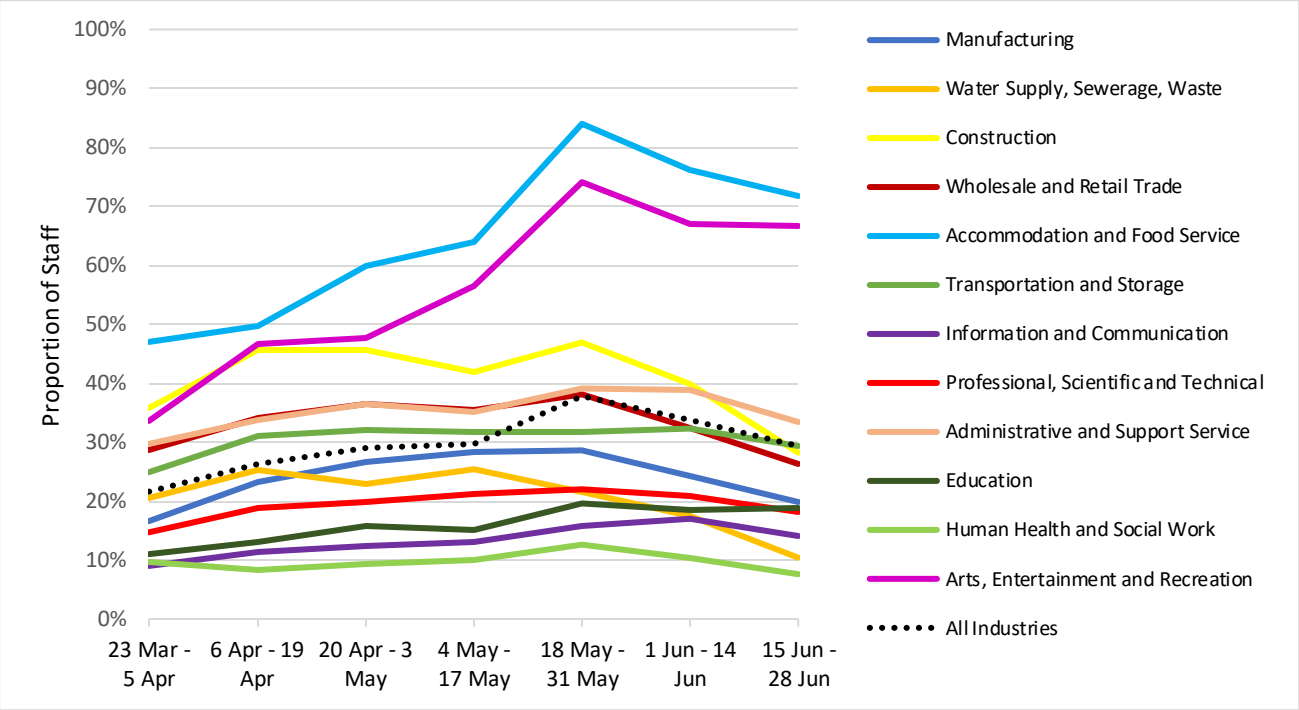
Figure 74. Employee Status



Source: ONS BICS June 2020

9.36 Figure 75 shows the proportion of employees in each sector on furlough or sick leave due to COVID and how this has changed over time from March-June 2020. This shows the highest rate of non-working due to COVID was in late May 2020 and since then rates of people on either furlough or sick leave have dropped in almost all sectors. This is particularly evident in the Construction sector which has seen 19% of staff return to work over this period.

Figure 75. Proportion of Staff on Furlough or Sick Leave – Time Series



Source: ONS BICS Mar-June 2020

9.37 HJA's forecasts for the GFirst LEP show the expected job losses in each high level sector over 2020 and 2021 due to COVID-19. This is summarised in the table below. This shows considerable job losses in Manufacturing and Construction, Retail & Transport sectors with the Worst Case Scenario showing a quarter of jobs in these sectors lost. However, there is very wide variance between the scenarios with the Best Case Scenario showing losses of 2.6% and 3.9% respectively in these sectors.

9.38 Even in the Worst Case Scenario the HJA forecasts show a bounce back in employment for all sectors from mid-2021 onwards. The worst hit sectors of Manufacturing and Construction, Retail & Transport see employment levels return to pre-COVID levels by 2023, with the other sectors returning much quicker than this.

Table 52. Forecast Employment Losses per High Level Sector

	Worst Case		Middle Scenario		Best Case	
	Job Losses	% of Sector Jobs	Job Losses	% of Sector Jobs	Job Losses	% of Sector Jobs
Primary & Production	-600	6.4%	-330	3.5%	-120	1.3%
Manufacturing	-9,900	26.1%	-2,800	7.4%	-1,000	2.6%
Construction, Retail & Transport	-17,900	22.3%	-8,700	10.8%	-3,100	3.9%
Private Services	-21,100	17.0%	-11,900	9.6%	-4,300	3.5%
Public Services	-2,800	3.4%	-1,800	2.2%	-670	0.8%

Source: Hardisty Jones Associates, 2020

9.39 The range of data set out above has been collated in Table 53 in terms of low, medium, and high risk for each element and sector. This is then aggregated to identify an overall level of

risk for each sector.

Table 53. Sectoral Risk of COVID-19

	Trading Status	Turnover	Import/ Export	Employee Status	LEP forecasts	Overall Risk
Manufacturing	Low	Med	High	Low	High	Med
Water Supply, Sewerage, Waste	Low	Low	Low	Low	Low	Low
Construction	Low	High	Med	Med	High	Med
Wholesale and Retail	Low	Med	High	Low	High	Med
Transportation and Storage	Low	High	High	Med	High	High
Accommodation and Food Service	High	High	Low	High	Med	High
Information and Communication	Low	Low	Med	Low	Med	Low
Real Estate	Low	Med	Low	Med	Med	Med
Professional, Scientific and Technical	Low	Med	Med	Low	Med	Med
Administrative and Support	Low	Med	Med	Med	Med	Med
Education	Low	High	Med	Low	Low	Low
Human Health and Social Work	Low	Low	Low	Low	Low	Low
Arts, Entertainment and Recreation	High	High	Low	High	Med	High

9.40 This analysis has been used to identify the scale of risk in the sectoral jobs growth forecasts for Gloucestershire over the period 2021-41 (2020-40 for Stroud). The scale of jobs growth in each sector is set out in Table 54 along with the risk rating identified above.

9.41 This shows that Gloucestershire's economy is not particularly reliant on the sectors identified as a high risk due to COVID. However, Accommodation & Food Services is forecast the largest quantum of growth in a high risk sector and this particularly features in the Cotswold and Stroud economies. However, in terms of employment land requirements this sector has a relatively small impact on overall needs.

Table 54. Forecast Jobs Growth and Brexit Risk Rating, Gloucestershire

	Total Jobs 2020	Forecast jobs growth 2021-41 (Stroud 2020-40)				COVID Risk
		OE Baseline	OE MidHigh	CE	Growth	
Agriculture, Mining, Quarrying	5,800	-1,030	-570	-190	-190	Low
Manufacturing	34,700	-10,900	-7,000	-5,420	3,780	Med
Electricity, gas & water	5,900	-900	-720	340	3,020	Low
Construction	24,000	2,640	3,360	4,820	4,820	Med
Wholesale and retail trade	49,800	-1,840	1,000	670	670	Med
Transport & storage	9,300	-150	500	480	480	High
Accommodation & food services	29,400	-330	1,300	6,700	6,700	High
Information & communications	15,400	-660	1,190	1,500	6,880	Low
Financial & business services	72,200	10,550	16,780	8,590	8,590	Low
Government services	77,800	2,850	3,880	15,070	15,070	Low
Other services	16,200	2,460	3,510	3,340	3,340	High
Total	**340,500**	**2,700**	**23,240**	**35,900**	**53,150**	

9.42 The tables below sum the total number of jobs growth forecast in Gloucestershire categorised by the identified risk rating due to COVID. This is shown in the tables below by total jobs in 2020 and forecast jobs growth, and then shows the proportion of jobs in each risk rating.

9.43 The data shows that for current jobs in Gloucestershire only 16% are in the high risk sectors, 32% in moderate risk sectors, and the majority (52%) in low risk sectors. All of the forecasts show the majority of future jobs growth is in the low risk sectors.

9.44 For the CE Baseline forecast there is a large forecast loss of jobs in the moderate risk category making the proportional figures for this forecast less useful for analysis purposes. However, the other three forecasts show jobs in low risk sectors constitute between 63-88% of future jobs growth – substantially higher proportions than medium or high-risk sectors.

Table 55. Jobs by COVID Risk Rating, Gloucestershire

	Total Jobs 2020	Forecast jobs growth 2021-41 (Stroud 2020-40)			
		OE Baseline	OE MidHigh	CE	Growth
High	54,900	1,980	5,310	10,520	10,520
Moderate	108,500	-10,100	-2,640	70	9,270
Low	177,100	10,810	20,560	25,310	33,370

Table 56. Proportion of Forecast Jobs Growth by COVID Risk Rating, Gloucestershire

	Total Jobs 2020	Forecast jobs growth 2021-41 (Stroud 2020-40)			
		OE Baseline	OE MidHigh	CE	Growth
High	16%	73%	23%	29%	20%
Moderate	32%	-374%	-11%	0%	17%
Low	52%	400%	88%	71%	63%

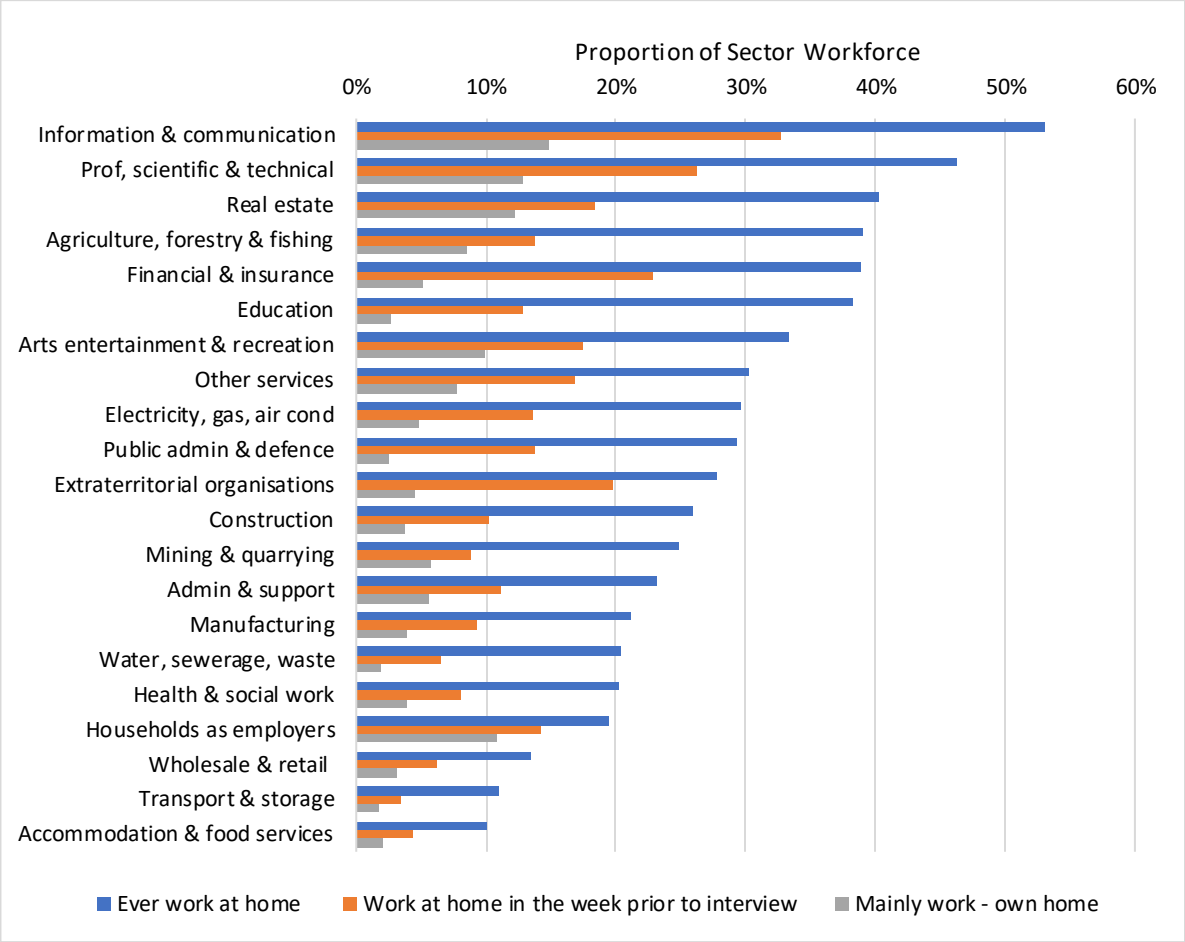
d) Changes to working practices

9.45 It is clear that COVID-19 has necessitated a large shift in the amount of home working. This change in working practices could have a significant impact on the quantum of employment space required to support existing and future jobs growth.

9.46 Figure 76 shows the proportion of home working in different sectors in 2019 and provides a useful baseline position pre-COVID. This shows that pre-COVID working from home was still relatively rare. This shows working from home is most prevalent in the Information and Communications sector, and this sector was the only one where more than half of the workforce (53%) had ever worked from home. Conversely, in the Accommodation and Food Service sector 90% had never worked from home.

9.47 There is a clear distinction between 'ever worked from home' and 'mainly work from home'. Even in the Information and Communications sector where 53% had ever worked from home, only 14.8% said that was their main working location. This was the highest of any sector. For the majority of sectors less than 5% of workers mainly worked from home.

Figure 76. Percentage of UK workforce homeworking by sector, 2019

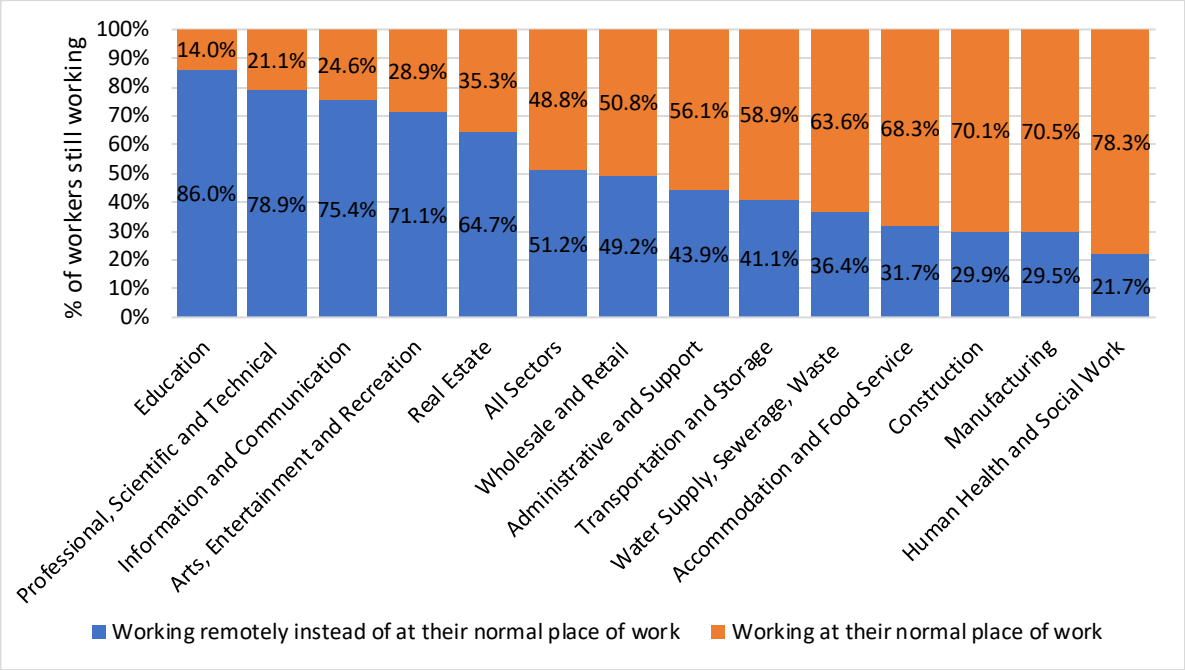


Source: ONS

9.48 The lockdown restrictions due to COVID-19 have affected different sectors to different degrees, depending largely on the nature of work and whether it is possible for normal work tasks to be completed whilst working from home. This has driven many companies to update their operating practices and computer hardware/software in order to facilitate longer-term home working. This has no doubt increased the capacity for homeworking for a number of businesses. The lockdown has also necessitated a change in business culture with regards to home working, for example a greater number of business meetings taking place online rather than face to face.

9.49 The BICS data from ONS provides an indication of how this situation has changed since lockdown restrictions came into place. This shows the level of home working achieved for each sector during lockdown.

