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Dear Mr Kemp

OXFORD LOCAL PLAN 2040 EXAMINATION - WRITTEN STATEMENT ON BEHALF OF UNIVERSITY OF OXFORD AND OXFORD BROOKES UNIVERISTY (REF NO. 199).

MATTER 3: HOUSING NEED AND THE HOUSING REQUIREMENT

Before addressing the specific questions, we would like to emphasise the unique circumstances of the County and in particular the needs of the Oxford Cluster as set out in our Oxford Knowledge Intensive (KI) Cluster Vision research provided with our representations and appended here for ease of reference (Appendix 1).

Due to its role as an internationally significant hub for learning and research, the city has requirements that are very different from those which a city the size of Oxford would reasonably generate without the presence of two major universities. The specific needs of the KI cluster must be factored into the city's growth potential and planned positively for. Paragraph 81 of the NPPF (September 2023) highlights the importance of creating the conditions in which businesses can invest, expand and adapt, particularly where Britian can be a global leader in driving innovation, and in areas where high levels of productivity which should be able to capitalise on their performance and potential. The growth of universities and the need to support the growth of the research sectors is supported at a National Policy level.

Turning to Cambridge, as the closest UK comparator, Summer of 2023 saw Michael Gove announce the government's intention to significantly increase levels of development in Cambridge beyond the levels outlined in the Greater Cambridge Local Plan First Proposals consultation. A further announcement in November 2023 referred to 150,000 new dwellings for the Cambridge area to balance the envisaged number of S&T jobs which are likely to be generated. As a result of these announcements senior officers and Leaders of the Cambridge City and South Cambridgeshire District Councils are in regular correspondence with the Cambridge Development Group (CDG) which is led by Peter Freeman, the Chairman of Homes England who is charged with moving this Vision forward. The LPA's locally are considering how the Government's ambitions for Cambridge will interact with, and impact on, the future Local Plan process (The emerging Local Plan referenced circa 52,000 new homes to be delivered in the plan period).

Further to Michael Gove's announcements last Summer regarding the Vision for 'Cambridge 2040' and the 'supercharging' Cambridge as Europe's science capital- further policy direction from national government is now emerging. It is expected significant growth will be directed to the area, even with a change of government, over and above the levels identified in the draft local plan.

As set out in the Governments 'Case for Cambridge', published on 6th March 2024:

> "*Together with Oxford, Cambridge is our nations preeminent centre of academic excellence. Continuing to foster the spirit of scientific discovery that has driven its unparallel success to date with unleash its full economic potential. Doing so is a national imperative, as it is Cambridge that can rival the other international academic cities that have grown vertiginously over recent decades. If we do not act decisively, by following an ambitious and long-term growth plan, we risk permanently diminishing our position on the global stage*".

Furthermore, supporting the growth of both Oxford and Cambridge is critical to The UK Innovation Strategy (July 2021), which outlines the government vision to make the UK a global hub for innovation by 2035. "*Boosting innovation in the private sector is an essential part of the UK's future prosperity and key to achieving UK objectives to be a force for good on global challenges around climate change, biodiversity, prosperity and security*'. More recently in 2023, the Prime Minster presented the ambition for UK to become a global science superpower by 2030 and set up the Department for Science, Innovation and Technology. Backed by over £370 million, the plan is to boost investment in innovation, bring the world's best talent to the UK, and seize the potential of ground-breaking new *technologies like AI where the University of Oxford is a world leader in research.* With others, France and Germany among them – moving further and faster to invest in science and technology, we have got to do the same.

The Oxford Cluster Vision research (Appendix 1) relates this specifically to Oxford, estimating that without supply-side limits to the growth, Oxford and the Vale of White Horse will require an additional 2.2 million square feet of office space and an additional 4.8 million square feet of laboratory space by 2040. Those estimates are significantly higher than in the HENA report, particularly for laboratories. The HENA report, which has both high and low growth scenarios, suggests that Oxford and the Vale of White Horse will only require an additional 1.3-1.5 million square feet of office space by 2040 and an additional 1.6-2.4 million square feet of laboratory space.

As a central component of the UK's economy overall success, it is, therefore, in the national interest that as is the case in Cambridge, Oxford is planned for positively and supported to enable growth into the future. Supporting the City's growth will have significant impact on the overall economic health of the UK and is critical to maintaining its competitiveness on the global stage.

The above points and the enclosed Oxford Cluster Vision research are therefore material to the economic considerations underpinning the various scenarios set out in the HENA. As noted below, we do not consider those scenarios to align with this potential.

The HENA and housing need

Q2 – How does the HENA arrive at the four scenarios for housing need? What evidence sources and assumptions are used? Are these appropriate and justified?

The calculation of housing need within the HENA (HEA.001 & HEA.002) is not justified on the basis it does account for specialist housing need, which emerged in August 2023, after the HENA was prepared in December 2022. As outlined in in the Iceni Oxford Student Needs Assessment (HEA.008, p.69), the current pipeline of student accommodation is not sufficient to support the growth of the Universities over the plan period. Given the supportive National policy position and the significance of the Universities nationally,

regionally and locally both economically and socially, it is a significant oversight that the HENA fails to take account of this.

Q3 – What is the basis for choosing the CE Baseline scenario and departing from the standard method scenario? Is this justified?

We refer to our introductory comments above. The CE baseline scenario estimated what the level of housing need will be to support the level of workforce implied by the 2022 CE baseline projection. If employment demand was to exceed the CE baseline, the labour supply deficit would increase, alongside housing demand in response. Furthermore, the basis for assessing housing need is separate from and does not allow for or take into account specialist housing need for student accommodation, resulting in a greater underestimation of need. As shown in Figure 7.2 of the HENA (HEA.001, p.75) the 2022 CE baseline significantly predicts lower employment growth than the 'Economic Development Led' scenario which was discounted on the basis that it inherits 'over-optimism'. However, the Economic Development Led Scenario aligns with the Oxfordshire Local Industrial Strategy (LIS) which was agreed with Government and published in September 2019, responding to the UK Industrial Strategy. The LIS which sets out an economic strategy up to 2040 with the aim of positioning Oxfordshire as one of the top three innovation ecosystems in the world and as a leading science and technology cluster.

