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Runnymede Housing and Economic Development Needs Assessment

Economy Workstream: Appendix 6 Sensitivity Analysis

Runnymede Borough Council

March 2026

Appendix 6. Sensitivity Analysis

A6.1 Appendix 6 sets out the detailed evidence on macroeconomic trends underpinning the sensitivity analysis.

3A: Macro Trends

A6.2 This section includes analysis of macroeconomic trends, which are essentially ubiquitous across commercial property markets in the UK and possibly further afield.

Offices

A6.3 This section considers the following matters related to future office requirements:

- A: Changing working practices
- B: Changing office sizes
- C: Changing office demand
- D: NPPF proposal to consider laboratories

A: Changing Working Practices

A6.4 The ONS (2024) provides an up-to-date analysis of hybrid working trends in Great Britain (as of autumn 2024)[1]. The report indicates that hybrid working patterns have become more prevalent since the COVID-19 pandemic, with certain demographics and industries exhibiting higher hybrid working rates. Figure A6.1 sets out sector shares of hybrid working, home working, and working from a designated workspace.

A6.5 The sectors which generate the greatest demand for office floorspace appear in the top five sectors for hybrid working shares[2] – these sectors are (hybrid working shares in parentheses):

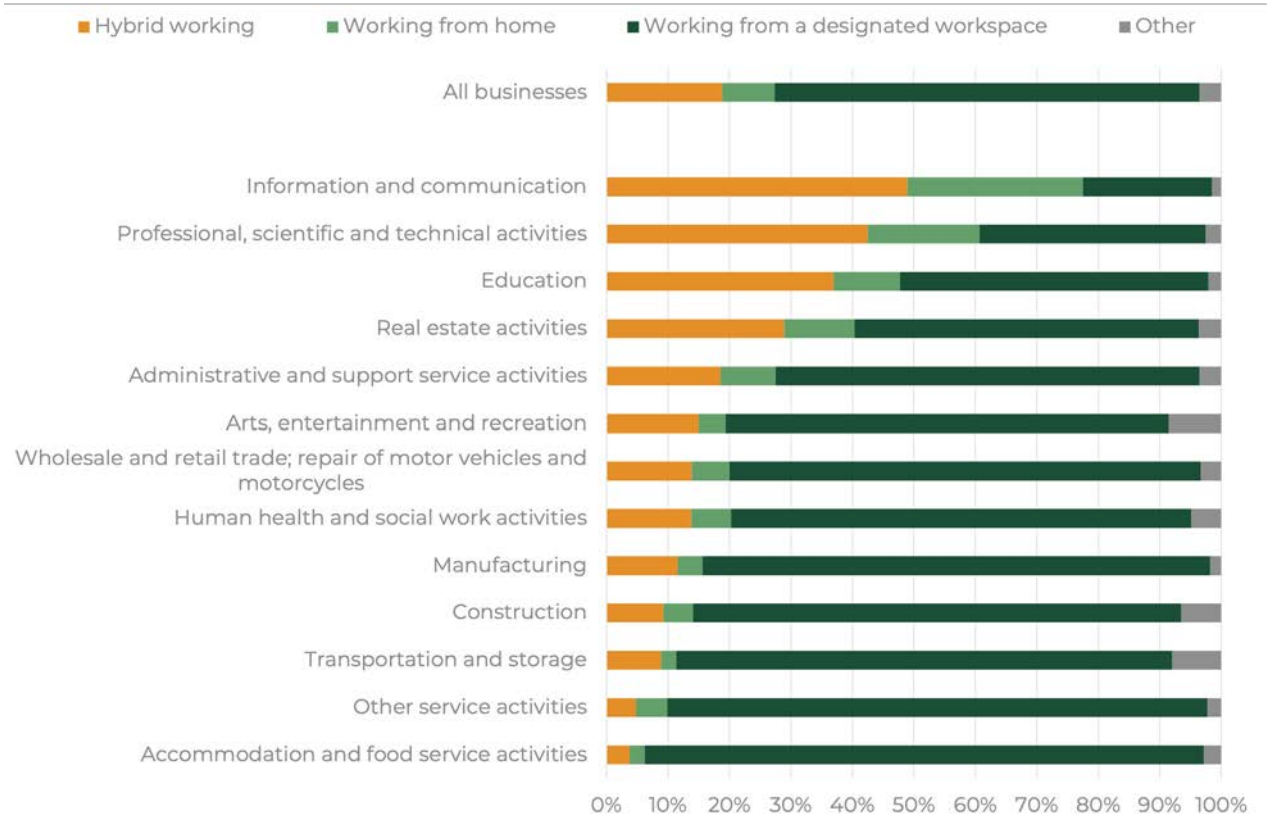
- J: Information and communication (49%)
- L: Real estate activities (29%)
- M: Professional, scientific and technical activities (42%)
- N: Administrative and support service activities (18%)

