Greater London Authority

London Economic Uses - Supply and Demand Study

Final report

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Prepared by Arup and Nexus Analytics & Research

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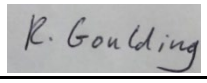
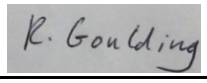
		Signature			
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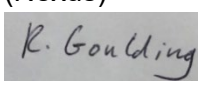
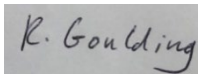
		Signature			

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1 Executive Summary

1.1 Purpose and scope of the study

This study provides quantitative and qualitative evidence on the supply of, and demand for, economic uses across London over the period to 2050. Its purpose is to support the development of the next London Plan, the associated Examination in Public, and wider implementation and monitoring of the Mayor's London Plan, the London Growth Plan and related planning, infrastructure, regeneration and economic development programmes. It is also intended to support London boroughs in preparing local plans, infrastructure needs assessments and related local evidence.

The analysis covers a wide range of economic uses, including retail, office, R&D, light industrial, general industrial, storage and distribution, Class E leisure and services, cultural and some night-time economy (pubs, bars and hot food takeaways) uses and infrastructure accommodated on industrial land. The assessment is undertaken for London as a whole, the boroughs and, where relevant, the Central Activities Zone (CAZ) and North Isle of Dogs (NIOD) or industrial Property Market Area geographies.

The study addresses seven groups of research questions related to: supply quantity; supply quality; demand quantity; demand quality; quantitative supply-demand balance; qualitative supply-demand balance; and recommendations. A summary of the findings associated with each group is set out below.

1.2 Approach

Chapter 3 sets out the approach. The study combines quantitative assessment of floorspace and land surplus/shortfall with qualitative assessment of supply and demand quality. For non-industrial uses, gross demand is compared with pipeline supply to estimate net demand. For industrial uses, gross floorspace demand is converted into land requirements, compared with available industrial land supply, and used to estimate land supply shortfall or surplus.

1.3 Overall findings

London faces a significant challenge in balancing growth, land constraints and the changing nature of economic and infrastructure demand. Demand is strongest for office, storage and distribution, R&D, selected Class E leisure and service uses, and cultural and night-time economy uses. By contrast, demand for general industrial and light industrial floorspace is expected to decline.

The supply-demand balance points to a substantial industrial land shortfall of around 310 ha to 2050. This reflects an overall identified industrial land requirement of around 460 ha against around 150 ha of vacant industrial land supply. The shortfall is driven principally by storage and distribution demand, and reflects the assumption that the contracting general industrial land can be repurposed.

For Class E uses (excluding health facilities), gross demand for new floorspace is estimated at around 6.9 million sqm by 2050, with the majority of this demand driven by office floorspace.

1.4 Supply quantity

Chapter 4 assesses historic and existing floorspace supply quantity. It identifies the current distribution of office, industrial, retail, other Class E, cultural and night-time economy uses, and reviews historic change in supply. It shows that London's commercial floorspace has undergone significant structural change over the past two decades.

Office floorspace is highly concentrated in central London, with the City of London and Westminster alone accounting for over 40% of stock, and around 70% located within six central boroughs. Office floorspace across London as a whole has been declining from a peak in 2012, although several CAZ boroughs and notably the City of London, Hackney, Camden and Islington witnessed strong growth in office floorspace during the period 2011 to 2019. Since the pandemic losses have occurred in most boroughs except in Newham, Hackney, Wandsworth and Greenwich which recorded positive growth.

Industrial floorspace has also experienced a long-term decline, especially in Inner London where stock has nearly halved since 2001. Although industrial space remains more evenly distributed across boroughs, substantial losses have occurred in locations such as Tower Hamlets, Ealing and Newham, while only a small number of boroughs, notably Hillingdon and Havering, have recorded growth.

Retail floorspace increased strongly between 2014 and 2020 and was then partially offset by declines since the pandemic, mostly associated with losses in comparison goods retail and particularly in Outer London. **Other Class E uses** show mixed trends: food and drink uses have grown, financial and professional services floorspace has contracted, and nursery space has increased markedly.

Cultural infrastructure and night-time economy uses are heavily concentrated in Central / Inner London, particularly the CAZ and also other parts of Westminster, Camden, and Hackney. While **pubs and bars** show mixed growth trends, hot food takeaways have experienced sustained growth across London.

Overall, the historic evidence shows an overall contraction of traditional office and industrial floorspace over the last decade alongside growing importance of leisure, hospitality, cultural and community-focused uses.

1.5 Supply quality

Chapter 5 assesses historic and existing floorspace supply quality. It uses CoStar commercial property data and EPC data to understand the quality, age, performance and typology of London's non-residential stock.

London's economic floorspace is mostly built or refurbished since 1970, although light industrial and food-and-drink premises tend to be older. Industrial floorspace is predominantly lower-quality (2-3 star stock), while offices and retail occupy higher-quality buildings - the office market has experienced a long-term "flight to quality", with grade A space making up an increasing share of stock. Energy efficiency remains a challenge, particularly for industrial properties, many of which are unlikely to meet future Minimum Energy Efficiency Standards without upgrades.

1.6 Demand drivers

Chapter 6 identifies the quantitative demand drivers used in subsequent chapters: employment (which informs office, R&D, light industrial and general industrial demand), GVA (which informs storage and distribution demand), in-store spend (with informs retail,

F&B and storage and distribution demand) and population (which informs demand for cultural, night-time economy, leisure and services floorspace).

Communication, and Accommodation and Food Services. In contrast, Manufacturing, Wholesale, Retail, and Transportation sectors are forecast to decline. Growth (in percentage terms) is concentrated in areas such as Tower Hamlets (including the NIOD), the City of London, Barking & Dagenham, and several of the CAZ boroughs.While comparison goods and food and beverage **spending** per capita is expected to increase steadily over the assessment period, convenience goods spending per capita is projected to decline slightly in real terms. Spending levels vary significantly between boroughs, with central and more affluent boroughs such as the City of London, Westminster, Camden and Kensington & Chelsea exhibiting substantially higher retail and leisure expenditure per resident than outer London boroughs.