The CE Baseline Scenario is not, therefore, ambitious enough from an economic perspective or reflective of true demand with subsequent effects on associated housing need.

Q4 – What is the basis for choosing the apportionment between authorities based on the distribution of forecast jobs? Is this justified?

In terms of apportioning unmet housing need to individual authorities, the HENA (HEA.001) recommends district level distribution based on the distribution of Oxfordshire's jobs at the end of the plan period.

As set out in our Oxford Cluster Vision research and summarised in the introductory comments above, we expect significant growth in knowledge intensive industries within the cluster i.e. Oxford and the Vale of White Horse. This research points towards a greater apportionment of employment demand within these areas compared to a general backdrop of economic activity in other sectors across the County.

Capacity within Oxford City and the resultant housing requirement

Q6 – How has the capacity to accommodate housing within Oxford City been assessed? Has the process been sufficiently thorough and robust? Could the capacity estimate be increased by altering assumptions or policy approaches? If so, what effect would this have?

We identified in our Regulation 19 representations the conservative approach to addressing height and density through the interaction of Policies HD8 (Using Context to Determine Appropriate Density) and HD9 (Views and Building Heights). Both Universities will need to leverage their estates in the years ahead, both residential as well as academia and research. Historic England in their consultation response (074), recommend that the Council strengthen their evidence base by undertaking a further height and massing study to assess where greater density and scale may be suitable in the City without harming the city's skyline and the Universities are supportive of this in the context of its campuses and sites so that a more robust assessment of capacity can be arrived at.

Q10 – How do housing requirements in adopted Local Plans in other authorities compare with standard method calculations of housing need.

Please refer to our introductory comments above and our enclosed Oxford Cluster Vision Research which demonstrates the unique and special case that applies to the Oxford Knowledge Intensive Cluster when determining the appropriate level of need.

Q13 – How would delivering unmet need in other authorities achieve the objectives and outcomes intended, for example, in terms of commuting and addressing affordable housing needs in Oxford City.

Providing unmet need in adjoining Districts would allow more space to be devoted to essential City-based activity including learning, student accommodation and research. Agglomerating such activity within the City Centre provides benefits to the operation of, and knowledge-sharing, between such organisations.

As outlined in the Iceni Oxford Student Needs Assessment (HEA.008, p.70), students typically prefer to reside within the city, where they are in proximity to their university for lectures and the City Centre for services and nightlife. Ensuring a sufficient supply of student accommodation within the city is therefore conducive to supporting the growth of Oxford's KI cluster by maintaining the Universities as attractive institutions at which to study.

Q14 – If Oxford City's housing need was calculated using the standard method, what would be the implications for the scale of unmet need and the potential for it to be met by other authorities.

Irrespective of the different methods used by the City to calculate housing need, the scale of unmet need has been underestimated due to its failure to account for demand for student accommodation. This is then further exacerbated by the serious underestimation of needs to office and laboratory floorspace.

Yours sincerely

Chris Pattison
Partner

Enclosures

Appendix 1 of our Regulation 19 representations: Oxford Cluster Vision

APPENDIX 1
APPENDIX 1 OF REGULATION 19
RESPONSE: OXFORD CLUSTER VISION

BIDWELLS

OXFORD CLUSTER VISION
UNIVERSITY OF OXFORD

Table of Contents

1.0   Introduction

Purpose of this research:

1.1   This research was commissioned by the University of Oxford ('the University') to determine if the needs of the Oxford knowledge cluster, which is driven by the academic and research outputs of the University, are being met in the draft Local Plan 2040. The University is concerned that if the Draft Plan is one of restraint and does not plan positively for economic growth, particularly in an area of high innovation and productivity, this will ultimately constrain the University and the wider economy.

1.2   This report will respond to the following key questions:

   I.   How big is the Oxford Science and Tech Cluster and how does it compare with Cambridge and other cities?

   II.   Why is the Oxford Science & Tech Cluster growing?

   III.   What is the potential of the Oxford Science & Teach Cluster and how does it compare with the projections in the Draft Local Plan 2040?

2.0 How Big is the Oxford Science & Tech Cluster and How Does it Compare with Cambridge and other cities?

2.1 This study assumes that Knowledge Intensive (K.I.) industries will continue to be the primary driver of employment growth in Oxfordshire for the foreseeable future. While other sectors (e.g. health and tourism) may also create additional jobs, their contribution to the local economy is unlikely to be on the same scale as K.I. Industries.

2.2 The study uses the same broader definition of K.I. industries as Advanced Oxford in its "Oxfordshire Innovation Engine 2023" report. The definition was originally developed by Eurostat. The main constituents are life science, IT & communications, advanced manufacturing and other R&D companies. The definition excludes professional services, financial services and higher education, even though the latter provides the foundation for many K.I. industries.

Table 1: Definition of Knowledge Intensive Industries

SIC CODE	INDUSTRY
Narrow Definition	
21	Manufacture of Pharmaceuticals
26	Manufacture of Electronics & Computers
30.3	Manufacture of Aircraft & Spacecraft
59-61	T.V., Film & Music
62-63	Computer Software, Websites & Data Processing
72	Science & Engineering R&D
Broader Definition (Industries above +)	
20	Manufacture of Chemicals
25.4	Manufacture of Weapons
27-30	Mechanical & Electrical Equipment including Cars
32.5	Manufacture of Medical Supplies
58	Publishing
71	Architects, Planners & Consulting Engineers
74.1	Specialised Design
74.9	Environmental Consultants

Source: Oxfordshire's Innovation Engine 2023. Advanced Oxford. June 2023.