A6.6 There is a broad range of anecdotal evidence which could be drawn on to make the case for future hybrid and homeworking levels being higher or lower than those reported in the ONS

[1] This data was recorded in December 2023 – as such, it is not directly affected by the public health restrictions (e.g. mandated homeworking), which officially ended in 2022. It can therefore be assumed this data is reliable for the purposes of characterising the current status quo with regards to hybrid and homeworking in the UK.
[2] The ONS does not report hybrid working data for K: Financial and insurance activities and O: Public administration and defence, which also typically generate demand for office floorspace.

data. However, anecdotal evidence of businesses mandating a full return to office working, or business transitioning to 100% remote working models, represent the extremities of business decision making, and should not be relied upon for plan making.

Figure A6.1: Sector shares of hybrid, home, and workplace working – UK (2023)



Source: ONS (2023)

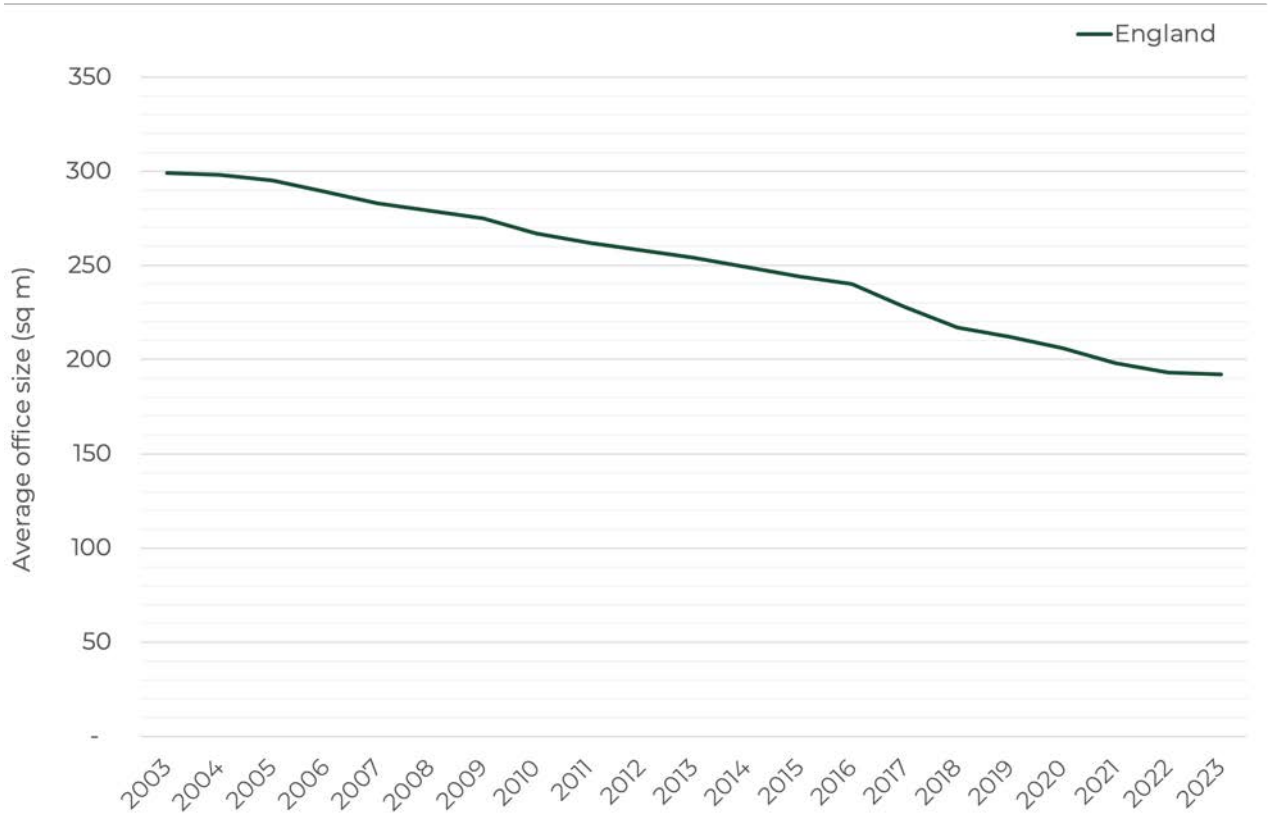
B: Changing Office Sizes