Figure 77. Work location of workers by sector, June 2020

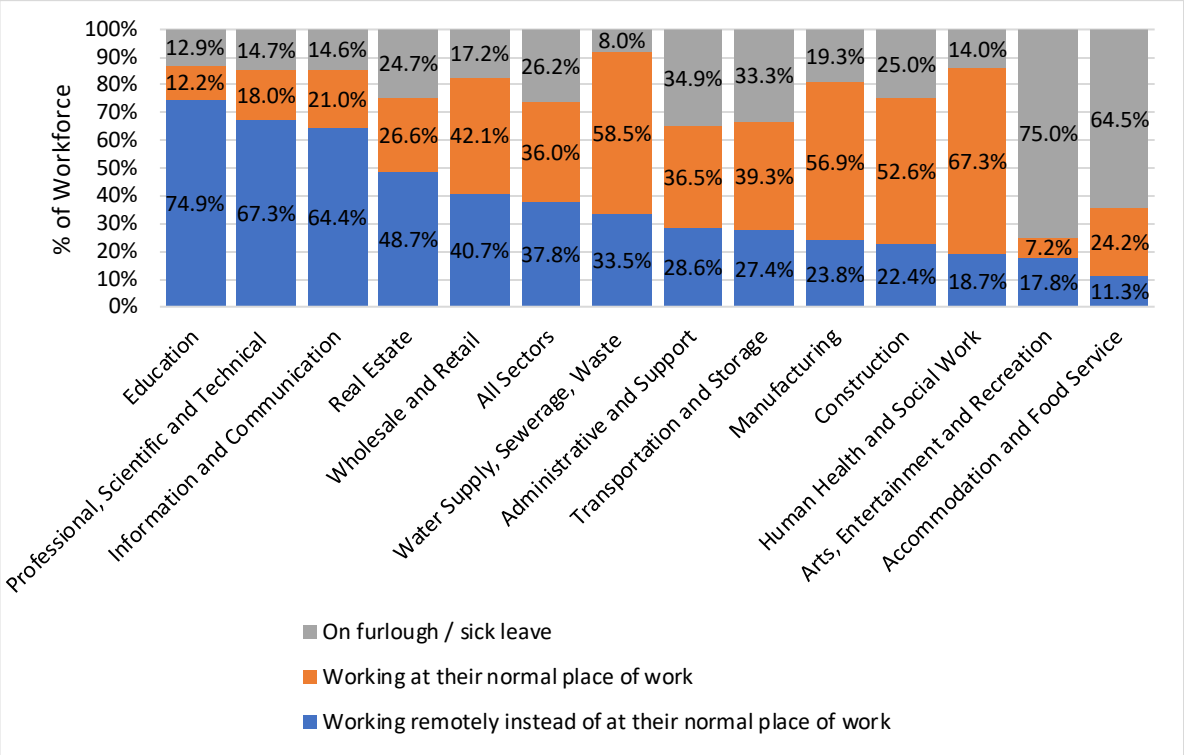


Source: ONS BICS June 2020

9.50 The data in Figure 77 includes data for workers who were still in work and does not include workers who have been placed on furlough or off sick due to COVID-19. In many cases, workers who could not work from home and were not identified as key workers were placed on furlough leave.

9.51 Figure 78 cross references the data in Figure 77 with the data on Employee Status (Figure 74) in order to identify the proportion of all workers – including those on furlough or sick leave – who are working from home.

Figure 78. Work location of workforce by sector, June 2020



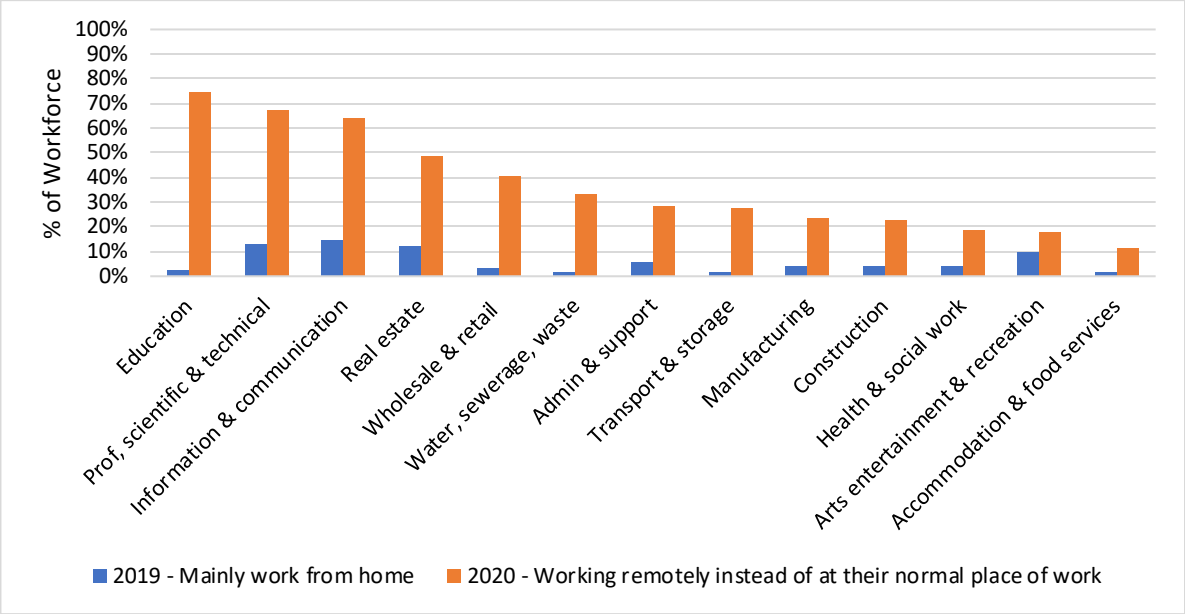
Source: ONS BICS June 2020

9.52 Figure 79 compares the pre- and post-lockdown remote working figures. This shows the increase in home working in each sector. It is clear from the data that sectors with high levels of office-based activities have seen particularly high levels of remote working, and large increases from the rates of home working seen pre-lockdown:

- Professional, Scientific and Technical Services increasing from 12.8% to 67.3%;
- Information and Communications increasing from 14.8% to 64.4%; and
- Real Estate from 12.3% to 48.7%.

9.53 The data provides a reasonable estimate for the capacity for home working in each sector. In this sense it provides a reasonable 'upper bound' of the potential for home working in each sector.

Figure 79. Remote working by sector, 2019 vs June 2020



Source: SPRU analysis of various ONS data

9.54 Whether these are long term changes to working practices remains to be seen. Going forward, as lockdown restrictions are eased, the 'new normal' is unlikely to see a continuation of this level of home working but equally it is unlikely to drop back to pre-COVID levels.

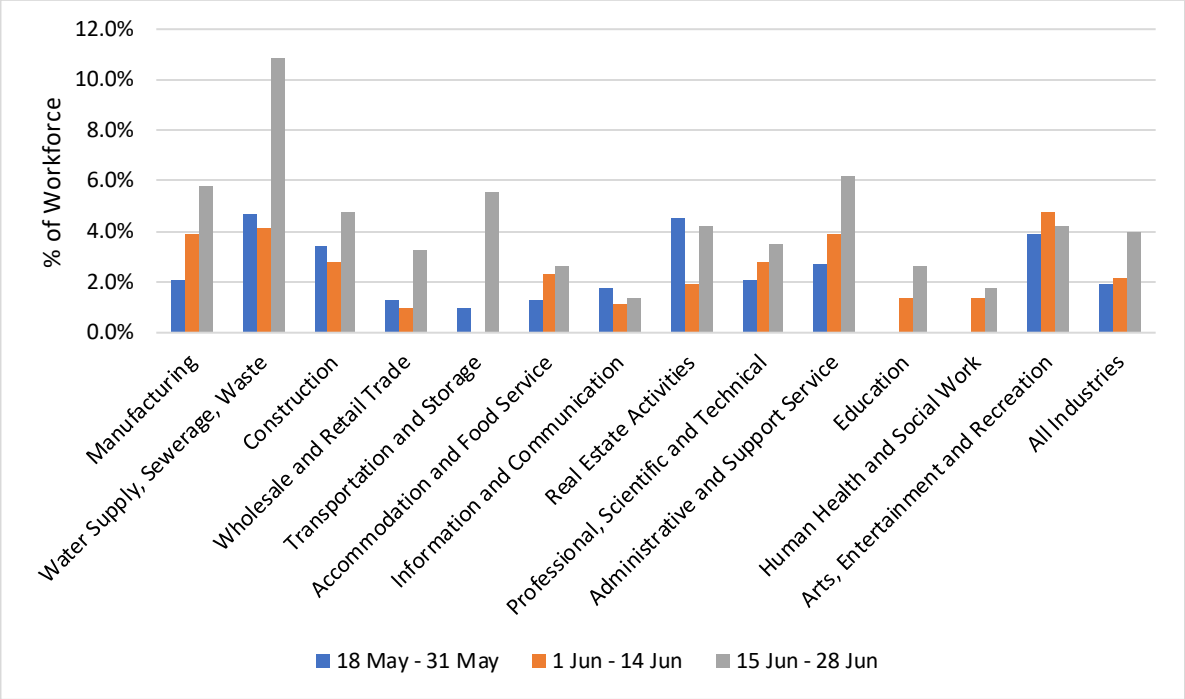
9.55 For some sectors – for example Education, which has seen the highest increase – the levels of remote working have been a requirement due to the closure of education establishments. These are very likely to drop significantly towards pre-COVID levels once these establishments are re-opened, which for the majority of schools for example is likely to be in September. Impacts for these will likely to be relatively short-term.

9.56 However, it is clear that the lockdown has required an unprecedented level of home working which has demonstrated that it is a viable option for many and has removed many of the barriers to home working such as technology and corporate culture. The data suggests this has the potential to impact particularly on office-based sectors where working from home is a more viable alternative. Businesses may see this as an opportunity to downsize their office space requirements in order to reduce costs. It may also mean businesses are more prepared to recruit over a wider area no longer restricted by commuting distance.

9.57 This suggests that the change in home working patterns may present a further downside risk to the office sector, reducing the requirement for office space in future.

9.58 However, the BICS provides limited indication of how remote working trends might change as restrictions are eased and the Government's furlough scheme tapers off. Figure 80 shows the proportion of the workforce returning from remote working back to their normal workplace as lockdown restrictions are lifted. This shows significant and increasing numbers returning to their normal place of work.

Figure 80. Proportion of Staff Moved from Remote Working to the Normal Workplace



Source: ONS BICS May-June 2020

9.59 This data highlights the very high fluctuations in the numbers of people working from home over a short time period, reflecting the rapidly changing lockdown regulations and guidance. This demonstrates it is too early to draw any meaningful longer-term conclusions from this data as work patterns continue to adopt to changing circumstances.

9.60 We would recommend monitoring the emerging data on home working practices as lockdown restrictions continue to ease, the government's support schemes taper off, and businesses return to more usual operations. Currently, the government is promoting a return to normality by the end of 2020 and this is reflected in the emerging OE forecasting.

e) Business Response to COVID

9.61 The GFirst LEP has undertaken detailed sector by sector analysis to inform COVID Recovery Planning. This has engaged with businesses on its seven Business Groups to identify key issues, challenges, and responses to support businesses through COVID-19 and the recovery period afterwards. These issues, which relate to jobs growth and employment / business requirements, are summarised by sector below:

i) Cyber Technology

- There is a growing demand for services to:
  - Support businesses to move online.
  - Ensure the security of tele-conferencing.
  - Enable all levels of education provision to move online.
  - Deal with growing and changing cyber security risks.
  - Allow remote working in a secure and efficient manner.
- There is a skills gap for apprenticeship schemes.

- The Cyber Central services and offering is likely to be more in demand as the number of Cyber Tech start-ups increase in response to market need and redundant workers reskilling. The demand may occur before Cluster 1 & 2 is due to be operational in Q4 2023. The already functioning C11 Gloucestershire Science and Technology Park, Berkeley can operate as a facility for early adopters.
- Wider Digital Business Transformation is becoming a priority for businesses as they consider different operating models.
- The requirement to ensure the County has a digital infrastructure available to all individuals and businesses that supports home working and business growth. Broadband services over 30Mbps are still limited, especially in the more rural areas of the County.

ii) Construction and Infrastructure

- Establish a coordinated approach to new Growth Points, Garden Cities.
- The desire to build still exists, for example Gloucester Business park, Quayside regeneration & Innsworth Park District Centre. There are potential locations for more home building.
- "Work from Anywhere" means that Gloucestershire has the potential to be a real draw for a County looking to be "the most flexible place to work in the UK" and increase its number of professional and technical higher salary workers.
- Not all sectors can switch to homeworking and their need for good physical infrastructure and affordable housing stock is also essential to the restart.
- The Local Transport Plan should be reviewed to reflect the opportunities presented by the last few months. Virtual meetings will mean less travel, an increase in productivity and have significant cost savings to businesses.
- People have become increasingly unwilling to use public transport in the COVID era.
- Actively support the Construction & Infrastructure sub-group "Reduction of Barriers to Sustainable Development" to enable construction to operate effectively and bring new developments to fruition in reduced timeframes.
- Local authorities are taking immediate action to ease planning and trading restrictions to open the public realm, increase green spaces and assist High Street recovery.
- Programme to establish an approach to Digital Connectivity (reducing the need for travel). A more digitally enabled County will bring benefits to construction and infrastructure through the ability to enable Smart Buildings to improve energy efficiency.
- Initial construction site closures are now lifted but operating with physical distancing is slower and more costly. Construction supply stocks are now coming back but were also adversely affected during site closures.
- Changing use of commercial/office sites as physical distancing increases the need for more office space. However, this will be countered by flexible working becoming an assumption, not just a benefit, therefore less office space is likely to be required. Office spaces may need to transition to sites that can support blended working (a balance of home/office/co-working).

iii) Energy

- Potential employment growth sector as the level of climate threat to the County is unchanged by COVID and homes and businesses must become resilient.
- Flexible working patterns and alternative transportation methods such as electric vehicles (EV) and cycling have the potential to reduce emissions.

- Gloucestershire has innovative companies, technical solutions and ambition but not always joined up thinking. In a post pandemic situation that collaboration needs to happen.
- Energy efficient buildings – achieving EPC target has the potential for job creation through skills training and associated grants and central government support for retrofit that supports local companies and GVA. Digital technology and connectivity can also contribute to this with more smart buildings contributing to greater energy efficiency.

iv) Agri, Food and Rural

- The developing Gloucestershire Food Strategy now has an increased relevance, especially:
  - Dynamic procurement system (DPS) to support businesses is at trial stage.
  - 'The Hive', for advanced agri-tech innovation aims to create more high value jobs and attract investment to the County.
  - Financial lever (locally) for farmers and growers to transition to a more sustainable way of farming.
- Whilst the food supply chain - agriculture, horticulture, food processing and retail – has continued to function in the period of lockdown, there were immediate and severe COVID lockdown impacts on dairy and those supplying to hospitality, catering and events industries.
- Other farm production was quickly impacted by collapse in demand/price.
- The food production impact had knock-on effects to farm supplies companies, food processing and distribution businesses.
- Retail food demand increased significantly during lockdown and localised food markets flourished.
- Negative impact of COVID is just one layer on top of a plethora of existing agricultural issues.
- 65% of farming enterprises have already diversified in one way or another. Struggling farmers who have diversified into tourism are now being double hit.
- Rural areas have an in-built advantage: space – making social distancing measures easier.
- Not all farmers can or should diversify away from food production.
- Gloucestershire's established Agri-Tech focus is an excellent grounding for the recovery period. Focus on innovation facilities and associated digital companies is essential.

v) Advanced Manufacturing and Engineering

- Gloucestershire reflects UK-wide impact on the sector:
  - 9 out of 10 manufacturers have continued to operate during the crisis.
  - 1 in 4 manufacturers plan to make redundancies in the next 6 months.
  - 70% have seen a decrease in orders & sales.
  - 1 in 5 firms are operating between 25%-50% of full capacity.
- In the short-term many will continue operations to fulfil existing contracts, remove backlogs and deal with pent up short-term demand post lockdown.
- Severe impact longer term will be felt after existing contracts end and companies make early decision to consult on staff redundancies. No furloughing, straight to redundancy consultation process.
- Companies with close linked supply chains and niche products have felt the most impact.

Those with a diverse product range by type/or potential use have been able to pivot or find new markets in growth areas such as PPE and health care. This range of diversity and sharing Gloucestershire's AEM skills to fulfil potential contracts may be a way forward.

- A consortium of major UK industrial, technology and engineering businesses came together to support health care needs and these forms of collaboration may be a way forward.
- The pandemic accelerates many of the digital technology developments already being considered. The potential for diversification will bring greater resilience and potentially GVA to the County by developing products for not yet fully developed or unrecognised markets such as increased demand/acceptance for robotics, automation of services and health care delivery, and autonomous vehicles.
- In the long term the availability of engineering and manufacturing contracts will be impacted by recovery of global economy, country decisions on shortening supply chains and their views on protectionism.
- Civil aviation has reduced to minimal levels and is not predicted to return to 80% of pre-COVID levels until at least Summer 2022. Therefore, 40% reduction in civil aeroplane jet output for at least two years, and 75% drop in revenue by servicing companies are predicted. This leads to 25% worldwide redundancies being openly reported by aerospace companies including those based in Gloucestershire.

vi) Retail and High Street

- Immediate and severe impact with all but essential stores being closed.
- Businesses are pivoting to online success, and restaurants/pubs providing takeaway options.
- High percentages of people report feeling unsafe on High Streets.
- 15th June reopening was feared (unmanaged crowds) and welcomed (expecting lower footfall but bigger basket sizes). On the day, a limited number of stores did face long queues whilst others saw extremely limited footfall. In major cities, large stores did have queues but there appears to have been limited footfall in the more niche shopping areas.
- Alternative retailing processes on High Street are likely to emerge e.g. external vending machines for food, PPE, physical goods/products.
- In Gloucestershire there is optimism over the rise of Localism during the lockdown. This presents an opportunity for retailers in market towns and smaller cities in Gloucestershire beyond just food and beverages.
- The night-time economy (post 9pm) will be one of the last sub-sectors to return. September 2020 seems to be the earliest date for reopening the night-time economy.

vii) Tourism and Hospitality

- The COVID lockdown created an immediate and severe impact. All tourism businesses shut.
- Vast majority of staff are furloughed, masking redundancies that will happen as businesses decide/accept they cannot reopen as we move towards a reopening of the sector. These redundancies will hit 18-24 year olds hardest, particularly in Arts and Culture, Tourism, Hospitality and Retail where they are over represented.
- Gloucestershire as a predominately rural County of market towns and small cities may be an ideal location for UK Staycation 2020. This is a glimmer of hope in what is likely to represent "Three Winters of Trading" due to the seasonal nature of businesses in this sector.