2.3 Although companies working in K.I. industries can be found across Oxfordshire, the two main concentrations are in Oxford and in the south around Abingdon and Didcot / Harwell. Figure 1 maps the most active companies and institutes filing patents in Oxfordshire in the five years to June 2022. Figure 2 shows where new economy firms are clustered in the county. In terms of local authorities, the majority of K.I. businesses in the Oxford Science & Tech cluster are in Oxford City and the Vale of White Horse.

Figure 1: The Most Active Companies and Institutes Filing Patents
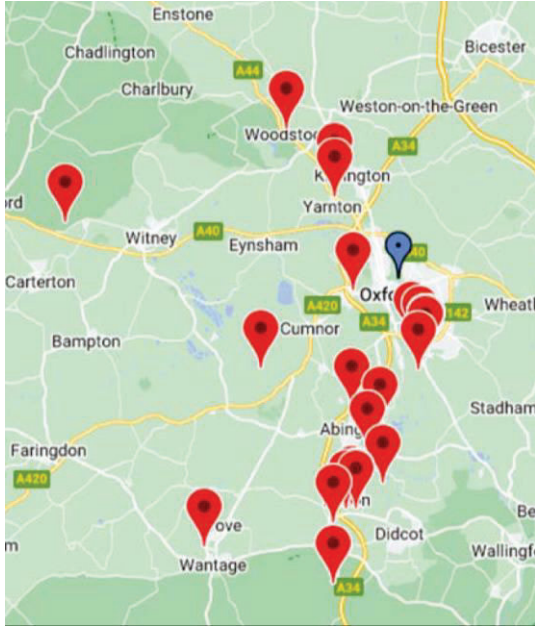
Source: Oxfordshire's Innovation Engine 2023. Advanced Oxford, Filing Analytics. June 2023.

Figure 2: Number of New Economy Firms
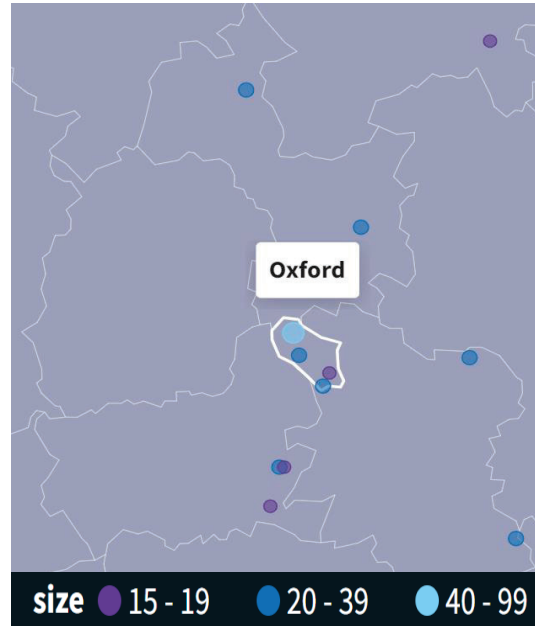
Source: Clustering the New Economy Centre for Cities. September 2023

2.4   The latest data available from the ONS Business Register and Employment Survey for 2022 show that there were 37,100 jobs in K.I. industries in Oxford and the Vale of White Horse in 2022. Employment in K.I. industries has increased by 9,300 since 2015. K.I. sector employment in the two districts grew by an average of 4.2% per annum between 2015 and 2022, with growth of 18.9% between 2021 and 2022.

2.5   Most of the growth has been in life sciences, tech and other R&D, rather than K.I. sectors such as mechanical & electrical engineering, or publishing. By contrast, employment in non-K.I. sectors fell by 3,700 jobs between 2015-2022. K.I. industries accounted for 18% of total employment in the two districts in 2022, up from 13% in 2015.

2.6   See Annex 1 for a full breakdown of employment in Oxford and the Vale of White Horse. We have used 2015 as the base year for this analysis because ONS changed its methodology for local employment data between 2014 and 2015.

Figure 3: Change in Employment in Oxford and Vale of White Horse 2015-2022
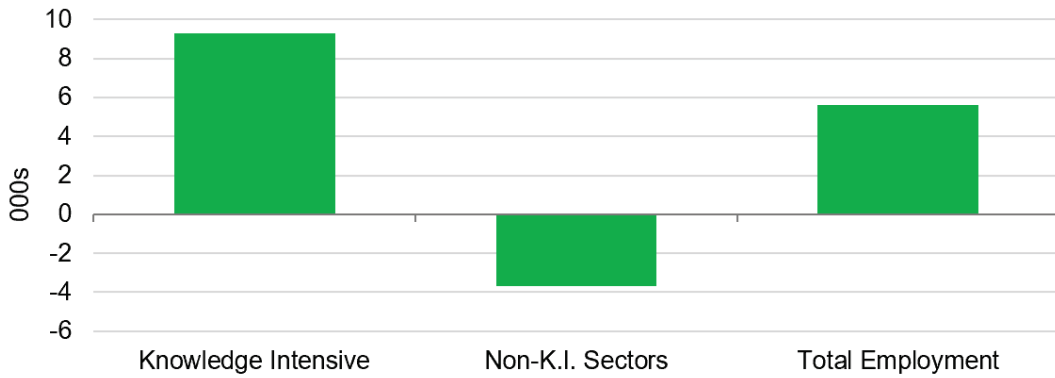
Source: Bidwells, ONS Business Register and Employment Survey. December 2023.

Table 2: Employment in Oxford and the Vale of White Horse (000s)

|	2015	2016	2017	2018	2019	2020	2021	2022
Knowledge Intensive	27.8	28.4	27.4	31.1	30.1	30.7	31.2	37.1
Non-K.I. Sectors	178.2	183.7	181.6	184.9	191.9	179.3	171.8	174.5
Total employment	206.0	212.0	209.0	216.0	222.0	210.0	203.0	211.6

Source: Bidwells, ONS Business Register and Employment Survey. December 2023.