A6.7 The VOA (2024) has published data on non-domestic business floorspace and stock. This data has been analysed to assess the changing profile of England's office stock.

A6.8 As set out in Figure A6.2, the average size of office units in England has reduced between 2003 and 2023, from around 300 sq m per unit to around 190 sq m per unit (–36%). This equates to a reduction of around 2.2% per year.

A6.9 However, comparing the same long-term period for which data is available (2010–2023), the average size of offices has decreased at a greater rate (–1.6% p.a.) than the average number of jobs per business (–0.3% p.a.). Whilst there are a range of other contributing factors (e.g. changes in hours worked, changes in home-working rates), it remains reasonable to assume there has been a change in employment densities within office premises to the extent that a greater number of workers are being accommodated in less space.

Figure A6.2: Average office size change in England (2003–2023)



Source: Hardisty Jones analysis of VOA data

C: Changing Office Demand

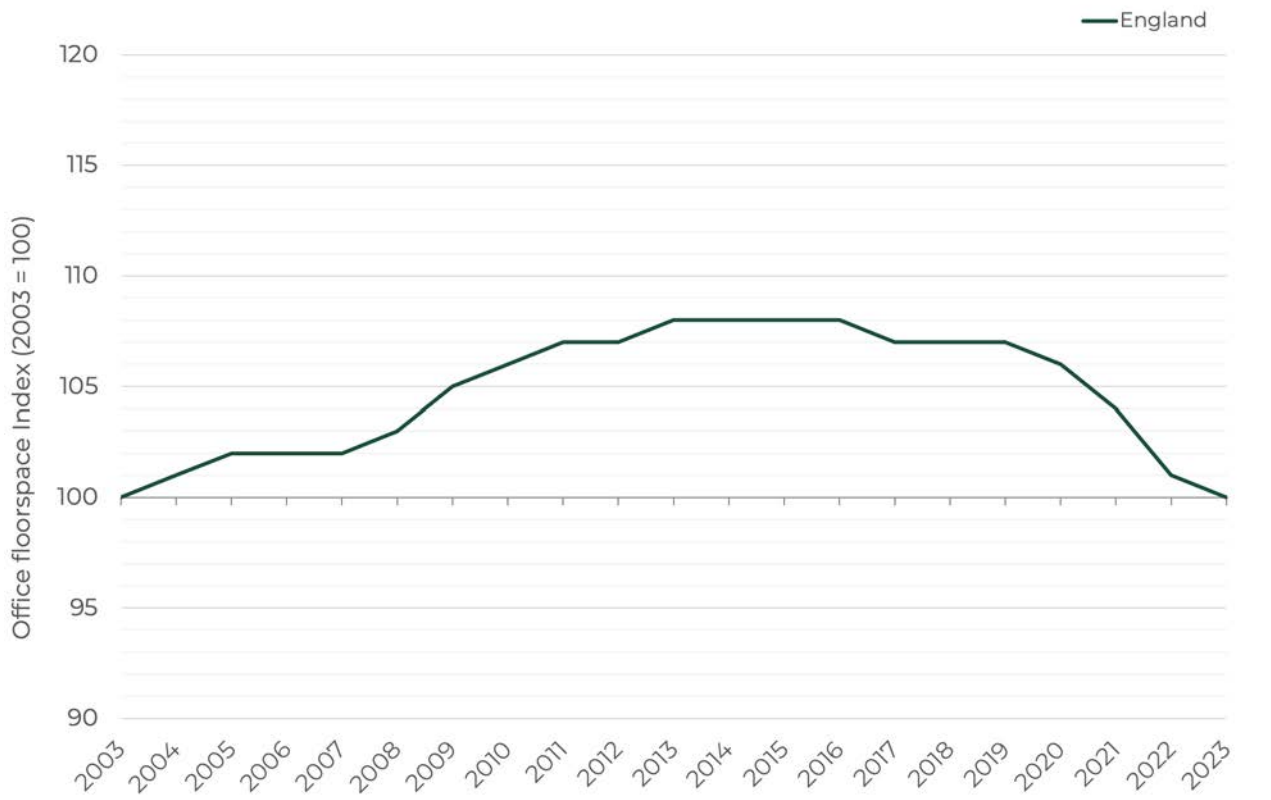
A6.10 The UK office market is in a relatively polarised position. On the one hand, demand for prime office space remains strong, particularly in central urban locations.