- Arts and Culture events and offerings will be severally limited in 2020, and the vast majority have already been cancelled for Summer/Autumn 2020. Arts and Culture events are likely to return as small compact events with low key messaging.
- Managing logistics of operating within a safe physical distance is a concern for all sectors but even more so in Tourism. Physical distancing at 2 metres leads to between 10-20% capacity and 1 metre around 60%. It is likely that limited customer capacity and reduced margins against similar costs will lead to closures of previously successful businesses.
- With physical distancing available accommodation is likely to be only 30-40% of normal capacity. Outdoor based accommodation: camping, caravanning, rural holiday lets etc may be able to offer more usual levels of availability but will be limited by the need to provide shared services e.g. toilets, showers etc.
- Cash flow for small businesses is strained and they have no easy access to finance.
- The Arts and Culture sub sector is struggling to find a way through this crisis due to venue physical distancing, restricted funding & customer reluctance. Across the creative industries in the UK 73% predict a fall in annual turnover of more than 50% in 2020.

f) LEP Response to COVID

9.62 In July 2020 GFirst LEP published its COVID response plan which sets out interventions to enable Gloucestershire to reimagine and restart its economy. This provides a range of interventions to sit alongside existing growth programmes and widescale infrastructure commitments the Local Industrial Strategy. The aim is to ensure Gloucestershire's businesses, people, and places are future-proofed and resilient to survive and proposer post-COVID. The wide-ranging interventions are summarised below:

- Target business support at COVID recovery growth sectors utilising the Gloucestershire Growth Hub network
- Support the expected growth in Start Up businesses likely to follow periods of high unemployment
- Promote Gloucestershire as a Work From Anywhere location to attract workers and younger people. Promote a "blended working", a mixture of working from home combined with time at a co-working site
- Changing the focus of inward investment to support the county's existing foreign-owned companies to safeguard jobs, as well as attracting new and additional business investment from UK based foreign-owned companies.
- Apprenticeship programmes, degree apprenticeships, and job creation schemes to help the 18–24 year old age group.
- Adult education to promote reskilling.
- Higher Education Marketing Group to promote education opportunities.
- Engineering and Manufacturing Capability Index to match redundancies to vacancies.
- Promote Health & Wellbeing, access training and employment opportunities.
- Gloucester City of Culture 2025 bid.
- "Shop Local" programmes and High Street regeneration schemes.
- Staycation 2020 & 2021 promoting leisure and tourism relating to outdoor lifestyle, food, localism, culture and hospitality.
- Gloucestershire food supply chain dynamic procurement system.
- Digital business transformation to promote remote working
- Innovation mentoring programme to support businesses seeking to transform their

business services.

- Promote Gloucestershire's strengths in cyber technology and agri-tech.
- Accelerate Broadband delivery and other infrastructure commitments, and house building, and green energy and green infrastructure programmes.

g) Summary

9.63 This section considered the potential impacts COVID-19 might have on Gloucestershire's economic prospects and working patterns. It identifies the sectors which are considered most at risk and considers the impact this might have on Gloucestershire's overall economic growth.

9.64 COVID-19 is likely to have a significant negative impact on all sectors of the UK's economy, and there are indications where this can be expected to have greater impact in Gloucestershire:

- Prominence of the Accommodation and Food Services sector – particularly in Cotswold and Cheltenham.
- Prominence of the Manufacturing sector – particularly in Tewkesbury, Stroud, and Forest of Dean.
- High levels of self-employment – in all areas except Gloucester.
- High levels of small businesses – particularly in Forest of Dean.
- Prominence of sectors which have low capability to work from home, including Manufacturing and Accommodation and Food Service, but also Construction and Utilities – which will particularly impact on Gloucester and Stroud.
- A higher proportion of elderly population – particularly in Cotswold and Forest of Dean.

9.65 Overall, for Gloucestershire the sectors at highest risk due to COVID-19 are Accommodation and Food Services; Arts, Entertainment and Recreation; and Transport and Storage. These sectors account for 16% of Gloucestershire's existing jobs and 20-23% of forecasts jobs. Manufacturing; Construction; and Wholesale and Retail trade are considered moderate risk, accounting for 32% of current jobs and 0-17% of forecast jobs in Gloucestershire. All other sectors are considered lower risk and in Gloucestershire these account for 52% of current jobs and 63-88% of forecast jobs.

9.66 The economic downturn is the result of a planned partial shutdown of the economy rather than due to imbalances in the private sector or public sector policy mistakes, which are more usual causes for entering a recession. This means there is optimism among the emerging forecasts that the impacts will be short and sharp with a very steep drop in employment followed by a relatively swift return to steady growth.

9.67 However, forecasting future economic performance remains highly uncertain, due to the unprecedented nature of the lockdown in modern times, and is subject to a wide range of factors, including the risks of a second wave, government policy responses, long-term changes to market confidence and consumer behaviour, and the impact on post-Brexit negotiations.

9.68 Similarly, lockdown restrictions have necessitated changing working practices which has shown most predominantly office-based sectors have a much higher capacity to support home working. However, further post-lockdown data will be required before making long-term assumptions regarding future working practices.

9.69 At this stage the risk factors remain highly uncertain. The forecasting houses are working at updating their forecasting models, but these rely on assumptions on the above factors which are rapidly changing week by week.

10.0 LABOUR DEMAND SCENARIOS

10.1 This section considers the level of employment land needed to support the level of employment growth shown in each of the econometric forecasts. This is one of the approaches to assessing future need – the 'labour demand' approach – as set out in PPG. The labour demand approaches should be considered alongside other approaches and economic and contextual data set out in the other chapters of this report.

10.2 The starting point for the labour demand scenarios is the econometric forecasts. These are set out in more detail in Section 7. Three forecasts are considered:

- Cambridge Econometrics (CE)
- Oxford Economics (OE) Baseline
- OE MidHigh

10.3 These forecasts have been assessed at a more detailed level to identify the extent to which they reflect local circumstances and economic drivers in Gloucestershire which have been identified as part of the commercial market assessment and through stakeholder consultation with the LEP and local businesses and commercial agents (set out in section 6).

10.4 The employment outputs of each forecast are set out below. Note, the figures in these tables may not sum exactly due to rounding.

Table 57. OE Baseline – Total Employment Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture, forestry and fishing	-10	-320	-280	0	-90	-90	-790
Mining and quarrying	0	-110	-20	0	0	0	-140
Manufacturing	-1,310	-920	-1,390	-1,300	-2,760	-2,800	-10,480
Electricity, gas, steam	0	-50	-10	-400	0	0	-460
Water supply, sewerage, waste	-60	-40	-30	-10	-100	-100	-340
Construction	390	460	170	800	610	550	2,980
Wholesale and retail trade	-480	-200	-320	-150	-220	-260	-1,630
Transportation and storage	-30	0	-50	40	30	0	-10
Accommodation and food service	-160	70	-60	-10	70	20	-70
Information and communication	-220	-90	-40	-120	-50	-90	-610
Financial and insurance	-210	-40	-10	-90	10	10	-330
Real estate	130	180	10	160	20	20	520
Professional, scientific and technical	1,460	1,110	330	1,070	1,000	930	5,910
Administrative and support service	1,210	750	250	1,410	840	810	5,260
Public administration and defence	-110	-80	-90	-340	-170	-170	-970
Education	-640	-80	-100	30	-10	-20	-820
Human health and social work	460	400	270	2,350	860	850	5,180
Arts, entertainment and recreation	270	410	170	350	160	160	1,530
Other service activities	130	130	30	200	70	60	600
Total	**820**	**1,590**	**-1,190**	**3,990**	**270**	**-130**	**5,340**

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Table 58. OE MidHigh – Total Employment Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture, forestry and fishing	0	-170	-160	0	-40	-50	-420
Mining and quarrying	0	-70	-10	0	0	0	-80
Manufacturing	-900	-600	-910	-870	-1,720	-1,740	-6,750
Electricity, gas, steam	0	-40	0	-320	0	0	-360
Water supply, sewerage, waste	-50	-30	-20	-10	-90	-90	-300
Construction	480	560	240	840	790	740	3,660
Wholesale and retail trade	200	270	-140	480	160	120	1,080
Transportation and storage	40	70	40	180	200	170	690
Accommodation and food service	250	460	50	200	270	220	1,450
Information and communication	390	190	70	210	190	150	1,210
Financial and insurance	-120	20	0	20	80	80	70
Real estate	220	290	50	210	70	60	900
Professional, scientific and technical	2,540	1,870	650	1,570	1,830	1,770	10,220
Administrative and support service	1,530	940	350	1,610	1,070	1,050	6,540
Public administration and defence	-100	-70	-80	-280	-150	-160	-840
Education	-530	-20	-50	120	30	20	-420
Human health and social work	560	440	310	2,510	910	910	5,640
Arts, entertainment and recreation	380	560	230	440	220	220	2,050
Other service activities	230	200	70	270	120	110	1,000
Total	**5,110**	**4,860**	**680**	**7,190**	**3,930**	**3,570**	**25,340**

Table 59. CE – Total Employment Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture etc	-20	-20	-20	-10	-30	-10	-90
Mining & quarrying	0	-60	-30	0	-10	0	-100
Manufacturing	-770	-400	-770	-460	-2,080	-940	-5,420
Electricity, gas & water	60	30	20	10	120	100	340
Construction	630	830	300	290	1,490	1,280	4,820
Distribution	200	50	130	260	40	-20	670
Transport & storage	40	60	20	40	120	200	480
Accommodation & food services	1,070	1,850	330	460	2,170	810	6,700
Information & communications	450	350	60	110	290	240	1,500

Financial & business services	2,080	1,340	450	1,000	1,960	1,770	8,590
Government services	4,330	1,670	1,610	3,720	1,440	2,300	15,070
Other services	420	860	260	420	770	610	3,340
Total	**8,500**	**6,550**	**2,380**	**5,840**	**6,290**	**6,340**	**35,900**

10.5 Section 7 sets out more detailed analysis of the forecasts at a sectoral and sub-sectoral basis to consider the extent to which the forecasts reflect the LEP's Local Industrial Strategy (LIS) is implicitly included in the data and the extent to which the LIS is reflected in the future level of employment growth shown in each forecast. This analysis highlighted that there are several sectors where the recent, current, and expected future performance is not reflected in some or all of the forecasts. As such, for these sectors the forecasts do not appear to capture local drivers of growth.

10.6 Two Labour Demand Growth Forecasts have been developed which seek to reflect the local drivers of growth in the Gloucestershire economy. This reflects the LEP's growth plans as set out in the Local Industrial Strategy and a range of feedback received from the stakeholder engagement.

10.7 The Growth Forecast makes adjustments to the following sectors. For these sectors, the Growth Forecast is based on the trend of jobs growth in that sector seen in each local authority over the past 10-year period:

- An increase in manufacturing jobs to account for growth in advanced manufacturing sectors. This impacts on all areas largely cancelling the largescale losses seen in the CE forecast. This has most significant impacts for Stroud and Tewkesbury as these two authorities have the largest manufacturing bases in the county.
- An increase in job growth in the Electricity, gas and water. This has most significant impacts for Gloucester and Tewkesbury, reflecting strong recent sectoral growth focussed in these authorities.
- An increase in job growth in the Information and communications sector. This has a positive impact for all authorities and increases the total Gloucestershire-wide jobs growth for the sector to 6,880. This broadly correlates with the plans for the Cheltenham Cyber Technology Park that will deliver up to 7,500 high value jobs in the sector. This would support the increased job growth in the sector shown in the Growth Forecast, however it would mean that the uplift in new jobs created in the sector (5,380) would all be met in Cheltenham Borough. An alternative Growth Forecast has therefore been developed where the additional jobs in this sector is met in Cheltenham. In this alternative forecast the other local authorities see sectoral growth in-line with the CE forecast.

10.8 The tables on the following page set out the growth in total employment showed in the Growth Forecasts. This is based on the CE forecast but with adjustments made to key sectors.

10.9 The CE forecast was used as the basis for this because it shows a level of jobs growth for Gloucestershire which is higher and closer to the past growth rates than either of the OE scenarios. Further analysis of the forecasts has shown the OE forecasts are considerably constrained in terms of labour supply inputs, whereas the CE forecast does not take these into account. For these reasons, the CE forecast is considered a more appropriate basis for developing the Growth Forecast. Note, figures may not sum exactly due to rounding.

Table 60. Growth Forecast 1 – Total Employment Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture etc	-20	-20	-20	-10	-30	-10	-90
Mining & quarrying	0	-60	-30	0	-10	0	-100
Manufacturing	-30	0	160	-340	420	3,570	3,780
Electricity, gas & water	170	390	110	560	1,780	20	3,020
Construction	630	830	300	290	1,490	1,280	4,820
Distribution	200	50	130	260	40	-20	670
Transport & storage	40	60	20	40	120	200	480
Accommodation & food services	1,070	1,850	330	460	2,170	810	6,700
Information & communications	1,630	1,480	220	1,570	1,030	940	6,880
Financial & business services	2,080	1,340	450	1,000	1,960	1,770	8,590
Government services	4,330	1,670	1,610	3,720	1,440	2,300	15,070
Other services	420	860	260	420	770	610	3,340
Total	**14,720**	**7,310**	**3,390**	**6,500**	**10,440**	**10,770**	**53,150**

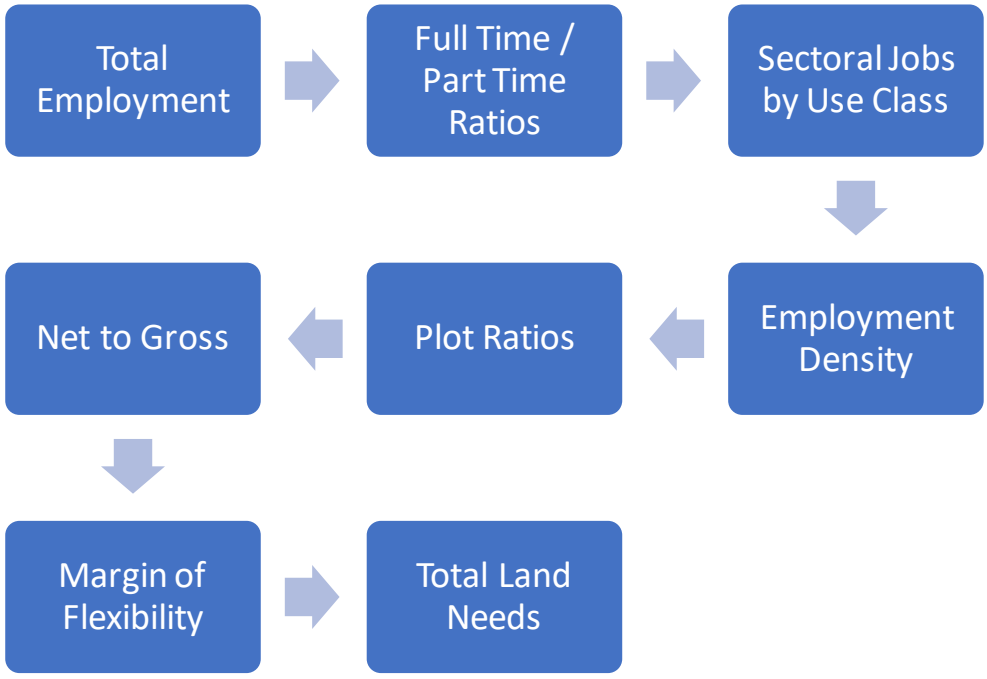
Table 61. Growth Forecast 2, Cyber Technology Park in Cheltenham – Total Employment Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture etc	-20	-20	-20	-10	-30	-10	-90
Mining & quarrying	0	-60	-30	0	-10	0	-100
Manufacturing	-30	0	160	-340	420	3,570	3,780
Electricity, gas & water	170	390	110	560	1,780	20	3,020
Construction	630	830	300	290	1,490	1,280	4,820
Distribution	200	50	130	260	40	-20	670
Transport & storage	40	60	20	40	120	200	480
Accommodation & food services	1,070	1,850	330	460	2,170	810	6,700
Information & communications	5,840	350	60	110	290	240	6,880
Financial & business services	2,080	1,340	450	1,000	1,960	1,770	8,590
Government services	4,330	1,670	1,610	3,720	1,440	2,300	15,070
Other services	420	860	260	420	770	610	3,340
Total	**14,720**	**7,310**	**3,390**	**6,500**	**10,440**	**10,770**	**53,150**

a) Labour Demand Modelling

10.10 The approach to modelling the labour demand scenarios is set out in the flow chart below. The starting point for each scenario is the total net growth in employment in each sector shown in each forecast. Other than these differing inputs the modelling assumptions made are consistent for each scenario.

Figure 81. Approach to Employment Land Needs Modelling



10.11 The modelling assumptions for each stage of the process are set out in the table below.

Table 62. Labour Demand Modelling Assumptions

#	Stage	Description
1	Full Time Equivalent Jobs	Full time equivalent (FTE) jobs has been calculated for each sector for each authority. This is based on full-time and part-time employment data from BRES. An average was taken for the years 2015-18.
2	Sectoral Jobs by Use Class	The proportion of jobs in each sector is divided by the type of employment (B Class) use class and non-employment use classes. The use classes are: • B1a – office • B1b – Research and development office • B1c – Light Industrial • B2 – General Industrial • B8 – Distribution • Other (any jobs not requiring B Class space) The use class proportions for each sector are based on detailed (SIC4 sub-sectors) BRES data for each sector. Each SIC4 sub-sector has been allocated a use class, and this is used to calculate

		the proportional jobs in each sector by use class, where the proportions of each sector reflect the proportions of jobs in each SIC4 sub-sector.