Population is projected to rise from 9.1 million to 10.5 million by 2050, adding around 1.4 million residents (0.5% annual growth), with the strongest growth expected in Havering, Barnet, and Hillingdon.

London's **economic output (gross value added)** is forecast to increase substantially from £480 billion in 2024 to £775 billion by 2050, representing growth of 61%.

1.7 Demand quantity

Chapter 7 presents employment-based floorspace demand for **offices, R&D, light industrial and general industrial uses**. Under a central scenario, office demand increases by around 5.0 million sqm between 2024 and 2050, R&D demand increases by around 0.5 million sqm (50 ha of land, applying a high efficiency plot ratio), while general industrial demand declines by around 0.9 million sqm (130 ha of land) and light industrial demand declines marginally by around 0.1 million sqm (10 ha of land). Sensitivity testing shows that office demand is particularly sensitive to employment growth and employment density assumptions, while R&D shows more stable positive growth.

Chapter 8 assesses **storage and distribution** demand based on historic spend and GVA to floorspace ratios approaches. There is estimated to be around 2.8 million sqm of additional storage and distribution floorspace / 510 ha of land needed to 2050 under high floorspace efficiency and plot ratio assumptions. These assumptions have been deemed reasonable for the plan period as a whole but the more conservative central assumptions are deemed more appropriate for plan making up to 2036. Sensitivity testing shows that this requirement rises to around 690 ha of land under the central land plot ratio and around 1,020 ha under the low land plot ratio, demonstrating the importance of land-use efficiency assumptions.

Chapter 9 projects future demand for retail and food-and-beverage floorspace across London based on consumer spending projections. Assuming that the current split of spending by borough remains broadly unchanged and businesses improve floorspace productivity over time, London is projected to require approximately 1 million sqm of additional **retail floorspace**, 1.3 million sqm of Class E(b) **food and beverage** floorspace, and 1.1 million sqm of sui generis food and beverage floorspace by 2050. Demand is expected to be concentrated in centrally located boroughs such as Westminster, Camden, the City of London, Southwark and Tower Hamlets, reflecting their strong spending base and ability to attract visitors and expenditure from across London and beyond.

Chapter 10 uses population to floorspace ratios and population projections to estimate future demand for a range of other Class E uses across London: London is projected to require an additional 125,000 sqm of indoor **sport**, recreation or fitness floorspace and 26,000 sqm of Creche, day **nursery** or day centre floorspace by 2050. Demand is highest in several growing outer London boroughs and demand varies significantly under different population scenarios.

For **cultural facilities**, based on a similar methodology using population to provision ratios and population growth, London would need an equivalent of approximately 40 museums/galleries, 40 theatres, 20 cinemas, 60 music venues, 20 nightclubs and 60 libraries by 2050.

For Class E(c) **financial and professional services**, demand is based on historic trends rather than population growth alone, reflecting continuing consolidation of space in high streetbanking and professional services. This results in a forecast need for 41,000 sqm of additional floorspace across London by 2050.

Chapter 11 draws on GLA-based research regarding **infrastructure uses**, including waste, aggregates, energy, transport, water infrastructure and data centres to provide an indicative scale of requirement for these uses. As a detailed quantitative requirement is not calculated for infrastructure and other uses which are accommodated on industrial land but are outside the scope of this study, an allowance has been made for the provision of these uses on vacant industrial land (in line with the current proportion of industrial land taken up by these uses).

1.8 Characteristics and quality of floorspace demand

Chapter 14 considers the 'quality' of demand, including the spatial preferences and building typologies required by different sectors. It provides qualitative evidence on the nature of demand, helping to interpret the quantitative results and inform site selection and policy recommendations.

Office occupiers favour new or refurbished, and highly sustainable **offices** in very accessible locations (such as the CAZ, Northern Isle of Dogs, selected town centres and around stations along the Elizabeth Line), while older, more geographically peripheral stock faces obsolescence. Whilst there is strong demand for new office space, particularly in prime locations (notably the CAZ and Northern Isle of Dogs), refurbishment has also become an attractive option due to cost and capacity constraints.

There is particularly strong demand for smaller urban **industrial and storage and distribution units** (including for last-mile logistics),. Developers are tending towards flexible space which is suitable for a range of occupiers. Given the need to make the most effective use of land and pressure from competing land uses, storage and distribution demand needs to be increasingly met by more efficient floorspace (e.g. multi-storey or underground formats), whilst still offering excellent road links and efficient loading/unloading arrangements. However, there is significant variation across London, and some occupiers continue to seek cheaper space outside London's built up area.

R&D and light industrial demand require flexible, fit-for-purpose premises in locations with suitable access and supporting infrastructure.

Grocery operators continue to focus on convenience stores below 1,000 sq m and medium-sized discount food stores with mixed-use redevelopment of supermarket sites

increasing. Vacant retail units, particularly department stores, are increasingly being repurposed for food, leisure, education, residential, and other town-centre uses.

1.9 Supply-demand balance

Chapter 12 summarises Class E pipeline floorspace supply by geography and use class. London's identified **Class E development pipeline** totals 4.2 million sqm. Office space dominates, accounting for 2.9 million sqm (69%) of the total pipeline and is heavily concentrated in the Central Activities Zone (CAZ) and Northern Isle of Dogs (NIOD), which together contain 3. million sqm (72%) of all pipeline floorspace. R&D space represents the second-largest pipeline at 493,000 sqm (12%), followed by retail floorspace at 348,000 sqm (8%), despite some outer London boroughs experiencing planned retail losses through demolitions and conversions. The largest borough-level pipelines are in the City of London, Hammersmith & Fulham, Tower Hamlets, and Southwark.