How does the Science & Tech cluster in Oxford and the Vale of White Horse compare with Cambridge and other UK cities?

2.7   Cambridge including South Cambridgeshire has the largest cluster of K.I. jobs outside London. In 2022 it had 51,200 people working in K.I. industries and they accounted for 26% of total employment. The employment data therefore suggest that the Oxford Science & Tech cluster is around 70-75% the size of Cambridge. This relativity is consistent with other data on venture capital (see Figure 6) and the number of new economy firms. ("Clustering the New Economy" report published by Centre for Cities in September 2023 found 175 new economy firms in Oxford and Vale of White Horse vs 235 in greater Cambridge).

Figure 4: Knowledge Intensive Employment in Oxford and Cambridge in 2022

K.I. Jobs (000s)   K.I. % of Total Employment
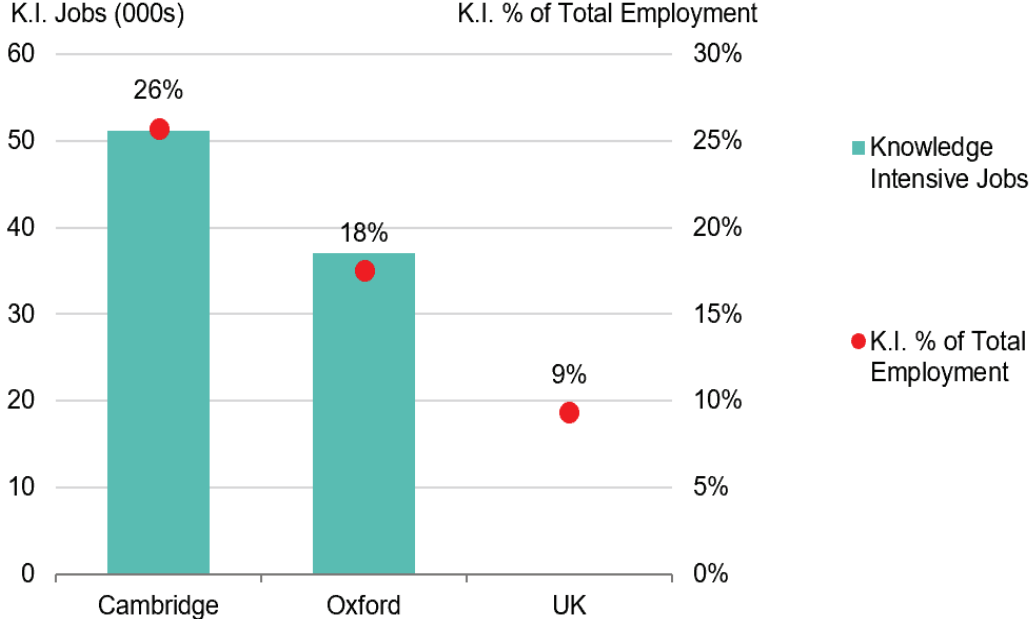
Source: Bidwells, ONS Business Register and Employment Survey. December 2023.

2.8   Although Oxford's Science & Tech cluster is smaller in size when compared with Cambridge, according to figures from the Higher Education Statistics Agency (HESA), the University of Oxford consistently generates more research income (total £4.3 billion between 2015/16 – 2021/22) than the University of Cambridge (total £3.8 billion between 2015/16 – 2021/22). That suggests that K.I. businesses have found it more difficult to locate in Oxfordshire than around Cambridge. Circumstantial evidence is provided by a recent study of 50 of the fastest growing life science businesses, prepared by PwC. The study compared where the businesses' science originated (the left of Figure 5 below) with their current location (the right of Figure 5). The study found that Cambridge has been more successful than Oxford at attracting life science businesses from other parts of the UK.
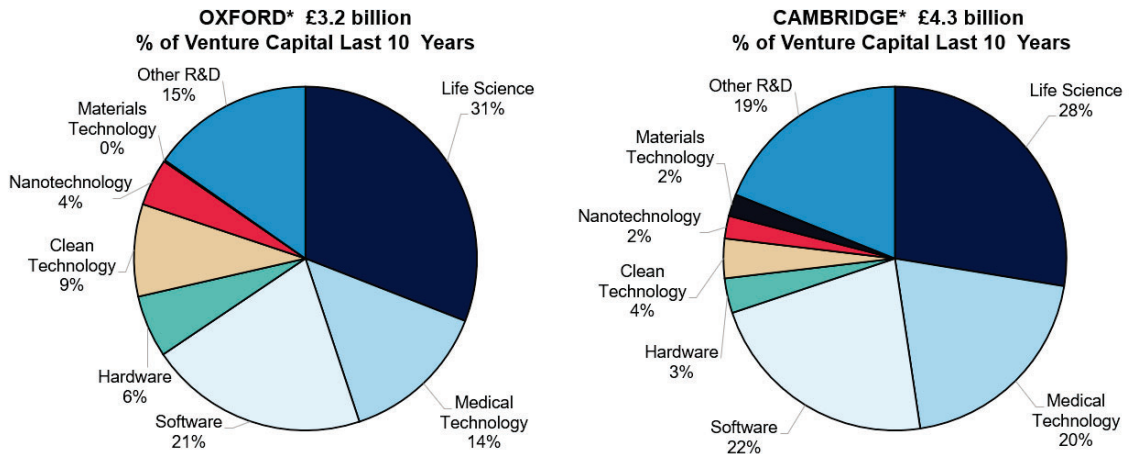
Figure 5: 50 of the Fastest Growing Life Science Businesses
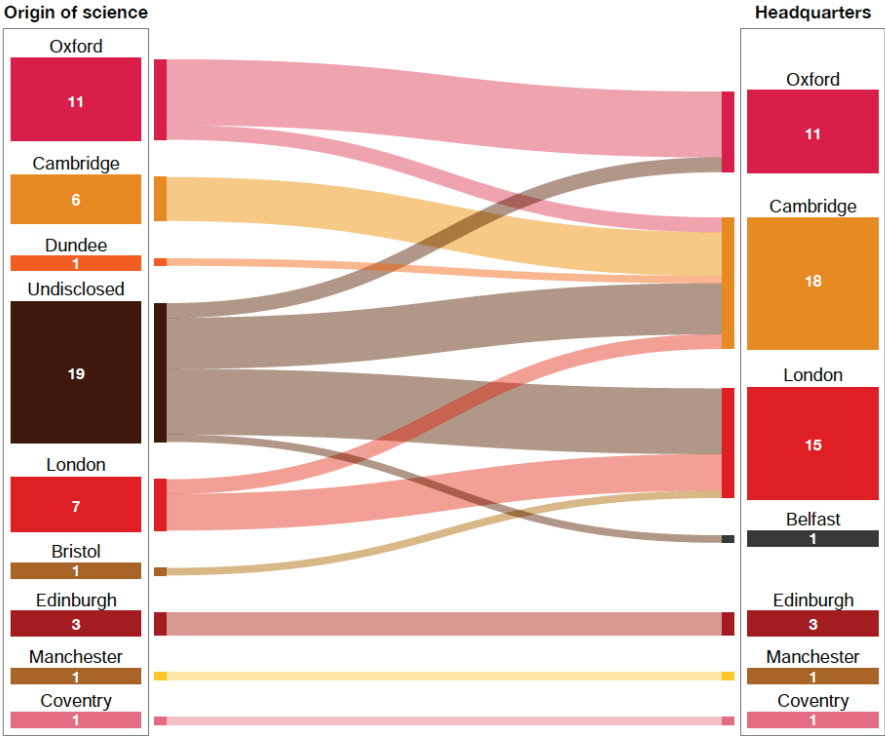
Source: PwC Life Sciences Future 50. October 2023.