A6.11 On the other hand, secondary office space continues to face challenges. The average UK office vacancy rate has risen to 8.6%, compared to around 5% in 2019, with non-prime locations experiencing higher vacancy rates. Secondary office buildings are more likely to struggle to attract tenants due to evolving occupier requirements, sustainability regulations, and the preference for high-quality work environments. There are reports of an increasing number of landlords opting to repurpose or refurbish older stock to meet demand.

A6.12 In addition to a reduction in demand for secondary office space, VOA data indicates that across England there has been a reduction in the overall supply of office floorspace.

A6.13 As per Figure A6.3, the overall stock of office floorspace increased gradually between 2003 and 2013, before stabilising to an extent between 2013 and 2019. From 2020 onwards there has been a clear decline in the overall stock of office space.

Figure A6.3: Office floorspace change in England (2003–2023)



Source: Hardisty Jones analysis of VOA data

Sensitivity testing

A6.14 Downward pressure on baseline requirements has been observed in the evidence, caused by a combination of changing working practices, reducing office sizes, and reducing market demand (both nationally, and acutely within Runnymede).

A6.15 To sensitivity test the above macro trends, a reduction of the overall office floorspace requirement up to 2045 is applied. More detail on the quantitative approach is set out in 3C: Alternative Scenario Identification.

Industrial

A6.16 This section considers the following matters related to future industrial requirements:

- A: Manufacturing employment
- B: Power requirements
- C: Employment densities

A: Manufacturing Employment

A6.17 Manufacturing is by far the largest driver of industrial premises demand.