In Chapter 15, gross demand for Class E uses is compared with pipeline supply to estimate indicative net demand. There is a demand for 6.9 million sqm of Class E floorspace to 2050. After accounting for an expected delivery rate of 60% of the development pipeline (2.7 million sqm), a **net shortfall** of 4.2 million sqm remains. Offices account for 3.2 million sqm (76%) of this deficit, followed by food and beverage uses (843,000 sqm). Smaller shortages exist in retail and R&D, while light industrial space shows surplus of 257,000 sqm due to declining demand. The largest shortages are concentrated in central London, especially the City of London, Islington, and Westminster.

Chapter 13 assesses **industrial land availability**. The study identifies 240 ha of vacant industrial land, but adjusts this to reflect 'other' industrial and infrastructure uses that are outside the specific demand assessments, such as utilities, rail land, waste management and recycling, open storage and self-storage. After adjustment, around 147 ha is considered available for the industrial uses assessed in this study that require more land.

Chapter 15 brings together supply and demand. For industrial uses, the assessment identifies a London-wide **industrial land shortfall** of between 270 and 430 ha to 2050 (depending on the extent to which declining uses can be repurposed to provide storage and distribution and R&D space, with all five strategic Property Market Areas in deficit. The largest shortfalls are identified in the Central services area, Park Royal / A40 / Heathrow, Wandle Valley, Thames Gateway and Lea Valley. Borough-level shortfalls are particularly evident in outer London locations with strong storage and distribution demand and limited vacant land supply, including Hillingdon, Havering and Croydon.

1.10 Recommendations

Chapter 16 sets out a series of broad recommendations, including potential equalities, diversity and inclusion (EDI) implications.

The EDI assessment provides an understanding of how supply-demand imbalances may affect access to employment, services, and cultural provision, and identifies potential mitigation measures to inform site selection and policy recommendations.

Other key recommendations can be summarised as follows:

- Additional **storage and distribution** capacity should be delivered through industrial intensification, redevelopment of suitable brownfield sites, and potentially some provision outside the current built up area of London where appropriate and feasible. Strategic transport and freight infrastructure investment should support

this growth. Some emerging or intensified typologies (e.g. multi-storey storage and distribution) may require particular support, infrastructure investment and careful site selection.

- While some **industrial** space could be repurposed for logistics uses, protections should remain for manufacturing, creative industries, and innovation-related activities, particularly within creative clusters, innovation districts and areas of higher deprivation.
- The expansion of high-quality **R&D** and life sciences clusters should also be supported to meet strong projected demand.
- Delivery of high-quality **office** space should be prioritised in the CAZ, NIOD and key town centres, while retaining a sufficient supply of more affordable secondary offices for growing businesses elsewhere. Obsolete office stock may be suitable for redevelopment where refurbishment is unviable.
- For **town centre uses**, growth should be focused within existing and emerging centres to support the vitality and viability of these locations. Given an anticipated oversupply of pipeline retail floorspace, the repurposing of surplus retail space should be encouraged to meet demand for food and beverage, leisure, other Class E and cultural uses and where appropriate, housing, supporting town centre diversification and regeneration.

2 Introduction

2.1 Background to this study

The National Planning Policy Framework (NPPF)[1] establishes the importance for planning policies and decisions to support economic growth and productivity, taking into account both local business needs and wider opportunities for development. As stated in the green paper Invest 2035: the UK's Modern Industrial Strategy, growth is the number one mission of this government. Accordingly, working with businesses, trade unions and Londoners, the Mayor and London Councils have developed a London Growth Plan[2] which offers a blueprint for turbocharging productivity in the capital. Preparation of the New London Plan was launched in May 2025, with the Mayor publishing Towards a New London Plan[3], which sets out potential policy options and conveys the intention to consult on the new Draft London Plan in 2026.

The NPPF and associated Planning Practice Guidance[4]5 emphasises the need for strategic policy-making authorities to prepare a robust evidence base to understand existing (and future) business needs, and the requirement to keep this evidence under review to reflect local circumstances and market conditions. Within this context, to inform drafting of the New London Plan, the GLA appointed Arup, supported by Nexus, in March 2025 to undertake analysis to ensure that policy-making is underpinned by a robust strategic understanding of the demand and supply of economic and infrastructure uses in the capital.

2.2 Purpose of this study

The overarching aim of this work is to provide quantitative and qualitative evidence of the demand and supply of economic uses across London at a strategic level over the next London Plan period (and up to 2050). This evidence will inform policy development for the new London Plan and its associated Examination in Public.

Additionally, this study will:

- Support the implementation and monitoring of the Mayor's London Plan, the London Growth Plan and related planning, economic development, infrastructure and regeneration programmes and initiatives; and
- be used to support the Borough's in the preparation and implementation of their local plans and related evidence, infrastructure needs assessments and local planning frameworks.

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[1] Ministry of Housing Communities and Local Government (2024), National Planning Policy Framework

[2] Mayor of London and London Councils (2025), London Growth Plan

[3] Mayor of London (2025), Consultation on the next London plan

[4] Ministry of Housing, Communities and Local Government (2025), Housing and economic needs assessment

2.3 Research questions

This study seeks to address the following research questions (which are split into seven groups):

2.3.1 Supply quantity related questions

- What is the supply of floorspace, and where appropriate land or counts, for economic uses in London? What are the significant locations of these land uses?
- How has the supply for these land uses changed over the last 10-20 years? What is the spatial distribution of this change?
- Which land uses have experienced the greatest changes in supply (by geography)?