2.9   Oxford has the fourth biggest cluster of K.I. jobs outside London. Birmingham (40,500) and Manchester (39,200) have the second and third biggest number of K.I. jobs outside London, but their total workforces are more than double the size of both Oxford and Cambridge. In relative terms, Oxford and Cambridge stand out as having exceptional industrial structures. The city with the next highest exposure to K.I. industries in 2022 was London with 12%, reflecting its strengths in IT and media. The national average was 9% of total employment.

Figure 6: Technologies Employed in Oxford and Cambridge

OXFORD* £3.2 billion
% of Venture Capital Last 10 Years

- Other R&D 15%
- Materials Technology 0%
- Nanotechnology 4%
- Clean Technology 9%
- Hardware 6%
- Software 21%
- Medical Technology 14%
- Life Science 31%

CAMBRIDGE* £4.3 billion
% of Venture Capital Last 10 Years

- Other R&D 19%
- Materials Technology 2%
- Nanotechnology 2%
- Clean Technology 4%
- Hardware 3%
- Software 22%
- Medical Technology 20%
- Life Science 28%

Source: Beauhurst, Bidwells. December 2023.
*Oxford & Vale of White Horse. *Cambridge & South Cambridgeshire

2.10   The pie-charts above provide more detail on the technologies employed in Oxford and Cambridge. The data are based on the total amount of venture capital raised over the last 10 years and also suggest that the Oxford's Science & Tech cluster (£3.2 billion) is around three quarters the size of Cambridge (£4.3 billion). The pie-chart indicates that Oxford has a diverse mix of different technologies and is not dependent on one technology which might leave it vulnerable if that technology was superseded in the future. While Life Science is the single biggest sector in the Oxford cluster, it does not dominate and the cluster also has a significant presence in software and clean technology (e.g. batteries, nuclear fusion).

3.0 Why is the Oxford Science & Tech Cluster Growing?

3.1 The key attraction of Oxford K.I. for industries are the University, research institutes and teaching hospitals which deliver both world class research and a pool of highly trained people. While the internet means it is now possible for academics and researchers to do a lot of work remotely, the best ideas still generally come from face-to-face interactions. Innovation remains local. This is demonstrated by a 2021 YouGov survey of global R&D companies commissioned by Bidwells which showed that their key priorities for choosing a location are access to staff and proximity to business collaborators, academics and clinicians.

Table 3: Location Considerations for Global R&D Companies with a Presence in the UK

IMPORTANCE	FACTOR
1	Ease of recruiting and retaining staff
2.	Proximity to potential business collaborators
3.	Proximity to potential academic, or clinical collaborators
4.	Availability of 24/7 amenities
5.	Availability of property to expand

Source: Bidwells, YouGov. 2021.

3.2 Another key reason for the growth of the Oxford Science & Tech cluster are rapid advances in science including: cell & gene therapies which target oncology, rare diseases and neurology; AI and machine learning which can create text and other content and have a host of applications in marketing, navigation, security and social media: 3D printing of complex assemblies and human tissue; quantum computing and nuclear fusion. For example, sales of cell, gene and RNA therapies grew by 60% p.a. between 2017-2022. The distinction between life science and tech is blurring as AI is increasingly used in areas such as drug discovery and materials technology.