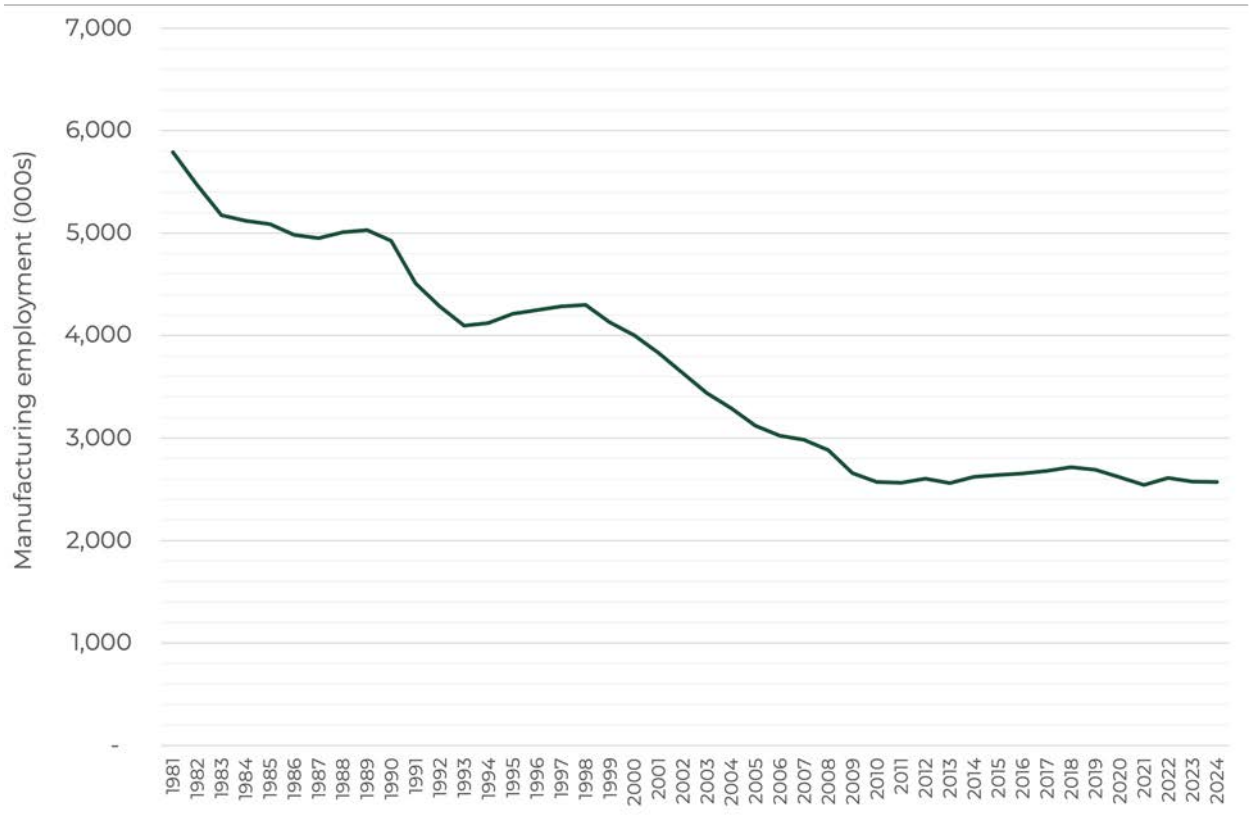
A6.18 The manufacturing sector in the UK has experienced significant structural changes over the past 40 years, with employment trends influenced by advances in technology, globalisation, and changing consumer demand.

A6.19 The UK manufacturing sector has seen a marked decline in employment since the early 1980s. In 1981, manufacturing employment stood at approximately 5.8 million workers, making up around 21% of the UK workforce.

A6.20 By 2024, the number of manufacturing jobs had more than halved to 2.6 million, accounting for only 8% of total employment. This overall and proportional reduction is largely attributed to a shift towards a service-based economy, automation, productivity gains, and competitive pressures from global markets.

A6.21 However, the observed decline in employment has not been evenly distributed across the period since 1981 – as set out in Figure A6.4.

Figure A6.4: Manufacturing employment (000s) in the UK, 1981–2024



Source: UK Workforce Jobs SA – C Manufacturing (ONS, 2025)

A6.22 Future employment trends in UK manufacturing are expected to continue along divergent paths, with both challenges and growth opportunities driven by sector-specific dynamics, economic policy, and technological developments:

- High value manufacturing growth, particularly in sectors such as Aerospace, Pharmaceuticals, and Automotive Technology, is expected to continue supporting employment. Innovations in green technologies and sustainable manufacturing are likely to create new jobs, particularly in electric vehicle (EV) battery production, advanced materials, and renewable energy systems. Government initiatives to support green manufacturing may further increase employment in these areas, though the growth will likely require workers to have specialised skills and technical expertise.
- Automation and digital technologies are anticipated to have a dual impact on employment. While further automation may reduce demand for manual labour and low-skill jobs, it is expected to increase the need for highly skilled roles in areas such as robotics, machine learning, and data analytics. This will likely favour workers who can operate, maintain, and optimise complex machinery. Consequently, a gradual reduction in traditional manufacturing roles is expected, alongside an increased demand for digital skills.
- Reshoring and local manufacturing: economic and geopolitical factors, such as Brexit, the COVID-19 pandemic, and international conflicts have encouraged UK manufacturers to consider reshoring certain production processes. While complete reshoring remains unlikely, some companies in sectors like electronics and medical equipment have shown interest in moving parts of their supply chains back to the UK to improve resilience. Reshoring may contribute to localised job growth, though it will likely focus on automated and high-tech production lines rather than labour-intensive manufacturing.
- Green and sustainable manufacturing: environmental regulations and the UK's commitment to reaching net-zero emissions by 2050 are expected to influence manufacturing employment, particularly in sectors like chemicals, steel, and energy. The transition to low-carbon production methods and the need for sustainable manufacturing practices will create demand for roles focused on environmental engineering and waste management.