3	Employment Density	This reflects the quantum of floorspace required for each job. This is informed by the Employment Density Guide 3rd Edition (HCA, 2015). The following employment densities are used:
		• B1a office:
		  ○ Corporate: 13 sqm/job
		  ○ Technology / Media / Telecoms: 11 sqm/job
		  ○ Professional services: 12 sqm/job
		  ○ Public services: 12sqm/job
		• B1b Research and Development: 50 sqm/job
		• B1c Light Industrial: 47 sqm/job
		• B2 general industrial: 36 sqm/job
		• B8 distribution: 77 sqm/job
		These employment densities reflect fairly average densities for each use class as there was no evidence arising from the commercial market assessment to suggest any alternative assumptions. The B8 employment density assumption is based on figures for regional distribution centres.
		The employment densities have then been adjusted in line with benchmarks in the guidance so that they all relate to gross external area (GEA). The employment densities for B1 are quoted as net internal area (NIA) and have been converted to GEA based on a conversion of 20% for B1a office and 10% for B1b and B1c. The employment densities for B2 are quoted for gross internal area (GIA) and have been converted to GEA based on a conversion of 5%. The employment densities for B8 are quoted as GEA.

4	Plot Ratios	The next stage is to convert floorspace requirements to land requirements. A plot ratio of 40% has been assumed for all use classes. This is based on the assumption that the majority of the new office space will be delivered at either out of town locations or otherwise lower density urban sites. It assumes an average plot ratio for industrial uses, and for distribution uses representing a relative lack of very large national scale distribution centres.
5	Net to Gross	The econometric forecasts all provide jobs growth on a net basis – i.e. they include for sectors which will see growth and sectors which will see decline. This means figures up to this point are net. The next stage is to convert this to gross development needs. This is done by accounting for the quantum of losses of existing stock which will be expected to be lost over the forecasting period. This is estimated based on past trends of employment land lost to other uses in each authority since 2011/12 annualised and then forecast forward over the 20-year forecasting period.

6	Margin of Flexibility	For the final stage we have added a margin of flexibility. This reflects the following factors: • To allow greater flexibility to support changing business needs; • To provide a choice of sites to facilitate competition in the property market; • To provide flexibility to allow for any delays in individual sites coming forward; • The potential error margin associated with the forecasting process. • The quantum of flexibility margin by typology for each authority is set out in Table 69.
7	Total Land Needs	Outputs are provided in terms of hectares required for each type of employment use. The use classes have been combined in terms of B1a/b office, B1c/B2 industrial, and B8 distribution. This is in order to provide an indication of demand for each type of use. However, it is recommended that authorities are flexible with regard to allocating land for these different types of employment use.

10.12 The starting point for the labour demand modelling is the jobs growth forecasts. The scenarios based on the OE forecasts take the same approach and use the same modelling assumptions. The CE and OE forecasts provide slightly different sectoral breakdowns. Therefore, the model has been calibrated, where necessary, to support both forecasts by dividing sectors on a proportional basis, thereby ensuring consistency between scenarios.

10.13 A worked example of this process is set out below for the scenario based on the CE forecast for Gloucestershire. Note, figures in the following tables may not sum exactly due to rounding:

1. Full Time Equivalent (FTE) jobs – The first stage is to calculate the FTE jobs. This is calculated individually for each sector for each authority. The FTE jobs are shown in Table 63.

Table 63. CE – FTE Jobs Growth 2021-41 (2020-40 for Stroud)

	Cheltenham	Cotswold	Forest of Dean	Gloucester	Stroud	Tewkesbury	Total
Agriculture etc	-15	-17	-14	-7	-25	-8	-87
Mining & quarrying	-2	-61	-30	-	-6	-1	-100
Manufacturing	-747	-374	-736	-443	-2,003	-917	-5,220
Electricity, gas & water	62	24	21	15	113	94	328
Construction	585	775	287	276	1,402	1,214	4,539
Distribution	153	43	105	203	36	-17	523
Transport & storage	38	52	18	39	107	189	444
Accommodation & food services	783	1,390	237	327	1,544	574	4,856
Information & communications	414	326	59	99	261	223	1,382
Financial & business services	1,798	1,181	383	864	1,704	1,605	7,534
Government services	3,370	1,243	1,182	2,872	1,079	1,806	11,551
Other services	329	633	192	324	586	468	2,531
Total	**6,768**	**5,214**	**1,704**	**4,569**	**4,798**	**5,229**	**28,282**

2. Sectoral Jobs by Use Class – This estimates the number of jobs which will require each type of B Class premises and other (non-B Class) space. This is based on estimates of the current breakdown of jobs for each sector using detailed analysis of BRES data. The jobs growth for each type of employment uses is shown in the table below:

Table 64. CE – Jobs Growth by Use Class 2021-41 (2020-40 for Stroud)

	B1a/b	B1c	B2	B8	Other
Agriculture etc	-	-	-	-	-87
Mining & quarrying	-	-	-	-	-100
Manufacturing	-	-1,566	-3,654	-	-
Electricity, gas & water	33	-	33	-	263
Construction	-	-	1,135	1,135	2,270
Distribution	-	-	65	183	275
Transport & storage	-	-	-	355	89
Accommodation & food services	-	-	-	-	4,856
Information & communications	1,382	-	-	-	-
Financial & business services	4,897	753	-	-	1,883
Government services	578	-	-	-	10,974
Other services	127	253	-	-	2,152
Total	**7,016**	**-559**	**-2,421**	**1,673**	**22,574**

3. Employment Density – applying the average employment densities results in the floorspace requirement for each type of B Class use. The floorspace (sqm) is shown in the table below:

Table 65. CE – Floorspace (sqm) by Use Class 2021-41 (2020-40 for Stroud)

	B1a/b	B1c	B2	B8	Total
Agriculture etc	-	-	-	-	-
Mining & quarrying	-	-	-	-	-
Manufacturing	-	-80,961	-138,120	-	-219,081
Electricity, gas & water	512	-	1,241	-	1,753
Construction	-	-	42,895	87,379	130,274
Distribution	-	-	2,473	14,104	16,577
Transport & storage	-	-	-	27,322	27,322
Accommodation & food services	-	-	-	-	-
Information & communications	18,240	-	-	-	18,240
Financial & business services	70,515	38,949	-	-	109,464
Government services	8,317	-	-	-	8,317
Other services	1,823	13,088	-	-	14,910
Total	**99,407**	**-28,925**	**-91,511**	**128,805**	**107,776**

4. Plot Ratios – the plot ratios allow an estimation of the land required to accommodate the identified quantum of floorspace identified above. This is the net employment land required to support the level of additional jobs growth shown in the econometric forecasts.

b) Net Employment Land Needs

10.14 The first four stages of the modelling provide outputs in terms of net employment land needs – the quantum of land required purely to meet the jobs growth shown in the econometric forecasts. The outputs for each forecast and authority are shown in the tables on the following pages.

10.15 The OE Baseline scenario shows a net loss of employment land for all authorities driven by significant net losses in manufacturing jobs. Note, figures in the following tables may not sum exactly due to rounding.

Table 66. OE Baseline – Net Employment Land Needs (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	3.8	-10.0	-1.1	-7.3
Cotswold	3.6	-6.2	1.0	-1.5
Forest of Dean	0.8	-13.4	-1.7	-14.3
Gloucester	2.7	-8.5	3.4	-2.4
Stroud	1.3	-30.2	-1.7	-30.6
Tewkesbury	2.6	-25.9	1.0	-22.2
Gloucestershire	**14.8**	**-94.1**	**1.0**	**-78.4**

10.16 The OE MidHigh scenario shows a lower level of net loss for industrial floorspace and slightly more positive growth for B1 and B8 needs. However, the overall needs are relatively modest compared to the past trends.

Table 67. OE MidHigh – Net Employment Land Needs (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	9.5	-3.3	3.7	9.9
Cotswold	7.3	-1.2	5.0	11.1
Forest of Dean	2.2	-7.8	0.9	-4.7
Gloucester	5.9	-2.6	8.9	12.1
Stroud	4.4	-15.9	3.7	-7.9
Tewkesbury	6.3	-12.9	6.5	-0.2
Gloucestershire	**35.6**	**-43.8**	**28.6**	**20.5**

10.17 The CE scenario shows a slightly more positive view for industrial land requirements but still shows a net loss of 30ha. Conversely, it forecasts a slightly lower requirement for office uses. However, as with both of the OE forecasts the net demand in the CE forecast is relatively modest, compared to past trends.

Table 68. CE – Net Employment Land Needs (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	6.3	-3.5	4.4	7.2
Cotswold	4.2	0.3	4.8	9.3
Forest of Dean	1.3	-6.2	2.4	-2.5
Gloucester	2.9	-2.2	3.3	4.0
Stroud	5.2	-14.6	8.6	-0.8
Tewkesbury	4.9	-4.0	8.6	9.6
Gloucestershire	**24.9**	**-30.1**	**32.2**	**26.9**

10.18 The Growth scenarios both show considerably higher levels of growth than the OE or CE scenarios, principally due to the forecasts growth in manufacturing jobs instead of net losses seen in the OE and CE forecasts.

Table 69. Growth Scenario 1 – Net Employment Land Needs (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	12.9	4.1	4.4	21.4
Cotswold	8.9	4.6	4.8	18.3
Forest of Dean	2.9	3.2	2.4	8.5
Gloucester	10.2	-0.5	3.3	13.0
Stroud	9.0	12.2	8.6	29.9
Tewkesbury	8.7	42.0	8.6	59.4
Gloucestershire	**52.5**	**65.7**	**32.2**	**150.3**

Table 70. Growth Scenario 2 – Net Employment Land Needs (ha), 2021-41 (2020-40 for Stroud)

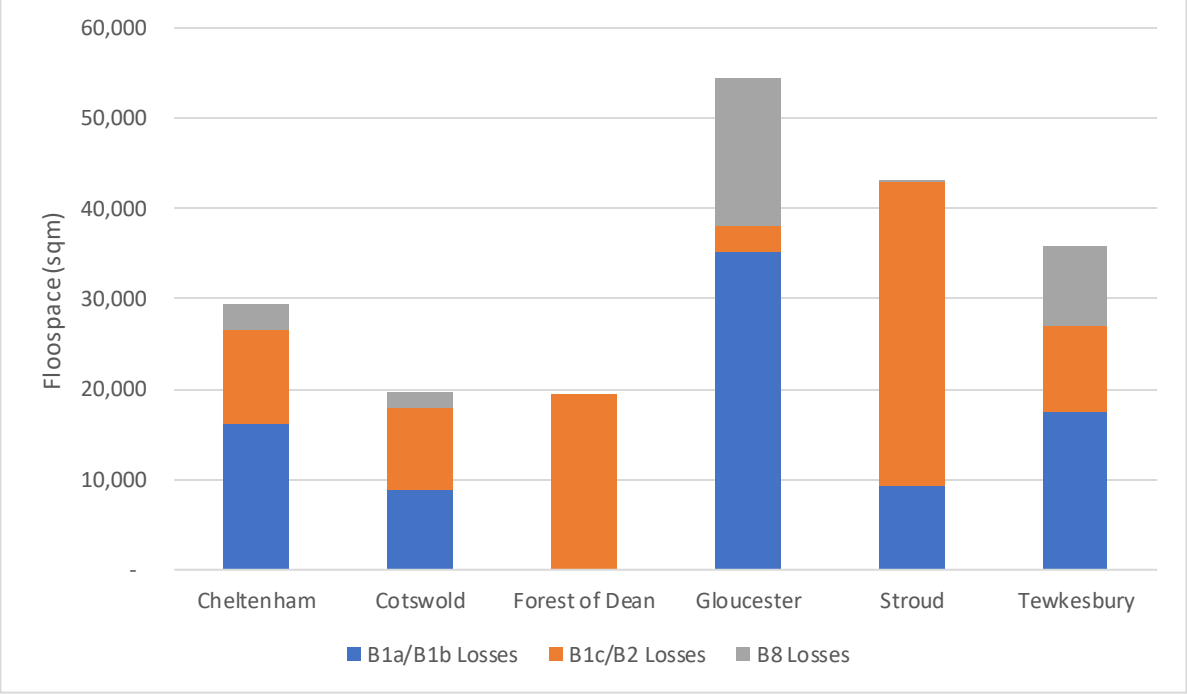
	B1a/b	B1c/B2	B8	Total
Cheltenham	25.5	4.1	4.4	34.1
Cotswold	5.4	4.6	4.8	14.9
Forest of Dean	2.4	3.2	2.4	8.0
Gloucester	5.7	-0.5	3.3	8.5
Stroud	6.8	12.2	8.6	27.6
Tewkesbury	6.5	42.0	8.6	57.2
Gloucestershire	**52.5**	**65.7**	**32.2**	**150.3**

c) Net to Gross Needs

10.19 The figures in the tables on the previous pages show the net need for employment land to support the levels of jobs growth in the forecasts. In addition to this, there will also be an employment land requirement arising from the need to update and replace existing stock. This is calculated by looking at the trend of losses of B Class employment land to alternative (non-B Class) uses and using this to forecast future expected losses.

10.20 The figure below shows the net losses of employment land in each local authority since 2011[9]. Gloucester has seen the highest amount of floorspace lost to alternative uses with a total of 54,400 sqm lost over this period including a significant quantum of office space lost to residential uses via permitted development rights. The completions data shows a total of 16,500 sqm of office space being lost this way since the permitted development rights were changed in 2013. This represents almost half of all office space lost over this period (35,000 sqm).

Figure 82. Employment Floorspace Losses – 2011-19



Source: SPRU analysis of local authority data

10.21 The net losses data has been annualised and then multiplied by twenty to identify the replacement demand required for the forecasting period. This is then converted to land requirement using the plot ratios used in the main labour demand modelling.

10.22 Table 71 shows the replacement demand for each authority by B Class sector. This replacement demand is then added to the net requirement in order to estimate gross needs.

[9] For Cotswold the data used is 2015-2019 as the data pre-2015 and post-2015 was not consistent. For the purposes of analysis all data has been treated on an annualised basis.

Table 71. Replacement Demand (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	10.1	6.4	1.8	18.4
Cotswold	11.1	11.3	2.3	24.7
Forest of Dean	0.0	12.2	0.0	12.2
Gloucester	21.9	1.9	10.2	34.0
Stroud	5.8	21.1	0.2	27.0
Tewkesbury	10.9	6.0	5.6	22.5
Gloucestershire	**59.7**	**58.9**	**20.0**	**138.7**

d) Flexibility Margin

10.23 The margin of flexibility has been considered based on a number of years' worth of completions for each authority. It is typical to add between 2-5 years' worth of completions as a margin. Engagement with the commercial property market has identified that flexibility of supply is key in Gloucestershire so that sufficient quantum and range of sites are available to support business growth and inward investment opportunities. Therefore, we have included a margin of flexibility equivalent to 5 years' worth of completions data for each authority.

Table 72. Flexibility Margin (ha), 2021-41 (2020-40 for Stroud)

	B1a/b	B1c/B2	B8	Total
Cheltenham	3.2	0.5	0.3	4.0
Cotswold	3.5	3.1	2.5	9.1
Forest of Dean	0.0	1.1	0.2	1.2
Gloucester	1.5	2.8	2.3	6.6
Stroud	6.1	4.7	4.0	14.8
Tewkesbury	3.4	3.2	9.9	16.6
Gloucestershire	**17.7**	**15.4**	**19.2**	**52.3**

e) Total Employment Land Needs

10.24 Taking the sum of the net employment land needs, the net to gross demand, and the flexibility margin identifies the total employment land requirement for each authority for the range of labour demand scenarios.

Table 73. Gloucestershire, Total Employment Land Needs (ha) – Comparison of Labour Demand Scenarios, 2021-41

	OE Baseline	OE MidHigh	CE	Growth Scenario 1	Growth Scenario 2
Net Growth Needs	-78.4	20.5	26.9	150.3	150.3
Net to Gross	138.7				
Flexibility Margin	52.3				
Total Employment Land Needs	112.6	211.5	217.9	341.6	341.3

10.25 The table above shows the method of calculation for Gloucestershire as a whole, with the outputs for each local authority shown in the table below.

10.26 The table below shows the outputs of the labour demand scenarios, which provide a wide range of results. The outputs of the labour demand scenarios are assessed against the other scenarios (based on labour supply and completions trend) as well as wider economic and commercial market factors in order to inform the overall conclusions on employment land needs for Gloucestershire. This analysis is undertaken in Section 12. The figures in the table below should be considered within this context.

Table 74. Total Employment Land Needs (ha) – Comparison of Labour Demand Scenarios by Local Authority, 2021-41 (2020-40 for Stroud)

	OE Baseline	OE MidHigh	CE	Growth Scenario 1	Growth Scenario 2
Cheltenham	15.1	32.3	29.6	43.8	56.5
Cotswold	32.2	44.8	43.1	52.1	48.6
Forest of Dean	-1.0	8.7	10.9	21.9	21.4
Gloucester	38.2	52.7	44.6	53.6	49.1
Stroud	11.3	34.0	41.1	71.8	69.5
Tewkesbury	16.8	38.9	48.6	98.4	96.2
Gloucestershire	**112.6**	**211.5**	**217.9**	**341.6**	**341.3**

f) Summary

10.27 This section considers the level of employment land needed to support the level of employment growth shown in each of the econometric forecasts. The labour demand approaches should be considered alongside other approaches and economic and contextual data set out in the other chapters of this report.