Figure 7: Revenues from Cell, Gene and Ribonucleic acid (RNA) Therapies
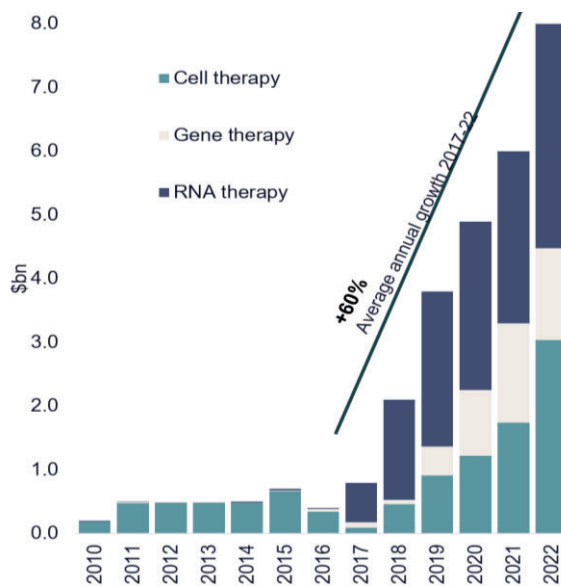
Source: IQVIA MIDAS MAT. February 2023.

3.3   The third factor which is contributing to the growth of the Oxford Science & Tech cluster is the ambition of the University of Oxford to grow its income from licensing its intellectual property and the maturing of the fund-raising environment. Oxford Science Enterprise plc (OSE) which was founded in 2015 has played a pivotal role and it plans to invest a further £1 billion over the next five years, which in turn should lever £4 to 5 billion from other investors.

3.4   Finally, success breed success. K.I. businesses exhibit a high degree of locational inertia, because once they have built relationships with other local businesses, academics and clinicians they are very reluctant to move. 76% of R&D companies would prefer to extend existing facilities when they grow (Source. Bidwells, YouGov Survey 2021).

3.5   This is further demonstrated by Table 4 which analyses the businesses looking for laboratory space in Oxfordshire in mid-2023. What is striking is that almost half of requirements for laboratory space are from businesses which started in Oxford, probably as spin-outs from the University. In short, much of the growth of the Oxford Science & Tech cluster is home-grown. That means that while the arrival of multi-national companies (e.g. Moderna) is very positive, the future growth of the cluster is not entirely dependent on securing more inward investment.

Table 4: Oxford Laboratory Requirements in Mid-2023

| COMPANY ORIGIN	% OF TOTAL SPACE	% OF TOTAL NUMBER
Existing Presence & Started in Oxford	48%	48%
Existing Presence & Started in Rest UK	11%	17%
Existing Presence & Started Overseas	8%	13%
Existing Presence in Oxford	**67%**	**78%**
New Entrants (UK)	4%	4%
New Entrants (Overseas)	29%	18%
New Entrants	**33%**	**22%**
Total	100%	100%

Source: Bidwells. July 2023.

3.6   Furthermore, because the Oxford Science & Tech cluster has already achieved a critical mass it is likely to attract more researchers, because there are now a range of different employers and people can stay in Oxfordshire and build a career. They do not have to move to another part of the country in order to find a more interesting job or gain a promotion. In addition, as the Oxford Science & Tech cluster grows, so it will attract more people in finance and professional services (e.g. lawyers and patent agents) and it will be easier to raise venture capital and start a business.

4.0 What is the potential of the Oxford Science & Tech Cluster and how does it compare with the projections in the Draft Local Plan 2040?

4.1 Oxford's Science & Tech cluster has huge potential. The world leading research undertaken by the University and research institutes and the pool of highly skilled staff are key ingredients for Knowledge Intensive (K.I.) industries. The wide range of different technologies employed in the cluster means that it is not a single sector whose fortunes are tied to one industry.

4.2 Employment in K.I. industries in the Oxford Science & Tech cluster grew by 4% p.a. on average between 2015 and 2022 and a similar rate of growth was seen in most other UK cities, except Birmingham, Newcastle and Sheffield. (The faster rate of growth of K.I. jobs in Manchester was due in part to the partial re-location of the BBC from London and subsequent expansion). Data for life sciences in Boston / Massachusetts, which is the largest life science cluster in the world, shows a similar trend with employment growing by 4% p.a. since 2010.

Figure 8: Growth in Knowledge Intensive Employment
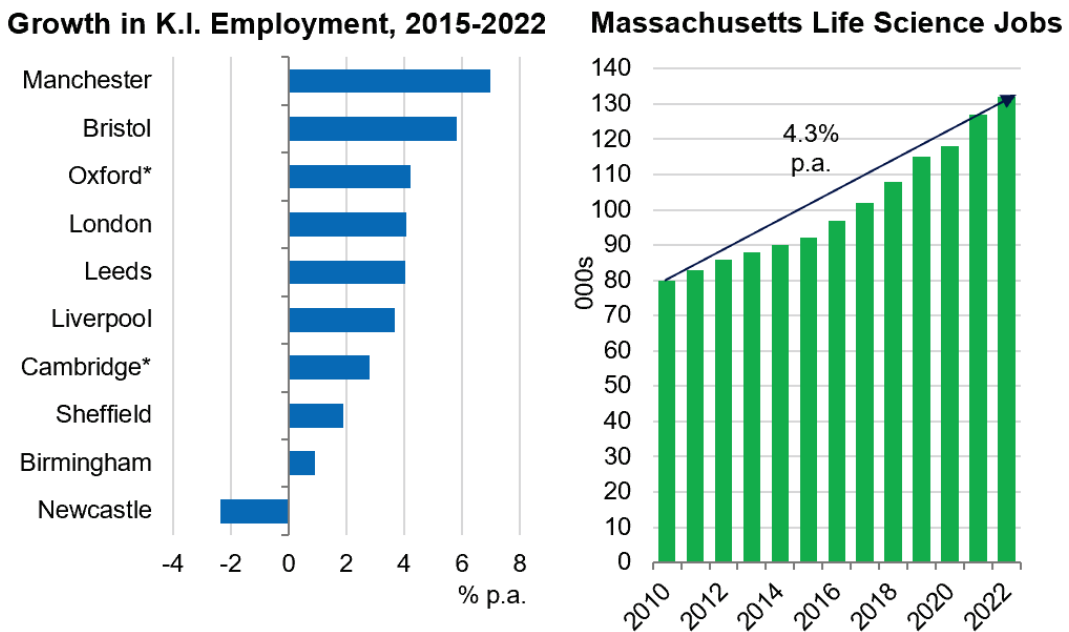
Source: Bidwells, ONS Business Register and Employment Survey. Massachusetts Life Sciences Employment Outlook 2023. December 2023.
*Oxford & Vale of White Horse. *Cambridge & South Cambridgeshire