2.3.2 Supply quality related questions

- What is the quality[6] of the supply of economic uses across London?
- What are the most prevalent non-residential building typologies?
- Which building typologies have experienced the greatest change in supply across London?
- What building typologies are most likely to become vacant, that is presenting challenges for repurposing or retrofit or conversion to another non-residential use due to lack of demand, viability or changes in regulations?

2.3.3 Demand quantity related questions

- What are the drivers of floorspace demand and what are the interdependencies between these?
- What is the demand for floorspace, and where appropriate land, for economic uses from 2024 to 2050?
- What land uses are considered to have the greatest demand?
- What land uses considered will experience the greatest increases and decreases in demand to 2050?

2.3.4 Demand quality related questions

- What are the spatial preferences of developers and occupiers for economic uses?
- What building characteristics and qualities are required to meet demand, especially where this is currently not being met (e.g. industrial uses)?
- What affordable workspace provision is required to retain sectors that find it difficult to compete for floorspace?

[6] Including prime, secondary and tertiary floorspace

2.3.5 Supply-demand balance related questions

- Taking into account the supply, capacity and demand balance, how much additional floorspace / land is required for economic uses? How much land can be released from uses where demand is contracting?
- What is the strategic spatial distribution of this change in the supply-demand balance? Where are areas of additional need and areas anticipated to experience contraction?

2.3.6 Site selection and policy recommendation related questions

- What new broad locations could meet the identified demand, including grey belt sites and other green belt7 should demand not be able to be met on brownfield sites? What criteria are these recommendations based on? What site features are required for the uses to operate effectively?
- What market or policy interventions are required for land uses to locate in or transition to new locations (e.g. Class E light industrial uses in/to town centres, industrial (potentially stacked) to grey belt sites or other green belt?

The study considers the inter-relationships between these influences on demand for and supply of economic uses over the plan period and draws insights and recommendations appropriate to a strategic level of plan-making.

2.4 Defining the study scope: Use classes, assessment detail and geographies

Table 2-1 sets out the level of detail and geographies covered by the study (scope) for each use class. The definition of the industrial property market areas can be found in Appendix 2 of this report.

[7] See paragraph 146 of the Ministry of Housing Communities and Local Government (2024), National Planning Policy Framework

Table 2-1: Scope of the supply-demand analysis

Scope	Use classes

Floorspace and land needs calculated for each borough and industrial property market area, and for London as a whole	• Industrial uses
	  ○ Class E(g)(ii) – R&D
	  ○ Class E(g)(iii) – Light industrial
	  ○ Class B2 – General industrial
	  ○ Class B8 – Storage and distribution

Floorspace needs calculated for each borough, the CAZ and NIOD, and for London as a whole	• Class E(a) – Retail • Class E(b) - Food and drink for consumption on the premises • Drinking establishments and hot food takeaways (falls under the umbrella of Sui Generis) • Class E(g)(i) – Offices
Floorspace needs calculated for each borough and for London as a whole	• Theatres (falls under Sui Generis) • Nightclubs (falls under Sui Generis) • Venues for live music performance (falls under Sui Generis) • Cinemas (falls under Sui Generis) • Class F1(c) Museums / Class F1(b) - Display of works of art • Class F1(d) Public libraries or public reading rooms • Class E(d) - Indoor sport, recreation or fitness (not involving motorised vehicles or firearms or use as a swimming pool or skating rink) • Class E(f) - Creche, day nursery or day centre • Class E(c) – Financial, professional and other services

Indicative scale of requirement and its geographic distribution (where possible)	• Infrastructure
	  ○ Waste
	  ○ Aggregates
	  ○ Transport
	  ○ Energy
	  ○ Water

Scope	Use classes
	○ Data centres

2.5 Report structure

The structure of this report in relation to the research question groups is set out in Table 2-2.

Table 2-2: Report structure

Chapter number	Chapter name	Scope of chapter	Research question groups answered
2	Introduction	Background, purpose, research questions and scope.	N/A
3	Approach	Overarching approach to answering the research questions.	N/A
4	Historic and existing economic floorspace/land supply	Historic trends in floorspace/land supply quantity and existing floorspace/land supply quantity, by geography and use class.	Supply quantity. Feeds into demand quantity.
5	Characteristics and quality of existing stock	Analysis of the characteristics and quality of existing floorspace.	Supply quality. Feeds into demand quality.
6	Floorspace demand drivers	Analysis of employment, spend and population projections.	Demand quantity
7	Employment-based floorspace/land demand	Assessment of demand for office, R&D, light industrial and general industrial floorspace based on employment by sector projections. Conversion of R&D, light industrial and general industrial floorspace demand to land demand.	Demand quantity
8	Storage and distribution floorspace/land demand	Assessment of demand for storage and distribution floorspace based on spend and GVA projections, and historic net take-up trend projections. Conversion to land demand.	Demand quantity
9	Spend-based floorspace demand	Assessment of demand for retail, food and drinking floorspace based on spend by use class projections.	Demand quantity
10	Population-based floorspace demand	Assessment of demand for a number of cultural and night-time economy uses and ‘other class E’ uses based on population (by age) projections.	Demand quantity

Chapter number	Chapter name	Scope of chapter	Research question groups answered
11	Infrastructure requirements	Assessment of the scale, type and geographic distribution of infrastructure requirements.	Demand quantity, demand quality
12	Class E pipeline floorspace supply	Summary of Class E pipeline floorspace supply (extant and under construction permissions) by geography and use class.	Supply quantity
13	Industrial land availability	Summary of industrial land availability by geography and use class.	Supply quantity
14	Characteristics and quality of floorspace demand	Assessment of the spatial preferences of and building typologies required by different sectors.	Demand quality
15	Supply-demand balance	Assessment of the net demand for Class E floorspace (i.e. demand considering pipeline floorspace supply). Assessment of the amount of industrial land which needs to be identified/released in order to meet requirements for industrial uses.	Supply-demand balance
16	Site selection and policy recommendations	Assessment of the implications of the supply demand balance conclusions for equity, diversity and inclusion with a view to informing the site selection and policy recommendations. Recommendation of broad areas and criteria for site selection and planning policy recommendations.	Site selection and policy recommendations

3 Approach

This study approach brings together both quantitative and qualitative considerations. The quantitative assessment focuses on the surplus/shortfall of floorspace/land for economic uses and infrastructure over the next London Plan period (and up to 2050). The approach to the quantitative assessment has been structured to ensure each of the supply and demand quantity related research questions have been addressed in a methodical way.