10.28 Labour demand scenarios have been developed based on the three jobs forecasts:

- Cambridge Econometrics (CE)
- Oxford Economics (OE) Baseline
- OE MidHigh

10.29 In addition, a Growth Forecast has been developed which seeks to reflect the local drivers of growth in the Gloucestershire economy. This is because analysis of the forecasts highlighted that there are several sectors where the recent, current, and expected future performance is not reflected in some or all of the forecasts.

10.30 The Growth Forecast applies uplifts to the Manufacturing, Energy, and Information and communications sectors to reflect the trend of jobs growth in seen in each sector in each local authority over the past 10-year period.

10.31 An alternative Growth Forecast has also been developed where the additional jobs in Information and communications sector is met in Cheltenham to reflect the plans for the Cheltenham Cyber Technology Park.

10.32 The next step is to model the implications of each forecast in terms of the requirement for future employment land. This is done through a process of modelling to capture a range of inputs:

- Full time equivalent (FTE) jobs
- The proportion of jobs in each sector is divided by the type of employment (B Class) use class and non-employment use classes.
- Employment densities reflecting the quantum of floorspace required for each job.
- A plot ratio to convert floorspace requirements to land requirements.
- A conversion of net need (as shown in the forecasts) to gross development requirements. This is done by accounting for the quantum of losses of existing stock which will be expected to be lost over the forecasting period.
- The addition of a margin of flexibility.

10.33 Outputs are provided in terms of hectares required for each type of employment use. The use classes have been combined in terms of B1a/b office, B1c/B2 industrial, and B8 distribution.

10.34 This results in the total employment land needs in hectares for each of the authorities:

Table 75. Summary of Labour Demand Scenarios by Local Authority, 2021-41 (2020-40 for Stroud)

	OE Baseline	OE MidHigh	CE	Growth Scenario 1	Growth Scenario 2
Cheltenham	15.1	32.3	29.6	43.8	56.5
Cotswold	32.2	44.8	43.1	52.1	48.6
Forest of Dean	-1.0	8.7	10.9	21.9	21.4
Gloucester	38.2	52.7	44.6	53.6	49.1
Stroud	11.3	34.0	41.1	71.8	69.5
Tewkesbury	16.8	38.9	48.6	98.4	96.2
Gloucestershire	**112.6**	**211.5**	**217.9**	**341.6**	**341.3**

11.0 LABOUR SUPPLY SCENARIOS

11.1 This section considers an alternative approach to estimating future employment land needs based on future population growth – the labour supply approach. One of the benefits of considering a labour supply approach is to consider alignment between future housing and employment land needs.

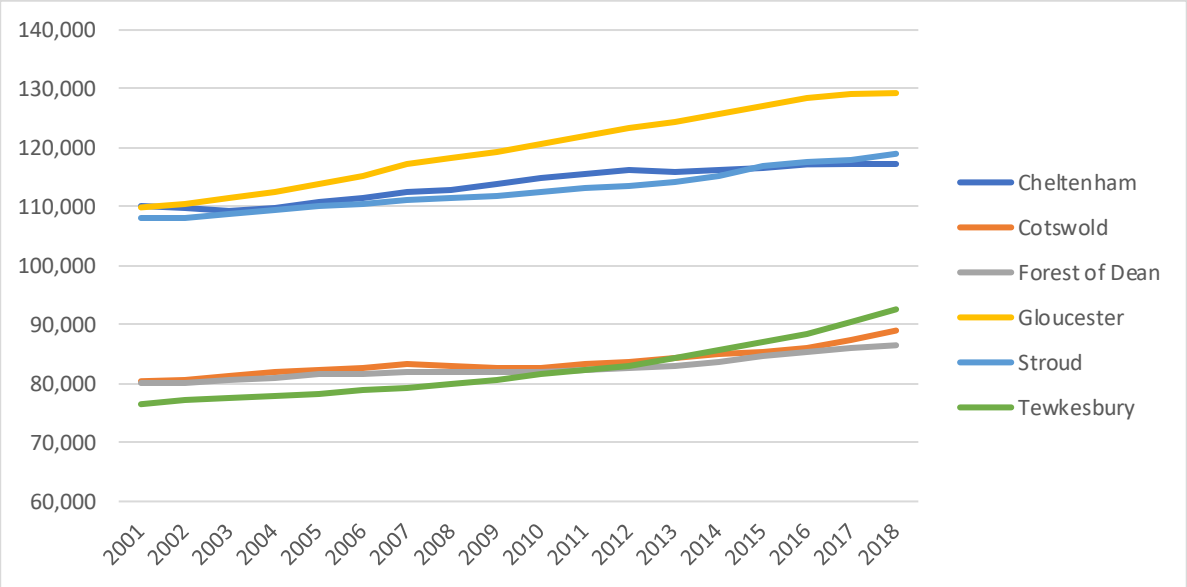
11.2 The starting point for the labour supply approach is the quantum of housing delivery expected over the study period to 2041. This is informed by the Gloucestershire Local Housing Needs Assessment (LHNA) (ORS, 2020). The LHNA considered the future population growth in Gloucestershire based on analysis of ONS's demographic projections. It then considered the level of growth in local employment which would result from the projected level of population growth.

11.3 The aim of the labour supply scenarios is to ensure that sufficient employment land is identified to support the expected level of local workforce growth arising from the demographic projections. This section considers a range of labour supply scenarios each with the demographic projections as their starting point, but with different assumptions regarding the type and mix of jobs supported in each scenario.

a) Population Growth

11.4 The latest figures show that Gloucestershire has a current resident population of 633,600 (ONS, 2018). In the last 10 years since 2008 Tewkesbury and Gloucester have had the sharpest rise in population, with an increase of 12,800 in Tewkesbury (16.7%) and 10,900 (10%) in Gloucester. Over the same period, Cheltenham has seen the smallest increase in population at 4,100 (3.7%).

Figure 83. Population Growth Index (ONS Mid-Year Population Estimates)



Source: ONS Population Estimates

11.5 The 2014-based Sub-National Population Projections show the scale of growth expected in each local authority by 2039. This shows that Gloucestershire's population is anticipated to grow at an average of 0.6% per annum over this period. Stroud is projected to have the highest growth rate over this period at 0.8% per annum, while Forest of Dean is projected 0.4% growth per annum.

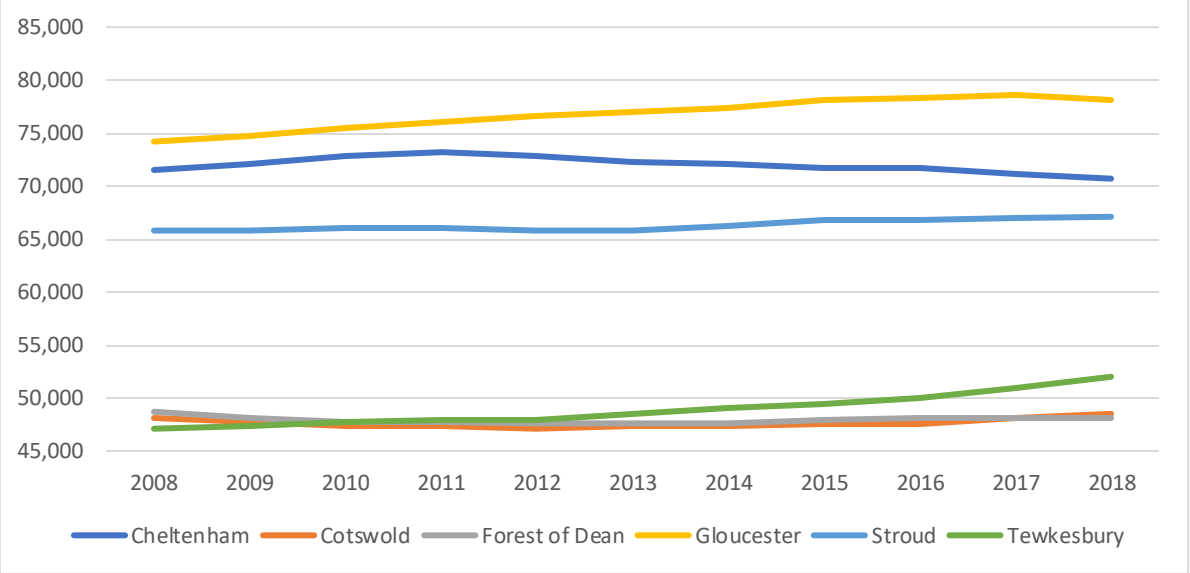
Table 76. Projected Change in Population, 2020-39

	Total Change	Annual Growth Rate
Cheltenham	12,829	0.6%
Cotswold	8,738	0.5%
Forest of Dean	6,947	0.4%
Gloucester	17,776	0.7%
Stroud	13,867	0.6%
Tewkesbury	14,661	0.8%
Gloucestershire	74,818	0.6%

Source: 2014-based SNPP

11.6 However, a significant proportion of population growth has been in the older age groups. The figure below shows the trend in the working age population over the past ten years. Gloucester and Tewkesbury have seen the strong growth in the working age population over this period, seeing increases of 4,000 and 4,900 respectively; Cotswold have seen modest growth (400 and 1,300 respectively); while Cheltenham and Forest of Dean have seen the working age population reduce by -800 and -600 people.

Figure 84. Growth in Working-Age Population (16-64)



Source: ONS Mid-Year Population Estimates

11.7 The 2014-based SNPP shows the growth in the working age (16-64) population is much more modest than the general population growth. This is due to the majority of projected population growth being in the older age groups. Overall, the SNPP shows a growth rate for the working age population across Gloucestershire of 0.1% per annum (compared to the 0.6% per annum for the general population). However, growth varies considerably between authorities with Cheltenham, Gloucester, and Tewkesbury seeing reasonable growth, Stroud seeing a small level of growth, and Cotswold and Forest of Dean seeing a net reduction in the working age population.

Table 77. Change in Working Age Population, 2020-39

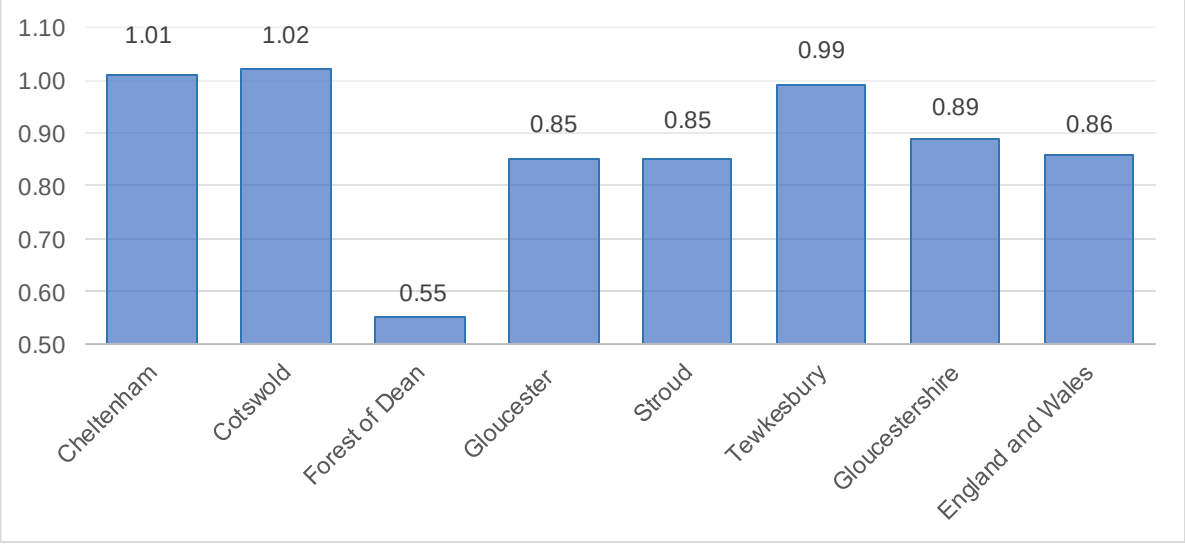
	Total Change	Annual Growth Rate
Cheltenham	1,759	0.1%
Cotswold	- 1,572	- 0.2%
Forest of Dean	- 2,815	- 0.3%
Gloucester	3,753	0.2%
Stroud	84	0.0%
Tewkesbury	2,772	0.3%
Gloucestershire	3,982	0.1%

Source: 2014-based SNPP

11.8 As well as considering the growth in the working age population, it is important to consider where the working population travels to work and where the jobs will be located. The figure below shows the jobs density for each authority. The jobs density shows the number of jobs per resident.

11.9 This shows that Cheltenham, Cotswold, and Tewkesbury all have a jobs density of around 1 which means there are roughly equal number of jobs and workers. This is above the national average of 0.86. Gloucester and Stroud are broadly in-line with this rate. Forest of Dean has the lowest density of jobs in the county (0.55), reflecting considerably fewer jobs than residents.

Figure 85. Jobs Density 2017



Source: ONS/ NOMIS

11.10 The LHNA has considered the implications of the CE and OE econometric forecasts on housing needs across Gloucestershire.

11.11 The LHNA firstly considered the expected increase in the population arising from the demographic projections, and the implications this would have on the workforce population for each area. The LHNA uses assumptions regarding economic activity rates and commuting flows to estimate the change in the number of workers in each authority area (the JCS authorities of Cheltenham, Gloucester, and Tewkesbury are considered together)

arising from the demographic projections.

11.12 The LHNA calculates that the demographic projections will result in a growth of around 32,400 additional workers in Gloucestershire over the period 2021-41 (2020-40 for Stroud).

Table 78. Demographically Derived Change in Workers in Gloucestershire

Local Authority Area (Residence)	Time Period	Change in workers – by residence	Change in workers – by workplace
JCS Area	2021-41	+19,861	+18,936
Cotswold	2021-41	+3,877	+3,700
Forest of Dean	2021-41	+2,384	+3,154
Stroud	2020-40	+6,296	+6,648
Total		**+32,403**	**+32,438**

Source: Gloucestershire LHNA, 2020

11.13 The LHNA then goes on to consider the economic-led housing need which could be expected to arise in order to meet the labour requirements of the CE and OE econometric forecasts, to assess whether this might suggest a higher level of housing need in Gloucestershire.

11.14 The LHNA assumes constant commuting rates and that there will be no change in the commuting rates identified by the 2011 Census. It bases its analysis on the basis of main jobs from the OE forecasts and Total Employment from the CE forecasts.

11.15 The LHNA conclusions regarding the number of resident workers required to support the jobs growth of each of the forecasts is set out in Table 79. This can be compared to the figures in Table 78 to identify if the demographic-led workforce figures aligned with the LHNA's housing need figures would be sufficient to support the level of economic growth shown in the econometric forecasts.

11.16 Both OE forecasts require a growth in Gloucestershire's workforce population which is significantly below that shown in the demographic projections. This is true for Gloucestershire as a whole, as well as for each local authority with the exception of Cotswold which has a similar but slightly higher need arising from the OE MidHigh scenario.

11.17 The CE forecast shows a higher level of jobs growth than either of the OE forecasts and therefore shows a higher level of workforce growth. However, overall it suggests a similar but slightly lower level of workforce growth at a Gloucestershire-wide level as the demographic projections. The CE forecast suggests a higher need for workforce growth in Cotswold than shown in the demographic projections, but for the other authorities the CE forecast suggests a lower level of growth.

11.18 The LHNA concludes that very small changes to net commuting patterns (possibly with fewer resident workers commuting to jobs elsewhere within the county) could ensure alignment between the CE forecast and demographic-led figures.

Table 79. Resident Workers Needed

	OE Baseline	OE MidHigh	CE
JCS Area	+4,986	+14,623	+18,319
Cotswold	+1,387	+3,807	+5,141
Forest of Dean	-991	+678	+2,090
Stroud	-1,406	+2,105	+5,662
Total	**+4,876**	**+21,213**	**+31,212**

Source: Gloucestershire LHNA, 2020

11.19 On the basis of this analysis, the LHNA concludes that in order to ensure that there will be sufficient resident workers to align with the jobs growth identified by the forecast there would be no justification for increasing the minimum LHN based on the standard methodology.

11.20 Conversely, the analysis and conclusions of the LHNA suggests that there is justification in considering the implications of a demographic-led employment land need – i.e. a labour supply approach. This is set out below based on the projected number of workers arising from the Gloucestershire LHN of 32,438 workers.

11.21 The table below sets out the figures used for deriving the demographically led jobs growth. The starting point is the LHNA projected growth in workers. The constant commuting ratios (based on the 2011 Census flows data) used in the LHNA have been applied to estimate the increase in main jobs in each area.

11.22 The next stage is to account for the fact that some workers work multiple jobs and so total employment must take account of this via a 'double jobbing' ratio. This is based on the difference between the number of main jobs and total employment to identify the ratio of jobs which were second jobs.

11.23 This has identified a growth in total employment of around 38,800 jobs aligned to the increase in Gloucestershire's population over the period 2021-41.

Table 80. Demographic-Led Jobs Growth, 2021-41

	Source	JCS	Cotswold	Forest of Dean	Stroud*	Total
Projected workers from LHN	LHNA	18,936	3,700	3,154	6,648	32,438
% inward commuting	LHNA	11.4%	21.5%	12.2%	10.0%	-
Increase in Main jobs	Derived figure	21,372	4,713	3,592	7,387	37,065
Double Jobbing	Source: OE 2020	4.6%	4.6%	4.6%	4.6%	4.6%
Total Employment	Derived figure	22,394	4,939	3,764	7,740	38,837

Source: LHNA and OE

*Stroud figures for 2020-40

11.24 The next stage is to estimate the sectors in which these additional jobs are likely to be. Three approaches have been taken:

- The first approach is based on the sectoral profile of the CE forecast. The sectors which are forecast to grow in the CE forecast have been adjusted so that overall growth aligns with the demographic-led total employment figure.
- The second approach is based on the sectoral profile of the OE MidHigh forecast. This has been adjusted in a similar way so that the additional growth reflects the profile of growth sectors in the OE MidHigh forecast.
- The final approach is based on the profile of growth taking account of the Local Industrial Strategy. This assumes that the jobs growth will reflect the profile of growth in the LIS labour demand scenario which has been constrained so that overall growth is equal to the demographic-led figure. In this scenario the additional jobs growth is in sectors which are supported by the LEP's growth targets, rather than just a proportional increase in forecast growth sectors.

b) Labour Supply Scenario – based on CE

11.25 The CE forecast is considered a more appropriate basis for developing a labour supply scenario for two reasons:

- The CE forecast closely aligns with the demographic-led jobs growth figure identified in the LHNA. The CE forecast being fairly closely aligned with the demographic-led jobs need – a difference of only 1,226 workers (3.7%)
- The CE forecast assumes an adequate labour supply as one of its modelling assumptions. This means the jobs growth in the CE forecast is not constrained by population growth.