A6.23 Potential sector-specific outcomes include:

- Heavy manufacturing: employment in heavy industries may continue to decline as a result of global competition and rising environmental standards. However, targeted government support and investments in low-carbon technologies, such as hydrogen-based steel production, may help support employment in specific sectors.
- High value manufacturing: these high-value sectors are likely to experience sustained or even increased employment as they benefit from export demand, R&D, and the UK's robust regulatory frameworks. However, continued job growth will rely on maintaining global competitiveness and investing in new technologies.

- Consumer goods: employment in consumer goods is expected to remain stable or decline modestly (i.e. no growth), as these sectors continue to face competition from low-cost producers abroad.
- Electronics and advanced engineering: electronics manufacturing, driven by demand for advanced devices, semiconductors, and components for renewable energy, will largely depend on the extent to which the UK can attract or develop local semiconductor manufacturing capabilities, a priority for many countries amid global supply chain disruptions.

A6.24 Overall, the long-term trend towards a reduction in manufacturing employment has stabilised at the national level in the period since 2010. Whilst OE and CE historic employment forecasts indicate that manufacturing employment in Runnymede has shown varying performance during the same period, there is sufficient evidence to justify consideration of alternative outcomes given the significant declines being forecast.

B: Power Requirements

A6.25 Industrial sites and premises vary considerably in their power and energy demands depending on specific operational needs. Determining the optimal location for industrial sites and premises is contingent on a range of factors, with power and energy requirements playing an increasingly important role in both planning and investment decision making.

A6.26 **Manufacturing** sites and premises are diverse in power and energy requirements, depending on occupant needs. For simplicity, power and energy requirements can be categorised as highest, high, medium, and lowest.

A6.27 Industries in the **highest** demand category are substantial electricity users such as major industrial plants (e.g. gigafactories) and data centres. Only users of this nature can connect directly into the UK's high voltage transmission network, which is operate by National Grid.

A6.28 Industries in the **high** demand category are distinguished by processes requiring continuous power, often involving high/low temperatures and intensive resource use. Examples include steel, cement, glass, and chemical and petrochemical manufacturing. These processes will typically require a grid connection to a 66 kV or 132 kV substation, via the distribution network.

A6.29 Industries in the **medium** demand category operate with lower power and energy needs than high demand manufacturing, but still require moderate power levels for various processes. Examples include manufacturing of automotives, machinery and equipment, and textiles and clothing. These processes will typically require a grid connection to a 33 kV or 66 kV substation, via the distribution network.

A6.30 Industries in the **lowest** demand category include those where electricity needs primarily relate to consistent but less intensive processes. Examples include manufacturing of electronics and electrical equipment, semiconductors, and food and beverages (although those with specific colling requirements will have higher power and energy needs). These processes will typically require a grid connection to a 11 kV or 33 kV substation, via the distribution network.

A6.31 Considerations for the planning of manufacturing sites and premises include:

- Process-specific energy needs: for manufacturing activities with the highest power and energy requirements, access to a reliable, high-capacity energy source is important.
- Hybrid energy systems: to reduce dependency on a single energy source, some manufacturing sites may utilise hybrid systems that combine electricity with renewable sources or on-site generation to ensure operational stability.
- On-site energy storage: given the potential for high peak demand, on-site energy storage options can assist with load stabilisation and reduce reliance on grid supply.