3.1 Demand assessment approaches

Specific floorspace demand assessment methods have been used for each use class. Five primary methods have been used to assess demand for new floorspace/land across the plan period. Table 3-1 shows the use classes that are covered by each method (and the relevant chapter). Each primary demand assessment method has its own chapter which includes a description of the detailed methodology used and the findings.

The demand assessment methodologies chosen for each use class have been deemed to be the most robust and proportionate for that use. They estimate needs based on a combination of the most relevant demand drivers to the specific use class. A range of scenarios are included in each demand assessment which reflect a reasonable range of possible outcomes.

Importantly, the methods used aim to account for historically suppressed demand where proportionate and relevant. This is because the methods used are primarily based on projections of underlying drivers of demand (employment, population, spend and GVA), unlike historic trends in completions which are highly supply constrained (in terms of land) and hence, when projected forwards, underestimate demand. A historic net completions trend-based projection of demand has only been used in the case of Class E(c) financial and professional services demand. In this case, other methods cannot proportionately reflect complex societal trends (i.e. population growth-based projections do not reflect rapid changes in how banking services are accessed).

Table 3-1: Use classes covered by demand assessment method

Primary demand assessment method	Use classes	Chapter
Employment based	• Class E(g)(i) – Offices • Class E(g)(ii) – R&D • Class E(g)(iii) – Light industrial • Class B2 – General industrial	7. Employment-based floorspace/land demand
Spend and GVA based	• Class B8 – Storage and distribution (excluding outdoor storage, self-storage, transport depots and data centres. Wholesale markets partially included)	8. Storage and distribution floorspace/land demand

Primary demand assessment method	Use classes	Chapter
Spend based	• Class E(a) – Retail • Class E(b) - Food and drink for consumption on the premises • Drinking establishments and hot food takeaways (falls under the umbrella of Sui Generis)	9. Spend-based floorspace demand
Population based	• Theatres (falls under Sui Generis) • Nightclubs (falls under Sui Generis) • Venues for live music performance (falls under Sui Generis) • Cinemas (falls under Sui Generis) • Class F1(c) Museums / Class F1(b) - Display of works of art • Class F1(d) Public libraries or public reading rooms • Class E(c) Financial and professional services • Class E(d) - Indoor sport, recreation or fitness (not involving motorised vehicles or firearms or use as a swimming pool or skating rink) • Class E(f) - Creche, day nursery or day centre	10. Population-based floorspace demand

Qualitative assessment	• Infrastructure
	  ○ Waste
	  ○ Aggregates
	  ○ Transport
	  ○ Energy
	  ○ Water
	  ○ Data centres
		11. Infrastructure requirements

Note: Class E(g), B2 and B8 uses cover cultural production activities as these take place in these use classes.

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3.2 Supply-demand balance assessment approaches

3.2.1 Class E uses

Figure 3-1 sets out the overarching approach to addressing the demand quantity and quantitative supply-demand balance related research questions for Class E uses (retail, office, leisure and services, cultural and night-time economy uses).

Figure 3-1: Summary of overarching approach used to quantify non-industrial floorspace demand

A description of each step in the overarching approach to calculating the land requirement (steps 1-3) is provided in Table 3-2. This approach has been followed for each Class E use class and geography covered by this study.

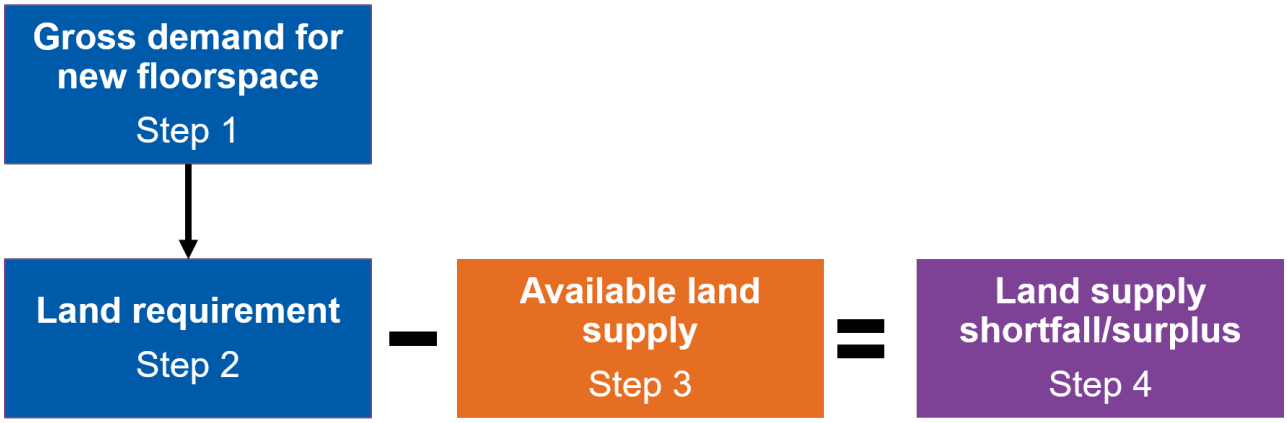
Table 3-2: Overarching approach used to quantify Class E floorspace demand

Step	Chapter(s)	Description of method
1 - Gross demand for new floorspace	7, 9 and 10	Conversion of floorspace demand driver projection(s) to new floorspace demand projection(s).
2 – Class E pipeline floorspace supply	12	Calculation of pipeline (extant and under construction permissions) floorspace supply, where detailed qualitative analysis is to be undertaken.
3 - Net demand for new floorspace	15	Calculation of net demand for new floorspace by subtracting gross demand for new floorspace from pipeline floorspace supply (Step 1 minus Step 2).