4.3 Bidwells believe that K.I. industries in the Oxford Science &Tech cluster have the potential to sustain employment growth of 4% p.a. during the period to 2040, given all the current advances in science (e.g. cell and gene therapy, AI, quantum computing, nuclear fusion). Growth is likely to be driven primarily by the expansion of existing businesses and future spin-outs from the University, but periodically, will be boosted by the arrival of multi-nationals and other smaller specialist firms. Government measures which aim to increase investment by UK pension funds in start-up businesses should also support the long-term growth of the Oxford Science & Tech cluster.

4.4   The growth of K.I. industries will benefit the Oxfordshire economy in two ways. First, as their staff spend money in shops, pubs and restaurants in Oxford and the Vale of White Horse. Second, through supply chains, as K.I. business buy services (e.g. construction, professional services) from businesses across Oxfordshire.

4.5   However, whether the potential of the Oxford Science & Tech cluster is realised will depend upon a number of supply-side factors, many of which will hinge on planning decisions made by Oxford City Council and the Vale of White Horse. These include the expansion of the universities, the provision of additional housing and commercial space, electricity supply and upgrades to the transport network to enable people to commute into Oxford and the science parks in the Vale of White Horse.

4.6   If these supply-side issues are not resolved then there is a risk that many of the jobs that could have been created in Oxfordshire do not materialise, because K.I. businesses which cannot expand locally will be forced to open a second site in another cluster (e.g. Boston, Cambridge, Copenhagen, Leiden, London). That raises a further risk that if the Oxford Science & Tech cluster becomes smaller in relative terms, then it may become less attractive to academics and researchers.

Table 5: Oxford & Vale of White Horse Knowledge Intensive Industries Full Potential Scenario

Employment in 2022	
Knowledge Intensive [1]	37,100
Other Sectors	174,500
Total Employment	211,600
Knowledge Intensive % of total	18
2022-2040 Change % p.a.	
Knowledge Intensive	4.0
Other Sectors	0.8
Total Employment	1.5
Employment in 2040	
Knowledge Intensive	75,100
Other Sectors	201,100
Total Employment	276,200
Knowledge Intensive % of total	27
Additional Jobs 2040 vs 2022	
Knowledge Intensive	38,000
Other Sectors	26,600
Total Employment	64,600

Source: Bidwells, ONS Business Register and Employment Survey. December 2023.

4.7 Bidwells K.I. Industries Full Potential scenario assumes no supply-side limits to the growth of the Oxford Science & Tech cluster and that employment in K.I. Industries grows by 4% p.a. between 2022-2040, maintaining the trend since 2015. The scenario also assumes that every ten new jobs in K.I. industries would generate 7 new jobs in other sectors. (Source. "Do low-skilled workers gain from high-tech employment growth?" Neil Lee, Stephen Clarke. Research Policy 2019). As a result, employment in K.I. industries would double over the next 18 years to 75,100 jobs, an increase of 38,000 from 2022 and there would be an additional 26,600 jobs in other sectors. That would take the total number of jobs in Oxford and the Vale of White Horse to 276,200 in 2040 and K.I. industries would account for 27% of total employment.

4.8 Many of the additional jobs would be highly skilled and a further assumption implicit in the Full Potential scenario is that the city's Universities will expand to provide the required skills and training. However, not all of the additional jobs will require a degree. For example, just under half of jobs in life science companies are non-graduate roles.

Table 6: Oxford & Vale of White Horse Additional Office and Laboratory Space in 2040

	OXFORDSHRE HENA LOW SCENARIO	OXFORDSHIRE HENA HIGH SCENARIO	K.I. INDUSTRIES FULL POTENTIAL
Additional Office Jobs	4,908	7,118	16,000
Additional Laboratory Jobs	4,129	6,580	16,000
Office space per worker – Net internal area (NIA) Metre^2	-	-	12.5
Lab space per worker - NIA Metre^2	-	-	28.0
Additional Office Space - NIA Metre^2	122,170	141,380	200,000
Additional Lab Space - NIA Metre^2	145,220	226,560	448,000
Additional Office Space - NIA Feet^2	1,315,026	1,521,800	2,152,780
Additional Lab Space – NIA Feet^2	1,563,134	2,438,669	4,822,227

Source: Bidwells, Cherwell and Oxford City Council Oxfordshire HENA (incl. Errata). December 2023.

4.9 Table 6 converts the additional jobs identified by Table 5 into the extra office and laboratory space which will be required in Oxford and the Vale of White Horse by 2040. We have assumed that 6,000 of the additional jobs in the K.I. Industries Full Potential scenario in Table 5 are in advanced manufacturing rather than life science, IT or other R&D and therefore do not generate demand for office, or lab space. The remaining 32,000 jobs are split evenly between the two sectors. While current requirements are tilted 40%:60% between office and lab space, we think that in part this is a temporary phenomenon caused by cost cutting in IT and that requirements will revert to 50:50 over the long-term. For example, an increasing amount of drug discovery involves AI and does not initially require a laboratory. Please note that we have ignored the implications of the K.I. Industries Full Potential scenario for housing, retail, leisure and industrial space in the two districts, because that is outside the scope of this study.