A6.32 Runnymede has a 400 kV transmission substation located at New Haw (installed in 2024), and some high capacity overhead transmission lines in the same part of the borough. However, this is insufficient to sensitivity test a scenario of additional demand for general industrial floorspace based on grid capacity advantages.

C: Employment densities

A6.33 Much research has been published on the subject of automation and its future effects on employment (e.g. Business, Energy and Industrial Strategy Committee, 2019; and Department for Business, Energy & Industrial Strategy, 2021).

A6.34 An increase in automation could result in lower employment levels in robotics-intensive sectors such as manufacturing. Lower employment levels would in turn affect sites and premises requirements derived from a labour demand driven analysis.

A6.35 However, lower levels of employment as a result of automation should not be equated to a reducing need for manufacturing floorspace. It is reasonable to assume that increased automation would require an increase in capital intensive practices which would sustain demand for floorspace despite lower employment densities.

A6.36 There is currently a lack of evidence which can be relied upon to underpin alternative assumptions related to changing employment densities in manufacturing activities.

Sensitivity testing

A6.37 To sensitivity test the evidence on manufacturing employment, the analysis removes the decline in manufacturing employment and sets the level of change during the Plan period to zero. This has been sensitivity tested against the highest of the baseline scenarios for general industrial floorspace i.e. the CE scenario.

A6.38 This assumes that, whilst the level of employment in manufacturing will remain essentially unchanged, there remains scope for the profile of manufacturing employment to adapt to reflect evolving sector conditions.

A6.39 There is some high capacity transmission infrastructure located within Runnymede, however the borough's overall electricity grid capacity is insufficient to sensitivity test a scenario of additional demand for general industrial floorspace based on grid capacity advantages.

A6.40 There is currently a lack of evidence which can be relied upon to underpin alternative assumptions related to changing employment densities in manufacturing activities. As such, no sensitivity testing is considered on this matter.

Warehousing and Logistics

A6.41 This section considers the following matters related to future warehousing and logistics requirements:

- A: National and regional demand for strategic logistics
- B: Local demand for last-mile logistics
- C: Power requirements
- D: Employment densities

A: National and Regional Demand for Strategic Logistics

Short-term Outlook (1-2 years)

A6.42 In the short term, the UK logistics market continues to experience steady demand, despite broader economic headwinds. The take-up of large-scale logistics space remained robust in 2024, reaching 2.6 million sq m, an increase of 1% from the previous year and 8% above the pre-COVID average (Savills, 2024). This demonstrates the ongoing structural need for logistics space.

A6.43 Several factors are supporting short-term demand. The post-pandemic retail landscape continues to favour online and 'omnichannel' distribution models, increasing the need for regional fulfilment centres (CBRE, 2024). Supply chain resilience is also a key priority, with businesses holding more inventory domestically to mitigate risks associated with international

trade (UKWA, 2024). However, a key challenge in the short term is the availability of high-quality, well-located warehousing, particularly in areas with established logistics infrastructure.

A6.44 The geography of logistics demand remains centred around established logistics corridors, where transport connectivity, workforce availability, and infrastructure support large-scale operations. The Midlands continues to dominate national warehousing, particularly for national distribution centres serving the entire UK (Savills, 2024).

A6.45 The South East and London remain important locations, though land constraints and high rental costs are prompting businesses to seek alternative locations beyond the capital (BPF, 2024).

A6.46 The North West and Yorkshire are emerging as growing manufacturing and logistics hubs, supported by improving infrastructure and lower costs (CBRE, 2025).

Medium-term Outlook (5 years)

A6.47 Over the next five years, the logistics property market is expected to move towards companies refining their supply chains, integrating automation, robotics, and artificial intelligence into warehousing operations (Future Warehouse, 2024). These technological advancements are not only expected to increase productivity, but also shape the physical requirements of new logistics premises, leading to demand for larger, taller, and more technologically sophisticated spaces (CBRE, 2024).

A6.48 Sustainability concerns are also expected to play an increasing role in occupier decision-making. Businesses are seeking to reduce carbon footprints through the electrification of fleets, energy-efficient buildings, and investment in multimodal transport infrastructure e.g. rail (Four Opportunities in Modern Logistics, 2024).