3.2.2 Industrial uses

Figure 3-2 sets out the overarching approach to addressing the demand quantity and quantitative supply-demand balance-related research questions for industrial uses (including storage and distribution, general industrial, light industrial and R&D), culminating in an estimation of a land supply shortfall/surplus.

Figure 3-2: Summary of overarching approach used to quantify industrial floorspace and land demand



A description of each step in the overarching approach to calculating the land requirement (steps 1-4) is provided in Table 3-3. This approach has been followed for each industrial use class and geography covered by this study.

Table 3-3: Overarching approach used to quantify industrial floorspace and land demand

Step	Chapter(s)	Description of method
1 - Gross demand for new floorspace	7 and 8	Conversion of floorspace demand driver projection(s) to new floorspace demand projections.
2 – Land requirement	7 and 8	Conversion of gross demand for new floorspace to a land requirement.
3 – Available land supply	13	Calculation of available land supply.
4 – Land supply shortfall/surplus	15	Calculation of land supply shortfall/surplus by subtracting the available land supply from the land requirement (Step 2 minus Step 3).

3.3 Approach to answering supply and demand quality-related research questions

Supply quality has been assessed using a range of methods. The primary method is the use of CoStar's commercial property database to assess the existing quality of stock and the historic change in the quality of stock over the last 15-20 years. Energy performance certificate (EPC) data has also been analysed to understand the extent to which properties will need to be retrofitted or replaced due to energy efficiency standards.

The demand quality assessment is based on trends in the historic data from the supply quality assessment, published literature and professional expertise.

3.4 Approach to answering site and policy recommendation related research questions

The site selection and policy recommendations have been developed by bringing together the quantitative and qualitative findings from across the study, alongside professional judgement and experience of industrial, office, R&D and town centre land-use markets. This includes consideration of projected floorspace demand, existing and pipeline supply,

vacancy, market deliverability, stakeholder evidence, spatial policy objectives and wider strategic priorities such as housing delivery, employment access and inclusive growth. The recommendations are therefore based on an overall assessment of where demand is likely to arise, how far it can be accommodated through existing or planned supply, and what policy interventions may be needed to protect, intensify, repurpose or identify additional land in appropriate locations.

4 Historic and existing floorspace/land supply quantity

4.1 Introduction

This chapter provides an analysis of historic trends in delivery of economic and infrastructure uses.

This chapter answers the following research questions:

- What is the supply of floorspace, and where appropriate land or counts, for economic and infrastructure uses in London? What are the significant locations of these land uses?
- How has the supply for these land uses changed over the last 10-20 years? What is the spatial distribution of this change?
- Which land uses have experienced the greatest changes in supply (by geography)?

The following text sets out the data sources utilised in this study and their key advantages and limitations:

4.1.1 Valuation Office Agency (VOA) data

VOA data provides quantities (sqm) of non-domestic property floorspace by borough between 2001 and 2025, covering industrial, office and retail uses. The following caveats apply to the VOA data:

- 'Office' data includes the majority of office floorspace but excludes civic, public and some other types of office.
- 'Industrial' data covers the majority of general industrial, light industrial and storage and distribution floorspace.
- 'Retail' floorspace data includes the majority of retail floorspace and hot food takeaways.

4.1.2 Planning London Datahub (PLD)

The PLD data records both gains and losses of floorspace (sqm) and hence is used to establish net completions by detailed use class.

PLD data is categorised according to the previous Use Class Order (revoked in 2020). However, data has been expressed in terms of the current Use Class Order in this study (where a direct equivalent use class exists – e.g. B1a to E[g][i]). The revoked D class uses for which PLD data is collected and presented do not align with the use class categorisations covered in this study and hence this data has not been considered.

A key limitation with PLD data is that it does not fully capture changes of use that do not require planning permission or prior approval (such as those within class E). Therefore, after 2020 (the year in which Class E was introduced), PLD data does not capture all gains and losses of floorspace within Class E.

4.1.3 High Street Data Service (HSDS)

HSDS snapshot data is available at a borough level for the year 2025. However, historic data (2014-2015) is only available for high streets and designated town centres. This data has been used for retail, 'other class E' and night-time economy uses. LDC data is provided in terms of square metres.

4.1.4 GLA Cultural Infrastructure Map

GLA cultural infrastructure map data provides data for a range of cultural uses. However, data is provided as counts rather than square metres of floorspace and historic data is not available.

4.1.5 London Industrial Land Supply Studies

London Industrial Land Supply data is available at roughly 5-year increments between 2001 and 2025. It measures the land area (hectares) of all uses which are accommodated on industrial sites (and hence does not capture all industrial floorspace).