11.26 The difference between the CE forecast and the labour supply scenario is shown in Table 81. This shows a difference of 2,940 jobs across Gloucestershire which, as noted above, represents reasonably close alignment.

11.27 The LHNA only provides outputs for the JCS area as a whole. This figure has been disaggregated between the three local authorities based on the proportion of jobs growth for each authority shown in the CE forecasts (shown in brackets).

11.28 For Cotswold, the labour supply scenario is lower than the CE forecast. This means that the growth in the labour supply scenario is lower than that already implicit within the CE forecast. For all other authorities the labour supply scenario figure is higher than the CE forecast and the CE forecast has been adjusted for these authorities to redress this shortfall.

Table 81. CE vs Labour Supply Scenario Jobs Growth, 2021-41

	CE	Labour Supply Scenario	Difference
JCS	20,677	22,394	1,717
Cheltenham	8,501 (41%)	9,207	706
Gloucester	5,840 (28%)	6,325	485
Tewkesbury	6,336 (31%)	6,862	526
Cotswold	6,551	4,939	- 1,612
Forest of Dean	2,381	3,764	1,383
Stroud (2020-40)	6,288	7,740	1,452
Gloucestershire	**35,897**	**38,837**	**2,940**

11.29 The table below shows the scale of jobs growth for Gloucestershire in the CE forecast compared to the labour supply scenario. The three sectors which saw a net loss of jobs in the CE forecast remain unadjusted while the growth sectors show proportional increases to growth.

Table 82. Gloucestershire Jobs Growth by Sector: CE Forecast vs Labour Supply, 2021-41

	CE Forecast	CE Labour Supply
Agriculture etc	-90	-90
Mining & quarrying	-100	-100
Manufacturing	-5,420	-5,420
Electricity, gas & water	340	380
Construction	4,820	5,180
Distribution	670	760
Transport & storage	480	520
Accommodation & food services	6,700	6,970
Information & communications	1,500	1,550
Financial & business services	8,590	9,180
Government services	15,070	16,410
Other services	3,340	3,490
Total	**35,900**	**38,830**

11.30 The CE based labour supply scenario figures have then been used to calculate the growth in employment floorspace and land using the same modelling assumptions as used for the labour demand scenarios (set out in Section 10). This process was undertaken at a local authority level.

11.31 This produces the following employment land need for each authority set out in Table 83.

The figures are similar to the CE labour demand scenario (which shows a total need for 217.9ha) due to the overall difference in jobs between the two forecasts being relatively minor. The CE labour supply scenario shows a slightly lower need in Cotswold and a slightly higher need in all other authorities.

Table 83. CE Labour Supply Scenario – Employment Land Needs, 2021-41

	B1a/b	B1c/B2	B8	Total
Cheltenham	18.9	4.0	6.9	29.8
Cotswold	17.3	13.7	8.5	39.5
Forest of Dean	1.6	8.1	3.5	13.2
Gloucester	26.1	2.8	16.0	44.9
Stroud*	16.9	13.2	14.4	44.5
Tewkesbury	18.6	5.9	24.8	49.3
Total	**99.5**	**47.5**	**74.1**	**221.1**

* Stroud figures for 2020-40

c) Labour Supply Scenario – based on OE

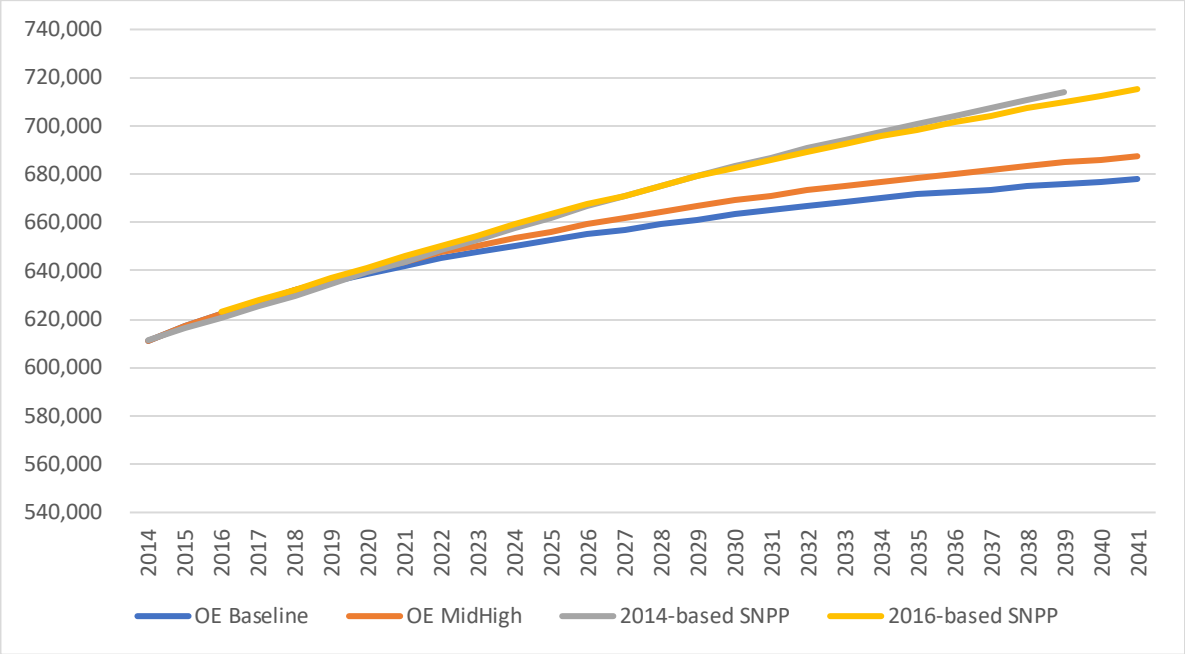
11.32 The OE forecast considers population growth as one of the factors within the model alongside jobs growth. The OE forecast models population as an output which is economically driven and thus forecasts differ from the official population projections.

11.33 Figure 89 sets out the differences in the projected population growth in the OE forecasts set against the projected growth in the 2014-based and 2016-based Sub National Population Projections (SNPP).

11.34 This shows the OE model considers that net migration into Gloucestershire will be considerably lower than either of the SNPPs. This means there is a significant shortfall in the number of jobs resulting from the demographic-led approach used in the LHNA, which was based on the 2014-based SNPP. There is some 11,000 workers (34%) difference between the OE MidHigh forecast and the demographic-led forecasts, meaning that a substantially bigger adjustment is needed to develop a labour supply scenario based on the OE forecasts than the CE forecast.

11.35 This scenario effectively bridges this shortfall. However, care must be used when considering the link between population and jobs growth using the OE forecasts as the two impact on each other. The OE Baseline and MidHigh scenarios assume lower levels of migration will constrain both population and jobs growth. Conversely, growth in a number of sectors in the OE model is relative to consumer spending and therefore population growth.

Figure 86. Projected Population Growth in Gloucestershire, OE vs SNPP



Source: ONS and OE

11.36 The labour supply scenario based on the OE MidHigh forecast and the difference between this and the OE forecast itself are shown in the table below. This shows a difference of 15,600 jobs across Gloucestershire which, is significantly (67%) larger than the OE forecast itself. This reflects the difference in the population growth assumptions set out above.

11.37 For all authorities the labour supply scenario is higher than the OE forecast and the OE forecast has been adjusted to redress this shortfall.

Table 84. OE vs Demographic-led Jobs Growth, 2021-41

	OE	Demographic-led	Difference
JCS	15,873	22,394	6,521
Cheltenham	5,110 (32%)	7,220	2,100
Gloucester	7,190 (45%)	10,140	2,950
Tewkesbury	3,570 (22%)	5,040	1,470
Cotswold	4,860	4,940	80
Forest of Dean	680	3,760	3,090
Stroud (2020-40)	1,830	7,740	5,910
Gloucestershire	**23,240**	**38,840**	**15,600**

11.38 Table 85 shows the scale of jobs growth for Gloucestershire in the OE forecast compared to the labour supply scenario based on the OE forecast.

Table 85. Gloucestershire Jobs Growth by Sector: OE Forecast vs Labour Supply, 2021-41

	OE Forecast	OE Labour Supply
Agriculture, forestry and fishing	-480	-480
Mining and quarrying	-90	-90
Manufacturing	-7,000	-7,000
Electricity, gas, steam and air conditioning	-440	-440
Water supply; sewerage, waste management	-280	-280
Construction	3,360	4,830
Wholesale and retail trade	1,000	880
Transportation and storage	500	550
Accommodation and food service	1,300	1,390
Information and communication	1,190	1,790
Financial and insurance	-	10
Real estate	900	1,240
Professional, scientific and technical	9,500	14,300
Administrative and support service	6,390	9,720
Public administration and defence	-810	-810
Education	-580	-540
Human health and social work	5,270	7,880
Arts, entertainment and recreation	2,530	4,470
Other service activities	990	1,410
Total	**23,240**	**38,840**

11.39 The labour supply scenario based on the OE forecast has then been used to calculate the growth in employment floorspace and land using the same modelling assumptions as used for the Labour Demand Scenarios (set out in Section 10). This process was undertaken at a local authority level.

11.40 This produces the following employment land need for each authority set out in Table 86. Overall, and for all authorities, this shows a higher level of need than the OE labour demand scenario (which shows a total need for 207.9ha).

Table 86. OE Labour Supply Scenario – Employment Land Needs, 2021-41

	B1a/b	B1c/B2	B8	Total
Cheltenham	26.1	5.6	6.5	38.2
Cotswold	22.0	13.2	9.9	45.1
Forest of Dean	6.2	8.0	2.6	16.8
Gloucester	31.7	4.1	24.0	59.8
Stroud*	22.6	14.4	8.5	45.5
Tewkesbury	22.4	-2.3	23.4	43.5
Total	**130.9**	**43.0**	**74.9**	**248.8**

* Stroud figures for 2020-40

d) Labour Supply Growth Scenario

11.41 A fundamental element of the LEP's LIS is to make Gloucestershire a 'magnet county', which means: "Ensuring that the environment, the arts, heritage and culture, creativity and active living are central to our vision of a healthy, productive county that attracts and retains young talent and supports all its residents to live life to the full."

11.42 The LIS sets out the LEP's strategy to become a 'magnet county' that leverages the County's natural assets and high quality of life in order to attract and retain young talent. Historically, this has not happened, and the county has seen a net outflow of its younger population. Many young people leave the county to attend university and do not return, placing Gloucestershire in the bottom half of LEPs for graduate retention.

11.43 The LIS sets out a strategy which will:

- position Gloucestershire as 'the most flexible place to work' in the UK so that everyone, young and old, and those currently struggling to get a job, can work in a way that enables them to make their best contribution to society.
- ensure that Gloucestershire's education and training system meets local businesses' skills needs.

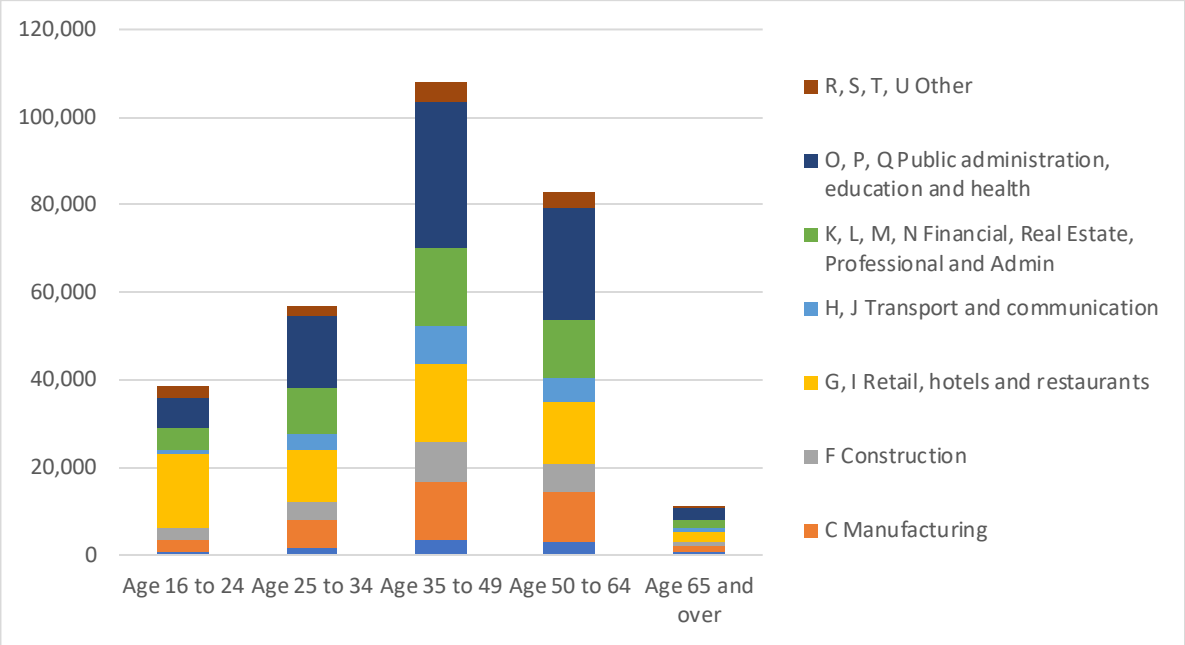
11.44 The magnet county strategy aims to increase the number of 18-40 year-olds with high level qualifications choosing to live and work in Gloucestershire. The implications of this, in terms of overall population growth, are beyond the scope of this ENA. However, we consider below the implications in terms of the profile of jobs required to support the level of population growth, as identified in the LHNA.

11.45 A key strand of the LEP's magnet county strategy is to provide the types and quality of jobs which will attract and sustain a younger, well qualified workforce.

11.46 The age profile of Gloucestershire's workplace population is shown in Figure 90. Firstly, this shows the higher proportion of middle-aged workers (aged 35-44 and 45-54) compared to younger age groups (16-24 and 25-34). The age groups 35-54 make up 48% of the workforce, compared to the 16-34 cohort which makes up 32%.

11.47 The data shows the number of each group who work in each industry broad sector. This shows the differences in the types of industry worked in by different age groups in terms of overall jobs numbers.

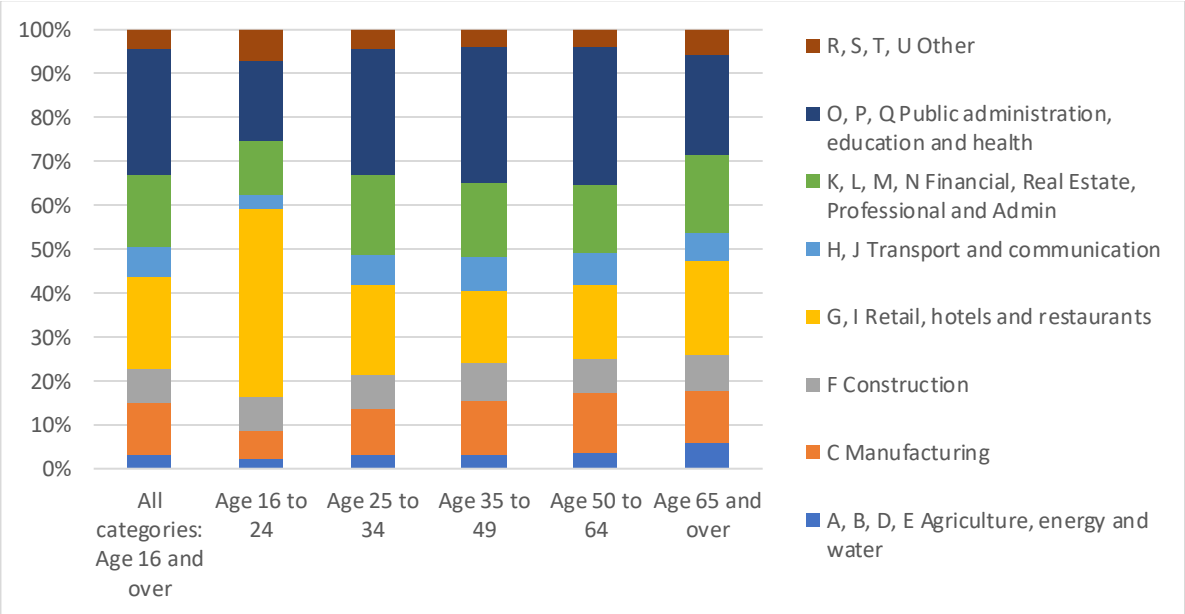
Figure 87. Industry by Age (Workplace Population)



Source: 2011 Census

11.48 Figure 91 shows the same data as the figure above but with the sectoral employment shown proportionally by age group. This highlights that the 16-24 age group has a disproportionally high employment in the Distribution (including retail), hotels and restaurants sectors, and a relatively low representation in most of the other sectors – particularly professional occupations, which is to be expected. However, the 16-24 cohort is the only age group to notably differ from the profile for all age groups. The data also shows that this worker profile is not particularly prevalent in the 25-34 age group. This cohort has a broadly similar industry profile to the average for all ages.