4.10   The office and laboratory space per worker figures in Table 6 are taken from the Oxfordshire Housing and Economic Needs Assessment (HENA) published by Cherwell District and Oxford City Council in December 2022 and the subsequent Erratum in June 2023. It is difficult to know how employment densities will change in the future. The greater adoption of remote working since Covid-19 has encouraged some office occupiers to down-size, although simultaneously there is pressure to provide more collaborative space and reduce noise pollution and improve wellbeing. Laboratory space per worker is assumed to remain constant, given less opportunity for remote working and the need to accommodate scientific equipment.

4.11   If we multiply the number of additional jobs in the Full Potential scenario by the figures for floorspace per worker, then the analysis suggests that Oxford and the Vale of White Horse will require an additional 2.2 million square feet of office space and an additional 4.8 million square feet of laboratory space by 2040. Those estimates are significantly higher than in the HENA report, particularly for laboratories. The HENA report, which has both high and low growth scenarios, suggests that Oxford and the Vale of White Horse will only require an additional 1.3-1.5 million square feet of office space by 2040 and an additional 1.6-2.4 million square feet of laboratory space.

5.0   Summary

5.1   Knowledge Intensive (K.I.) industries as defined by Advanced Oxford are concentrated in Oxford City and the Vale of White Horse. They account for 18% of total employment and collectively are the biggest employment sector after education.

5.2   K.I. sector employment in the two districts grew by an average of 4.2% per annum between 2015 and 2022, with growth of 18.9% between 2021 and 2022. Employment in other sectors declined during the same period.

5.3   The Oxford Science & Tech Cluster has huge potential. The world leading research undertaken by the Universities and research institutes and the pool of highly skilled staff are the key ingredients for science and tech businesses.

5.4   The diversity of scientific activities means that the cluster is not dependent on one technology which might be superseded. Growth is likely to be driven primarily by the expansion of existing businesses and future spin-outs from the Universities but will be boosted by the periodic arrival of multi-national companies. The growth of the Cluster will also be supported by a further maturing of the venture capital environment.

5.5   Whether the Oxford Science & Tech Cluster achieves its full potential will depend on supply-side factors: the delivery of commercial floor space, the expansion of the Universities, transport upgrades, an increase in electricity supply and additional housing.

5.6   If these constraints are removed, then employment in K.I. industries is likely to maintain its recent trend and grow by 4% p.a. between 2022-2040. That would lead to an additional 64,600 jobs in total by 2040, as other parts of the local economy benefitted from the growth in K.I. industries.

5.7   If the K.I. Industries do achieve their full potential, an additional 2.2 million square feet of office space and 4.8 million of laboratory space would be required by 2040. The Local Plan projects an additional 1.3-1.5million square feet of office space and 1.6-2.4 million of laboratory space.

5.8   The growth of the Oxford Science & Tech Cluster will have positive spillover effects on employment across Oxfordshire.

5.9   If the K.I. Industries in the cluster are constrained, then potential jobs, capital and expertise are likely to be lost to other clusters. With a smaller cluster in relative terms, the risk is that the Universities would be less able to attract academics and researchers, compared to Cambridge, or clusters in other countries.

5.10   The Local Plan fails to plan positively by imposing, or neglecting constraints on both the Universities and the wider economy.

ANNEX 1
EMPLOYMENT BY SECTOR

Education is the most important employment sector in Oxford and the Vale of White Horse with 45,000 jobs in 2022 (the latest year for which official data are available). 29,000 of these jobs are in higher education, reflecting the importance of Oxford's two Universities.

Collectively, there were 37,100 K.I. jobs in Oxford (16,600) and the Vale of White Horse (20,500) in 2022. K.I. Jobs accounted for 18% of total employment in the two districts in 2022. The national average was 9%.

Hotels, cafes, pubs, museums, the arts and other cultural attractions accounted for 15,000 jobs in 2022.

Figure 9: Employment in Oxford and Vale of White Horse in 2022
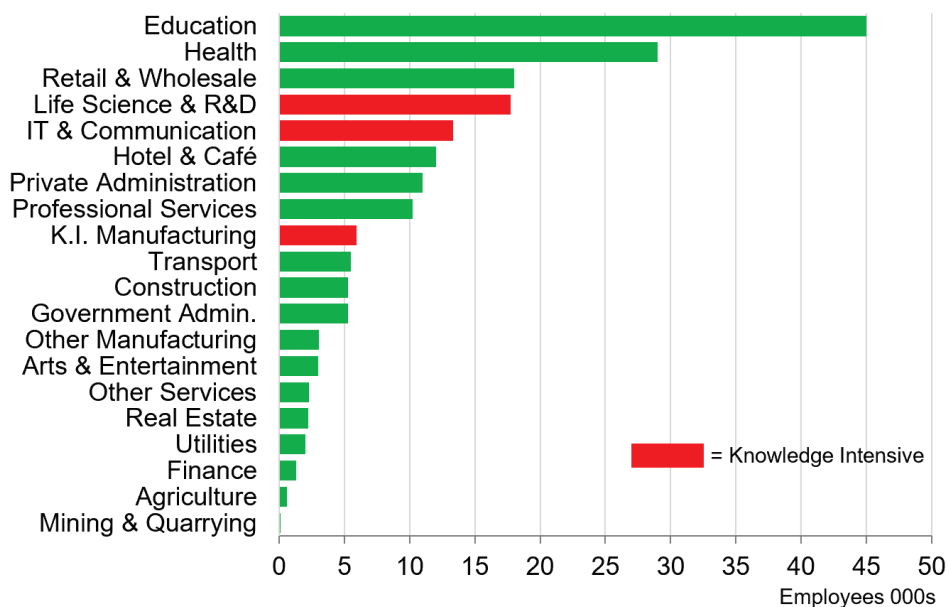
Source: ONS Business Register and Employment Survey. December 2023.

Note the ONS data on employment by sector in the chart excludes around 19,000 jobs among the self-employed, government-supported trainees and HM Forces

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