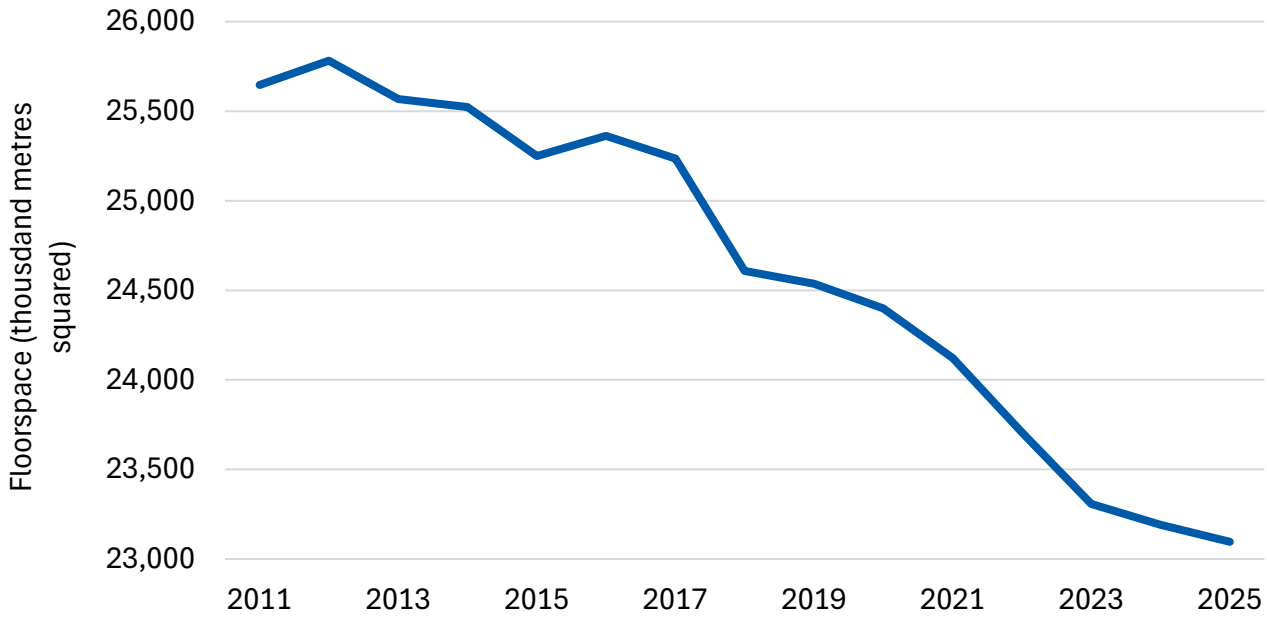
HSDS snapshot data is available at a borough level for the year 2025. However, historic data (2014-2015) is only available for high streets and designated town centres. This data has been used for retail, 'other class E' and night-time economy uses. LDC data is provided in terms of square metres.

4.2 Office

VOA data is used for offices as it is the most reliable and complete source of data and does not need to be supplemented by other datasets to achieve sufficient granularity[i].

The quantity of office floorspace in London between 2011 and 2025 is shown in Figure 4-1. It shows that London's total office floorspace declined from around 26 million sqm in 2012 to 23 million in 2025 and that the rate of decline accelerated from 2020 (after the start of the COVID-19 pandemic)

Figure 4-1: Quantity of office floorspace, London, 2011-2025



Source: Arup analysis of VOA – NDR business floorspace tables (2025). Note Y-axis does not start at zero.

Average annual rates of change are provided by borough and for other relevant geographies in Table 4-1. Against the London-wide declining trend, several boroughs and notably the City of London, Hackney, Camden and Islington witnessed strong growth in office floorspace during the period 2011 to 2019. Since the pandemic losses have occurred in most boroughs, and notably those in inner London, except for Newham, Hackney, Wandsworth and Greenwich which recorded positive growth.

Table 4-1 also shows the level of existing (2025) office floorspace supply by borough. The City of London and Westminster are the most significant office locations, with over two fifths of London supply between them. Other significant office locations include Tower Hamlets, Islington, Southwark and Camden. Together these six boroughs account for around 70% of London's total office space with other Inner London boroughs making up a further 13%.

Table 4-1: Office floorspace by borough, 2025, and average annual change in floorspace, 2011-2025 (thousand metres squared)

Geography	Office floorspace, 2025 (thousand metres squared)	Average annual change in office floorspace, 2011-2025 (thousand metres squared)	Average annual change in office floorspace, 2011-2019 (thousand metres squared)	Average annual change in office floorspace, 2019-2025 (thousand metres squared)
Barking and Dagenham	69	-1.6	-2.1	-1.0
Barnet	228	-9.4	-15.8	-1.0
Bexley	96	-2.9	-3.4	-2.2
Brent	200	-4.4	-2.5	-7.0
Bromley	182	-7.5	-7.3	-7.8
Camden	2,045	-3.1	6.4	-15.8
City of London	5,178	-0.4	24.5	-33.7
Croydon	405	-14.8	-16.5	-12.5
Ealing	238	-10.2	-11.3	-8.8
Enfield	111	-5.0	-4.8	-5.3
Greenwich	156	0.9	0.8	1.2
Hackney	678	12.6	12.0	13.3
Hammersmith and Fulham	604	-11.2	-14.4	-7.0
Haringey	103	-2.4	-3.4	-1.2
Harrow	149	-4.9	-6.8	-2.3
Havering	107	-2.6	-3.3	-1.8
Hillingdon	574	-3.9	0.6	-10.0
Hounslow	494	-10.9	-9.1	-13.2
Islington	1,217	1.4	5.1	-3.7

Geography	Office floorspace, 2025 (thousand metres squared)	Average annual change in office floorspace, 2011-2025 (thousand metres squared)	Average annual change in office floorspace, 2011-2019 (thousand metres squared)	Average annual change in office floorspace, 2019-2025 (thousand metres squared)
Kensington and Chelsea	400	-4.9	-2.0	-8.7
Kingston upon Thames	199	-3.9	-4.6	-3.0
Lambeth	492	-6.1	-13.3	3.5
Lewisham	87	-2.1	-2.8	-1.2
Merton	169	-5.6	-7.1	-3.5
Newham	328	6.9	-0.9	17.2
Redbridge	121	-2.5	-3.1	-1.7
Richmond upon Thames	195	-6.9	-9.9	-2.8
Southwark	1,141	-6.0	3.5	-18.7
Sutton	99	-5.4	-4.8	-6.2
Tower Hamlets	2,161	-12.9	2.6	-33.5
Waltham Forest	76	-1.0	-0.9	-1.2
Wandsworth	285	-2.2	-9.0	6.8
Westminster	4,508	-49.4	-35.9	-67.5
London	**23,096**	**-182.1**	**-138.6**	**-240.2**
Inner London	**19,228**	**-79.7**	**-27.3**	**-149.7**
Outer London	**3,868**	**-102.4**	**-111.4**	**-90.5**

Source: Arup analysis of VOA – NDR business floorspace tables (2025). Note: In the second column, the colour scale (from white to dark green) indicates the relative scale of floorspace supply by borough (from lowest to highest). In the third column, the colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest).