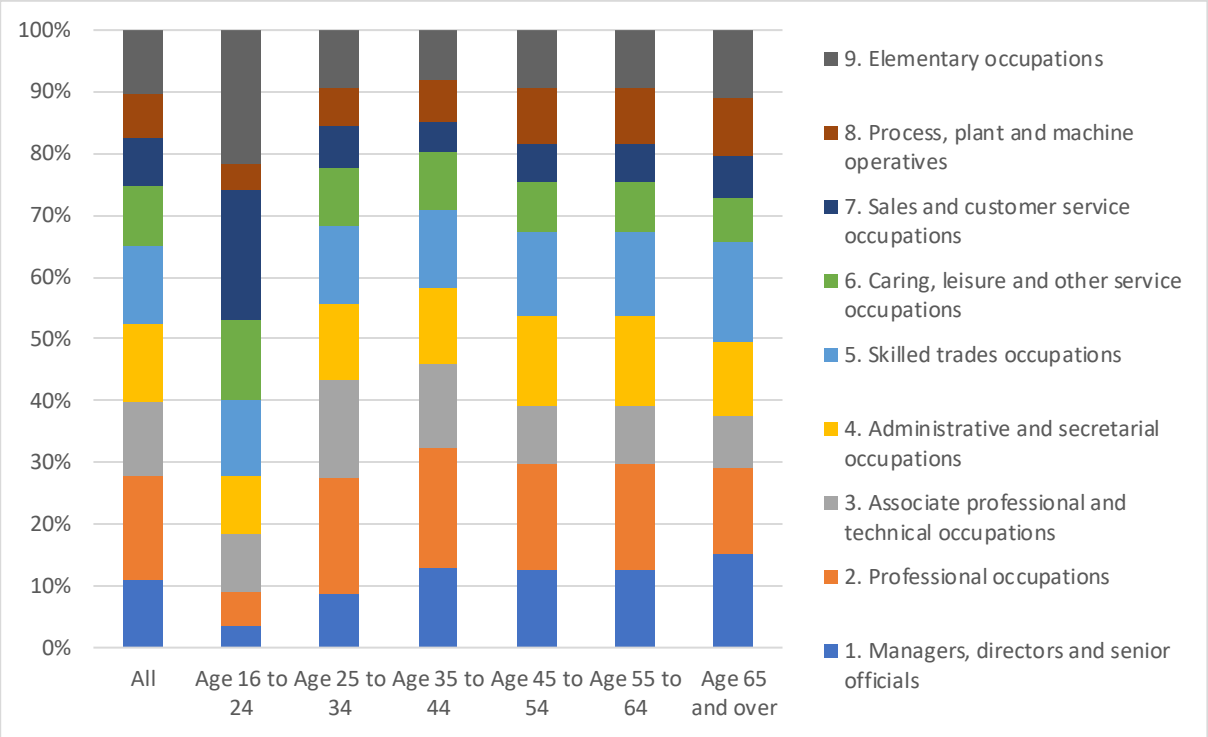
Figure 88. Industry by Age by Percentage (Workplace Population)



Source: 2011 Census

11.49 The figure below shows each of the age cohorts by the proportion of each worker in each occupation. This again shows a notable difference between the age 16-24 group which has a considerably higher proportion of workers in the service and elementary occupations. As with the industry profile above, the data shows the profile of the 25-34 age group broadly aligns with the profile for all workers.

Figure 89. Occupation by Age (Workplace Population)



Source: 2011 Census

11.50 This suggests that although the jobs profile for the 16-24 age group is significantly different to the other age groups, with a much higher proportion of workers in this age group working customer service and sales jobs in the retail and hospitality sectors. The data shows that this is broadly rectified in the 25-34 age group, with the jobs profile of this age group broadly similar to older age groups and the jobs profile as a whole.

11.51 This suggests that there are no sectors which are particularly prevalent for workers in the 25-34 age groups other than those which are reflected in the wider workforce profile for all ages.

11.52 Accordingly, the LIS growth labour demand scenario has been adjusted so that the jobs growth aligns with the demographic-led jobs growth. This has been done on a proportional basis so each sector sees the same proportional growth as the LIS growth labour demand scenario, albeit growth is constrained so that total jobs growth aligns with the demographic-led figure.

11.53 Table 87 shows the scale of jobs growth for Gloucestershire in the CE forecast compared to the Labour Supply scenario based on the LIS scenario. Under this scenario, the additional jobs growth is principally in the following sectors:

- Advanced manufacturing
- Agri-tech
- Energy
- Cyber and related IT sectors

11.54 This principally results in a growth in a number of manufacturing sectors which mitigates the large forecast losses in the sector. It also sees increased growth in the Electricity, gas & water and Information and communications sectors.

Table 87. Gloucestershire Jobs Growth by Sector: CE Forecast vs Labour Supply – Growth Sectors, 2021-41

	CE Forecast	Labour Supply – Growth Sectors
Agriculture etc	-90	-90
Mining & quarrying	-100	-100
Manufacturing	-5,420	-3,190
Electricity, gas & water	340	770
Construction	4,820	4,820
Distribution	670	660
Transport & storage	480	470
Accommodation & food services	6,700	6,690
Information & communications	1,500	1,750
Financial & business services	8,590	8,590
Government services	15,070	15,080
Other services	3,340	3,370
Total	**35,900**	**38,830**

11.55 The Labour Supply scenario aligned with the LIS growth sectors have been used to calculate the growth in employment floorspace and land using the same modelling assumptions as used for the Labour Demand Scenarios. This process was undertaken at a local authority level.

11.56 This produces the following employment land need for each authority set out in Table 88. Overall this shows a greater need for B Class floorspace than the other labour supply scenarios due to a larger proportion of jobs being supported being in sectors requiring B class employment space – most notably in the manufacturing sector – resulting in a need for more employment land.

Table 88. CE Labour Supply Scenario – Employment Land Needs, 2021-41

	B1a/b	B1c/B2	B8	Total
Cheltenham	22.9	10.1	5.3	38.4
Cotswold	19.7	17.2	7.4	44.3
Forest of Dean	3.1	16.6	2.7	22.4
Gloucester	31.1	4.5	14.7	50.2
Stroud*	18.0	34.5	10.0	62.5
Tewkesbury	20.7	41.5	21.6	83.8
Total	**115.5**	**124.4**	**61.7**	**301.6**

* Stroud figures for 2020-40

e) Summary

11.57 The outputs of the labour supply scenarios in terms of total employment land needed in each authority are summarised in the table below. All three scenarios are based on the labour supply arising from the population growth arising in the Gloucestershire LHNA. This has been used as a starting point to calculate the number of jobs arising in Gloucestershire as a result of demographic growth. This has then been used to estimate the level of employment land needed so as to ensure this level of growth is not constrained by a lack of land.

11.58 The scenarios make differing assumptions regarding the sectoral composition of the identified level of jobs growth. In the CE based scenario and OE based scenario the increase in jobs has been calculated on the proportion of jobs growth in the growth sectors in each forecast. For the Labour Supply Growth Scenario, the composition of additional growth (i.e. that above the jobs growth shown in the CE forecast) reflects the LEP growth sectors.

11.59 Overall the CE based and OE based labour supply scenarios show a need for 221ha and 249ha of employment land across Gloucestershire respectively. The Labour Supply Growth Scenario shows a need for just over 300ha of employment land. The greater need for B Class land is due to a larger proportion of jobs being supported being in sectors requiring B class employment space – most notably in the manufacturing sector.

Table 89. Total Employment Land Needs (ha) – Comparison of Labour Supply Scenarios by Local Authority, 2021-41 (2020-40 for Stroud)

	Labour Supply - CE based	Labour Supply - OE based	Labour Supply - Growth Sectors
Cheltenham	29.8	38.2	38.4
Cotswold	39.5	45.1	44.3
Forest of Dean	13.2	16.8	22.4
Gloucester	44.9	59.8	50.2
Stroud	44.5	45.5	62.5
Tewkesbury	49.3	43.5	83.8
Gloucestershire	**221.1**	**248.8**	**301.6**

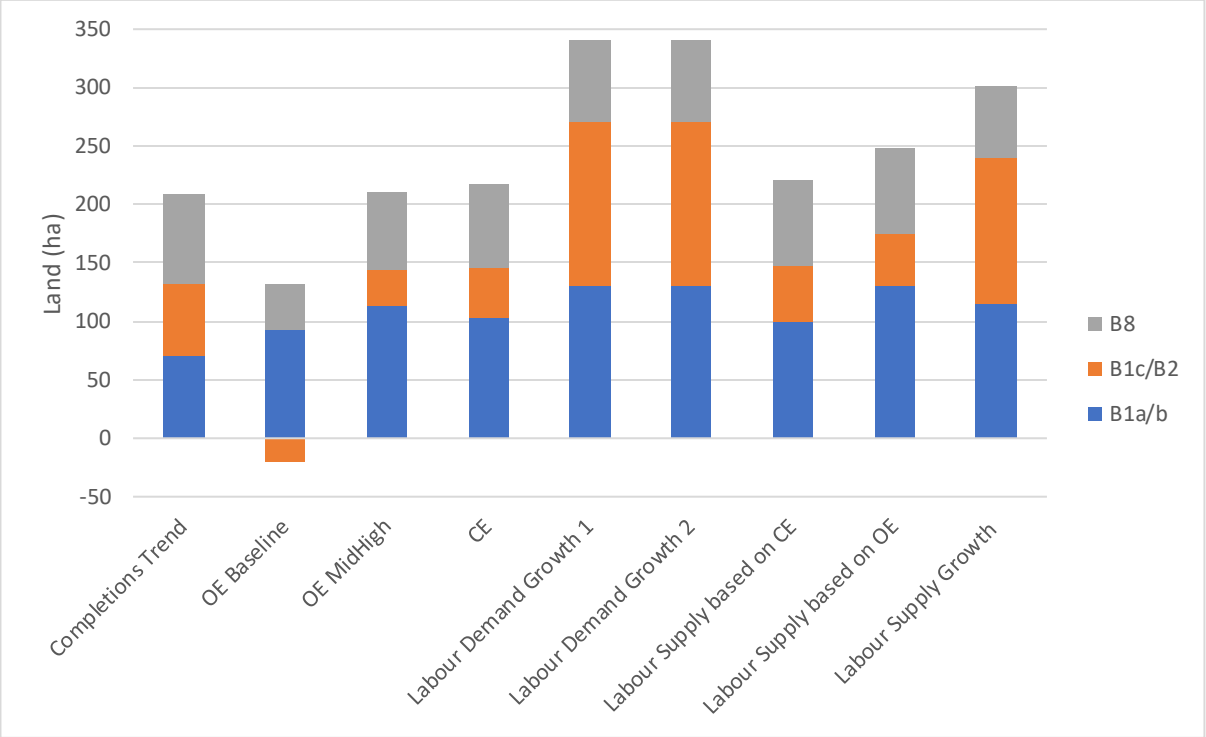
12.0 COMPARISON OF SCENARIOS AND CONCLUSIONS

12.1 A range of scenarios for estimating future employment land needs in Gloucestershire have been considered and developed in the previous sections of this report. A brief summary of each scenario is set out below:

- Completions Trend – (see Section 6) – This scenario considers the level of gross completions by B Class sector for each local authority since 2011 and assumes this rate of growth continues over the forecasting period.
- Labour Demand Scenarios – (see Section 10) – Five scenarios based on econometric job growth forecasts:
    - OE Baseline – The baseline forecast published by Oxford Economics (OE)
    - OE MigHigh – A more positive forecast published by OE
    - CE – The forecast published by Cambridge Econometrics (CE)
    - Growth Scenario 1 – based on the CE forecast but with uplifts to the LEP's growth sectors based on performance in these sectors over the past 10 years.
    - Growth Scenario 2 – a similar forecast but with a different disaggregation of jobs across the county to account for the proposed Cheltenham Cyber Technology Park.
- Labour Supply Scenarios – (see Section 11) – Three scenarios based on the demographically based jobs growth aligned to population and housing growth:
    - Scenario based on CE –The higher level of jobs is based on the proportion of growth shown in the CE forecast.
    - Scenario based on OE –The higher level of jobs is based on the proportion of growth shown in the OE MidHigh forecast.
    - Scenario based on Growth Scenario –The higher level of jobs is based on the proportion of growth shown in the Growth Scenario.

12.2 A comparison of the outputs for each of these scenarios for Gloucestershire is shown in Figure 93. Scenario outputs for each local authority are set out in Appendix A.

Figure 90. Comparison of Employment Land Scenarios – Gloucestershire, 2021-41 (Stroud 2020-40)



a) Conclusions on Overall Employment Land Needs

12.3 At a FEMA scale, the following conclusions are drawn:

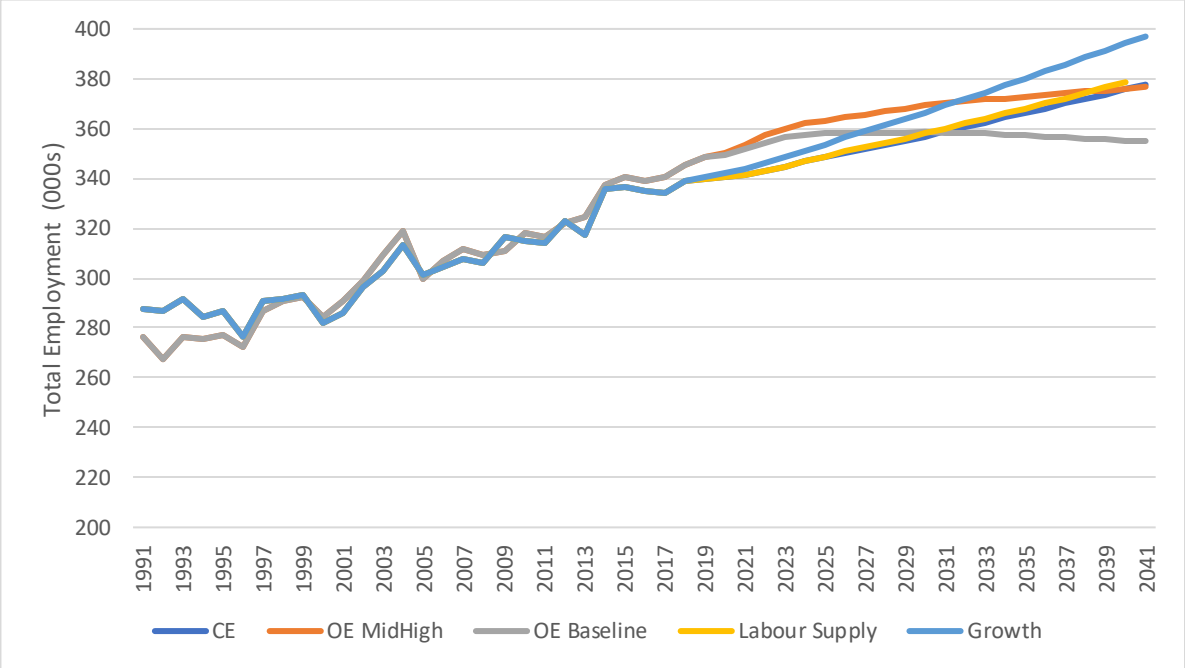
- The assessment of Gloucestershire's commercial property market made clear that the supply of employment land has been constrained in recent years. For many of the authorities, and for Gloucestershire overall, the scenario based on the completions trend forecast models forward the considerably constrained supply situation.
- It is noted that for Stroud and Tewkesbury the past completions trend forecast falls within the range of the labour supply scenarios for these authorities. However, for other areas – notably Cheltenham and Gloucester – the past completions trend is much lower than other scenarios.
- The OE Baseline labour demand scenario shows growth well below the completions trend and includes a net negative need for industrial land. This scenario is therefore also not considered an appropriate basis for positive planning.
- The OE MidHigh and the CE labour demand scenarios show a level of growth lower than any of the labour supply scenarios. This suggests that planning for this level of growth would likely constrain the employment demand arising from the demographic growth. The labour supply approach is therefore considered a more appropriate measure of future employment land needs.
- The labour supply scenarios show a range of employment land needs from 221ha to 302ha. The difference between the forecasts is primarily driven by the amount of industrial land required. The labour supply scenarios based on the CE and OE forecasts show a considerably more negative view for the manufacturing sector, reflecting the long-term national trend and factoring in assumptions regarding the risks of Brexit. Both Scenarios identify very low future needs for industrial (B1c/B2) land – both showing a need for around 45ha across Gloucestershire, and particularly low across the JCS area – 12.5ha and 7.5ha respectively. The range of commercial market indicators and stakeholder engagement

suggest the actual need will be much higher than this.

- The labour supply Growth Scenario takes a more positive view for the sector reflecting the wider commercial market indicators and based on the most recent 10-year growth in high-tech manufacturing in Gloucestershire. This scenario shows a need for a total of 124.5ha of industrial land.
- At the top end of the range are the labour demand Growth Scenarios based on the LEP's growth sectors. These represent a more positive view of growth in key sectors based on their strong local performance over the past 10 years. Both scenarios show a similar level of growth but are disaggregated differently among the local authorities.

12.4 The figure below provides a comparison of the scale of jobs growth in the various labour demand and labour supply scenarios. This shows the labour supply scenario shows a slightly higher growth than the CE forecast, and the Growth forecast showing considerably higher growth than the other forecasts.