Long-term Outlook (20 years)

A6.49 In the long term, demand for logistics space is expected to continue to evolve as e-commerce reaches maturity, requiring more sophisticated and efficient logistics networks (BPF, 2024). The increasing integration of rail freight and multimodal logistics is expected to reduce reliance on road transport, potentially influencing the spatial distribution of warehousing (DfT, 2024).

A6.50 By 2040, warehousing design is expected to have evolved, with greater emphasis on automated systems, sustainable materials, and integration with alternative delivery modes such as cargo bikes and drones (Future Warehouse, 2024).

A6.51 The long-term outlook suggests that while major logistics corridors such as the East Midlands Golden Triangle are likely to remain dominant, new growth areas are expected to emerge where land supply and infrastructure allow.

B: Local Demand for Last-mile Logistics

A6.52 One of the most significant factors influencing last-mile logistics is population density. Urban areas with high concentrations of consumers generate greater demand for rapid deliveries, encouraging investment in micro-fulfilment centres, local distribution hubs, and enhanced delivery networks. In rural or sparsely populated areas, last-mile logistics becomes more challenging due to longer distances, fewer delivery stops per route, and higher transport costs per delivery.

Short-term and Medium-term Outlook

A6.53 Urban logistics is becoming an increasingly critical component of the supply chain, as consumers demand faster delivery times. The rise of same-day and next-day delivery models has increased the demand for local distribution hubs, particularly in areas with high population growth (CBRE, 2024).

A6.54 Retailers and logistics operators are focusing on strategically located last-mile hubs, particularly those that can accommodate electric vehicle fleets and micro-fulfilment technologies (Future Warehouse, 2024).

Long-term Outlook

A6.55 Over the next two decades, urban logistics networks are expected continue to evolve, incorporating alternative transport modes such as drones and automated vehicles (CBRE, 2024). Increasing pressure to reduce congestion and emissions is expected to drive innovation in smaller, more flexible distribution hubs integrated into urban areas.

C: Power Requirements

A6.56 Freight and logistics sites and premises power and energy requirements will vary depending on a number of factors. Facilities often require power and energy for sorting, storage, and increasingly, charging infrastructure to support electric vehicle (EV) fleets.

A6.57 The primary power and energy consideration for locating freight and logistics sites and premises relates to EV charging: the transition to EV fleets requires charging stations with substantial electrical capacity, particularly in high-turnover operations where rapid recharging is required.

Data Centres

A6.58 Data centres are highly energy-intensive due to the continuous operation of computing equipment and the need for cooling systems to manage heat. UK data centres generally have substantial energy requirements, with larger facilities consuming between 50 to 200 MW.

A6.59 Key location determinants for data centres include:

- Stable power supply: data centres require stable, uninterrupted power to support 24/7 operations (132 kV substation). Redundant power sources, such as uninterruptible power supplies (UPS) and backup generators, are necessary to ensure resilience in case of grid disruptions.
- Cooling infrastructure: energy-intensive cooling systems are important for maintaining safe operating conditions.
- Access to renewable energy: data centres can utilise on-site renewable energy to reduce their grid connection requirements.

D: Employment densities

A6.60 As discussed under industrial sensitivity testing, there is currently a lack of evidence which can be relied upon to underpin alternative assumptions related to changing employment densities in warehousing and logistics activities. As such no alternative scenario has been developed to account for potential changes to employment densities, given this would be speculative.

Sensitivity testing

A6.61 Sensitivity testing of national and regional demand for strategic logistics, local demand for last-mile logistics, and demand for data centres within Runnymede is considered in more detail in 3B: Micro Trends.

A6.62 There is currently a lack of evidence which can be relied upon to underpin a sensitivity test related to changing employment densities in warehousing and logistics activities. As such no alternative scenario has been developed to account for potential changes to employment densities, given this would be speculative.

HARDISTY • JONES

BRISTOL

27 Trenchard Street,
Bristol, BS1 5AN

01172 355 075

CARDIFF

10th Floor, Brunel House
2 Fitzalan Rd, Cardiff, CF24 0EB

02921 508 950

contact@hardistyjones.com