Figure 91. Comparison of Employment Growth Scenarios, Gloucestershire



12.5 Table 90 shows the comparison of the scenarios in terms of growth rates and these can be compared to previous performance in Gloucestershire. The Growth forecast shows the highest annual growth rate at 0.72% per annum. This is almost identical to the growth rate in Gloucestershire over the past 10 years as shown in the CE forecast, but is lower than the strong rate of growth rate achieved in the 1990s and 2000s. Given the current macro-economic climate, the labour supply and growth forecasts are considered to provide a positive yet realistic estimate of future growth for Gloucestershire.

Table 90. Gloucestershire – Comparison of Jobs Growth Rates

Forecast	Average Annual Growth Rate 1996-2009	Average Annual Growth Rate 2009-2019	Average Annual Growth Rate 2021-2041
CE	1.04%	0.73%	0.50%
OE Mid-high	1.03%	1.14%	0.32%
OE Baseline	1.03%	1.13%	0.04%
Labour supply			0.54%
Growth forecast			0.72%

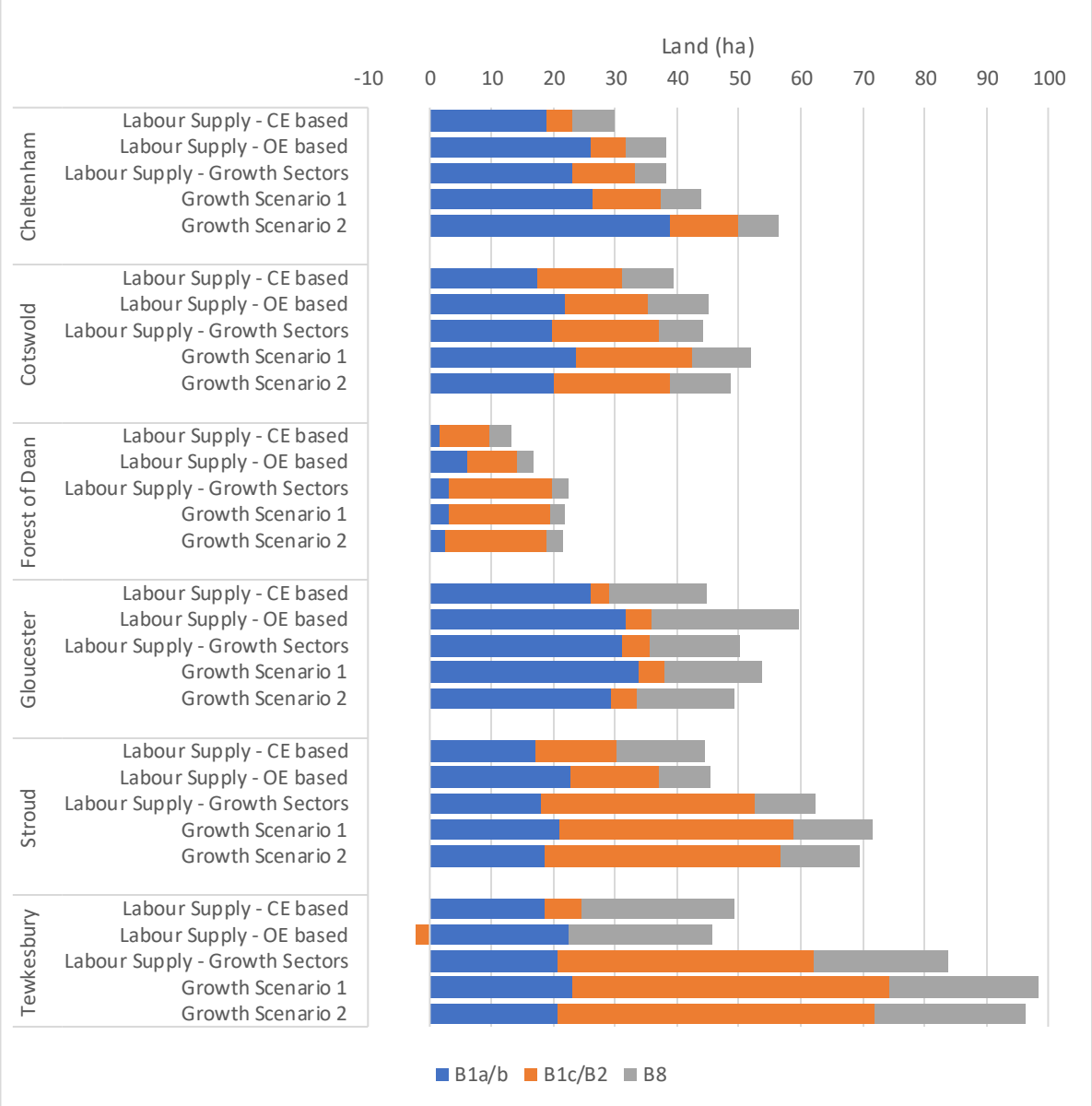
12.6 Based on these FEMA-wide conclusions, the recommended labour supply and labour demand growth forecast are considered below in more detail at a local authority level:

Table 91. Comparison of Employment Land Scenarios by Local Authority, 2021-41 (Stroud 2020-40)

		Labour Supply - CE based	Labour Supply - OE based	Labour Supply - Growth	Labour Demand - Growth Scenario 1	Labour Demand - Growth Scenario 2
Cheltenham	B1a/b	18.9	26.1	22.9	26.2	38.9
	B1c/B2	4.0	5.6	10.1	11.1	11.1
	B8	6.9	6.5	5.3	6.6	6.6
	Total	**29.8**	**38.2**	**38.4**	**43.8**	**56.5**
Cotswold	B1a/b	17.3	22.0	19.7	23.5	20.0
	B1c/B2	13.7	13.2	17.2	19.0	19.0
	B8	8.5	9.9	7.4	9.6	9.6
	Total	**39.5**	**45.1**	**44.3**	**52.1**	**48.6**
Forest of Dean	B1a/b	1.6	6.2	3.1	2.9	2.4
	B1c/B2	8.1	8.0	16.6	16.5	16.5
	B8	3.5	2.6	2.7	2.5	2.5
	Total	**13.2**	**16.8**	**22.4**	**21.9**	**21.4**
Gloucester	B1a/b	26.1	31.7	31.1	33.7	29.2
	B1c/B2	2.8	4.1	4.5	4.2	4.2
	B8	16.0	24.0	14.7	15.7	15.7
	Total	**44.9**	**59.8**	**50.2**	**53.6**	**49.1**
Stroud	B1a/b	16.9	22.6	18.0	20.9	18.6
	B1c/B2	13.2	14.4	34.5	38.0	38.0
	B8	14.4	8.5	10.0	12.8	12.8
	Total	**44.5**	**45.5**	**62.5**	**71.8**	**69.5**
Tewkesbury	B1a/b	18.6	22.4	20.7	23.0	20.8
	B1c/B2	5.9	-2.3	41.5	51.3	51.3
	B8	24.8	23.4	21.6	24.2	24.2
	Total	**49.3**	**43.5**	**83.8**	**98.4**	**96.2**
JCS Area	B1a/b	63.7	80.2	74.7	82.8	88.8
	B1c/B2	12.6	7.4	56.1	66.5	66.5
	B8	47.7	53.9	41.6	46.5	46.5
	Total	**123.9**	**141.5**	**172.4**	**195.8**	**201.8**
Gloucestershire	B1a/b	99.5	130.9	115.5	130.2	129.9
	B1c/B2	47.5	43.0	124.4	139.9	139.9
	B8	74.1	74.9	61.7	71.5	71.5
	Total	**221.1**	**248.8**	**301.6**	**341.6**	**341.3**

12.7 The data in Table 90 is set out below to provide a graphical comparison between the scenarios.

Figure 92. Comparison of Employment Land Scenarios by Local Authority, 2021-41 (Stroud 2020-40)



12.8 The labour supply approach shows a higher level of jobs growth than the econometric forecasts considered in the labour demand scenarios. The jobs profile for the labour supply scenarios has been estimated by increasing the level of jobs growth shown in each of the forecasts – the CE, the OE MidHigh, and the growth forecasts.

12.9 The labour supply scenarios based on the CE and OE forecasts identify very low future needs for industrial (B1c/B2) land – around 45ha across Gloucestershire, and only 7.5-12.5ha across the JCS area. This reflects the sectoral profile of growth in the CE and OE forecasts.

12.10 However, as set out in Section 7, these forecasts do not reflect the strong recent performance seen in key growth sectors of Advanced manufacturing, Energy, and Cyber security and related IT services. These sectors have all seen strong growth in Gloucestershire in recent

years and were identified by many stakeholders as strong areas of growth. They are also priority sectors identified by the LEP's Local Industrial Strategy.

12.11 The third labour supply scenario is modelled on the assumption that the profile of jobs growth shown in the growth forecast which is based on the strong 10-year performance in the growth sectors. These sectors generally take place on B Class employment sites, and as such the higher jobs growth in these scenarios translates to considerably higher employment land requirements. This results in a need for 124ha of B1c/B2 industrial land across the FEMA. However, this is lower than the 140ha identified in the labour demand growth scenarios.

12.12 For B8 uses, the range between the scenarios is not as significant as for industrial uses, with the scenarios showing a need for 60-75ha of land across Gloucestershire, with the labour supply growth scenario at the lower end of this range. One of the key findings arising from the commercial property market assessment was that flexibility should be applied in terms of the uses permitted at employment sites and policies should not differentiate between B2 and B8 uses. Therefore, considering B2 and B8 requirements together, the labour supply growth scenario identifies a need for 185ha compared to the other labour supply scenarios which show a need for around 120ha.

12.13 For the office sector the range between the scenarios is not so significant, showing an overall need for office space ranging from 100-130ha across Gloucestershire. The labour supply growth scenario shows a need for 115ha – representing the mid-point of this range.

12.14 The labour supply growth scenario is therefore considered to provide a realistic yet positive estimate for future employment land needs in Gloucestershire. It aligns with demographic growth and takes account of recent growth trends, stakeholder feedback, and the LEP's Local industrial strategy. It is therefore considered to provide a positive basis for planning to ensure that future business needs of Gloucestershire are provided for.

12.15 The labour demand growth scenario provides a slightly higher figure which would support the continued growth in key sectors of the Gloucestershire economy and support the aims of the GFirst LEP and Local Industrial Strategy.

12.16 The employment land needs for each local authority, the JCS area, and Gloucestershire as a whole, are set out in the table below:

Table 92. Employment Land Needs by Local Authority, 2021-41 (Stroud 2020-40)

	B1a/b		B1c/B2/B8	
Source	**Labour Supply Growth**	**Labour Demand Growth 1**	**Labour Supply Growth**	**Labour Demand Growth 1**
Cheltenham	22.9	26.2	15.4	17.6
Cotswold	19.7	23.5	24.6	28.6
Forest of Dean	3.1	2.9	19.3	19.0
Gloucester	31.1	33.7	19.2	19.9
Stroud	18.0	20.9	44.4	50.8
Tewkesbury	20.7	23.0	63.1	75.5
JCS Area	**74.7**	**82.9**	**97.7**	**113.0**
Gloucestershire	**115.5**	**130.2**	**186.0**	**211.4**

b) Conclusions on Location and Mix

12.17 In addition to the overall assessment of employment land set out above, the analysis has identified a range of other conclusions which should be considered when identifying the type, size, and location of sites for employment uses:

- The M5 corridor is the key location for industrial and distribution occupiers in Gloucestershire. The M5 corridor is also popular for office occupiers along with Cheltenham Town Centre and Gloucester City Centre. Interest in industrial space in the region is focussed primarily along the M5 corridor, and most strongly at the junctions J9, J11, and J11a in Tewkesbury and J12 and J13 in Stroud. Also demand in the main existing employment centres generally focussed in and around the main settlements in and arterial road networks, such as along the A417/A419 Corridor.
- Cheltenham is the most popular location for office occupiers. Rents are high enough in the town to largely withstand change of use of the town's office stock to residential via permitted development rights. Elsewhere, particularly in Gloucester and Cirencester, there has been a significant quantum of office stock lost this way, and future demand should include provision to account for lost office floorspace.
- Beyond the most popular locations, demand for land is predominantly driven by indigenous businesses requiring new or additional premises to support organic growth. These existing businesses generally prefer to stay in their existing locations and the area of search for new premises is often relatively small – for example at a particular business park or near a specific motorway junction.
- A considerable driver of demand is the growth and expansion requirements of individual businesses, which is difficult to predict. Expansion related to specific businesses can have very specific requirements. For example, food and drink production require specific food grade design requirements to handle production and ingredient segregation / allergen management. This requires policy flexibility in order to support specific needs as they arise.
- One of the other main drivers for business growth or relocation to the area is the highly skilled workforce – particularly for technical manufacturing businesses. The primary reason for firms locating in the area is the highly skilled local labour force which is particularly focussed on high-tech manufacturing professions. Occupiers looking to expand or relocate generally want to stay close to the existing workforce and this means potential expansion sites would need to be relatively local to existing operations.
- There is a need for sites which are deliverable immediately or in the short term. This requires allocation of a range of site sizes.
- In terms of size requirements, there is an identified shortage of medium size units in the 25,000-40,000 sqft range, and there is a steady demand for smaller units of around 1,000-5,000 sqft in most areas.
- This means the demand for employment land will be to include smaller sites at the existing employment locations, close to the motorway junctions or strategic road network, and close to the existing workforce.
- Flexibility is important in order to meet business needs as they arise. This should be in terms of the scale of employment land, but also in terms of the types and locations of sites.
- Flexibility should be built into employment policies and allocations. Overly prescriptive policies which safeguard employment allocations for a certain type of employment use were not seen as effective and were considered to restrict growth. Out of town employment sites can benefit from a range of ancillary non-B Class uses to suit employee's needs.
- Gloucestershire's rural economy comprises many different types of small and micro-enterprises, and farm diversifications are necessary to support that.

Strategic Planning Research Unit

APPENDIX A – FULL OUTPUTS OF ALL SCENARIOS

		Completions Trend	Labour Demand – OE Baseline	Labour Demand – OE MidHigh	Labour Demand – CE	Labour Demand – Growth Scenario 1	Labour Demand – Growth Scenario 2	Labour Supply – CE based	Labour Supply – OE based	Labour Supply – Growth
Cheltenham	B1a/b	13.0	17.1	22.8	19.6	26.2	38.9	18.9	26.1	22.9
	B1c/B2	2.0	-3.0	3.7	3.5	11.1	11.1	4.0	5.6	10.1
	B8	1.2	1.0	5.8	6.6	6.6	6.6	6.9	6.5	5.3
	Total	**16.1**	**15.1**	**32.3**	**29.6**	**43.8**	**56.5**	**29.8**	**38.2**	**38.4**
Cotswold	B1a/b	14.0	18.2	21.9	18.8	23.5	20.0	17.3	22.0	19.7
	B1c/B2	12.3	8.2	13.2	14.7	19.0	19.0	13.7	13.2	17.2
	B8	10.1	5.9	9.8	9.6	9.6	9.6	8.5	9.9	7.4
	Total	**36.3**	**32.2**	**44.8**	**43.1**	**52.1**	**48.6**	**39.5**	**45.1**	**44.3**
Forest of Dean	B1a/b	0.0	0.8	2.2	1.3	2.9	2.4	1.6	6.2	3.1
	B1c/B2	4.3	-0.2	5.5	7.1	16.5	16.5	8.1	8.0	16.6
	B8	0.6	-1.5	1.0	2.5	2.5	2.5	3.5	2.6	2.7
	Total	**4.9**	**-1.0**	**8.7**	**10.9**	**21.9**	**21.4**	**13.2**	**16.8**	**22.4**
Gloucester	B1a/b	6.1	26.2	29.4	26.4	33.7	29.2	26.1	31.7	31.1
	B1c/B2	11.1	-3.8	2.0	2.5	4.2	4.2	2.8	4.1	4.5
	B8	9.1	15.9	21.3	15.7	15.7	15.7	16.0	24.0	14.7
	Total	**26.4**	**38.2**	**52.7**	**44.6**	**53.6**	**49.1**	**44.9**	**59.8**	**50.2**
Stroud	B1a/b	24.4	13.1	16.3	17.1	20.9	18.6	16.9	22.6	18.0
	B1c/B2	18.9	-4.4	9.9	11.2	38.0	38.0	13.2	14.4	34.5
	B8	16.1	2.5	7.9	12.8	12.8	12.8	14.4	8.5	10.0
	Total	**59.4**	**11.3**	**34.0**	**41.1**	**71.8**	**69.5**	**44.5**	**45.5**	**62.5**
Tewkesbury	B1a/b	13.5	16.9	20.6	19.2	23.0	20.8	18.6	22.4	20.7
	B1c/B2	13.0	-16.6	-3.7	5.2	51.3	51.3	5.9	-2.3	41.5
	B8	39.8	16.5	22.0	24.2	24.2	24.2	24.8	23.4	21.6
	Total	**66.3**	**16.8**	**38.9**	**48.6**	**98.4**	**96.2**	**49.3**	**43.5**	**83.8**
JCS Area	B1a/b	32.6	60.1	72.7	65.1	82.8	88.8	63.7	80.2	74.7
	B1c/B2	26.1	-23.5	2.0	11.2	66.5	66.5	12.6	7.4	56.1
	B8	50.1	33.4	49.1	46.5	46.5	46.5	47.7	53.9	41.6
	Total	**108.8**	**70.1**	**123.9**	**122.8**	**195.8**	**201.8**	**123.9**	**141.5**	**172.4**
Gloucestershire	B1a/b	70.9	92.2	113.1	102.3	130.2	129.9	99.5	130.9	115.5
	B1c/B2	61.5	-19.9	30.5	44.2	139.9	139.9	47.5	43.0	124.4
	B8	76.9	40.2	67.9	71.5	71.5	71.5	74.1	74.9	61.7
	Total	**209.3**	**112.6**	**211.5**	**217.9**	**341.6**	**341.3**	**221.1**	**248.8**	**301.6**

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