Floorspace data from the VOA for the CAZ and NIOD is only available up to 2023. This is because floorspace data at LSOA level (which is used by the GLA to derive floorspace estimates for the CAZ and NIOD) is not currently available for 2024-25. Table 4-2 presents 2023 office floorspace estimates for the CAZ and NIOD and estimates of historic growth/decline. This data has been presented separately from the data above due to potential inconsistencies (e.g. the data suggests that the CAZ had greater net losses of office floorspace between 2020 and 2023 than the whole of Inner London between 2020 and 2025).

It can be seen that the CAZ is estimated to accommodate over half of London's office floorspace and around three quarters of that of Inner London. Based on rates of change across the CAZ/NIOD boroughs, it is likely that the amount of office floorspace in the CAZ and to a lesser extent the NIOD, declined at a slower rate than across London as a whole between 2011 and 2025. Since the start of the pandemic, the rate of decline in the NIOD is

likely to have been faster than London as whole whilst the CAZ saw similar trends to London.

Table 4-2: Office floorspace in the CAZ and NIOD

Geography	Office floorspace, 2023 (thousand metres squared)	% change in floorspace in relevant boroughs, 2011-2025	% change in floorspace in relevant boroughs, 2019-2025
CAZ	14,830	-5%	-5%
NIOD	1,388	-8%	-9%
London	23,096	-10%	-6%
Inner London	19,228	-5%	-4%
Outer London	3,868	-27%	-12%

Source: Arup analysis of GLA data and VOA – NDR business floorspace tables (2025). Note: % change in floorspace is calculated based on the boroughs in which the geography lies. The CAZ is estimated to accommodate around 80% of the CAZ boroughs' office floorspace whilst the NIOD is estimated to accommodate around 60% of that of Tower Hamlets).

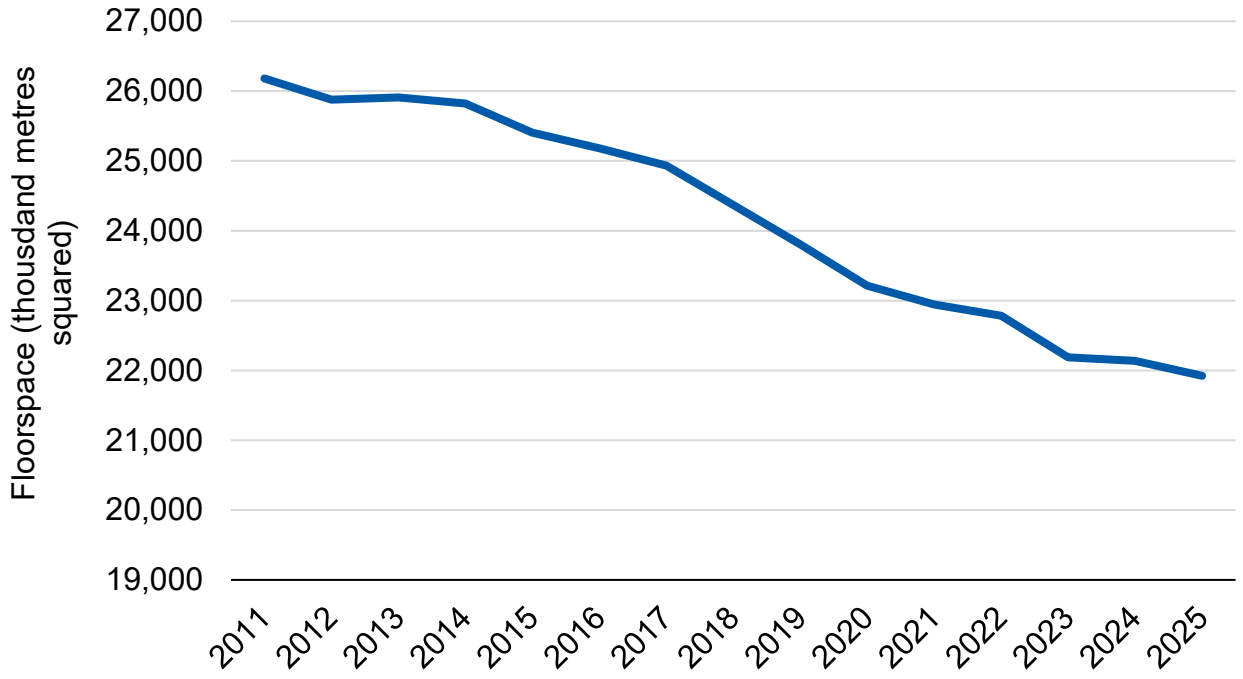
4.3 Industrial

This section covers general industrial, light industrial, R&D and storage and distribution uses. VOA industrial floorspace data is used which covers these uses in the aggregate, along with PLD net floorspace completions data which is broken down into four constituent use classes. London Industrial Land Supply Study[8] data is also analysed which provides a more detailed breakdown of uses and is expressed in terms of land rather than floorspace.

Figure 4-2 shows that the quantity of all industrial floorspace across London has gradually declined (at a relatively consistent rate) between 2011 and 2025.

[8] London Industrial Land Supply Study | London Datastore

Figure 4-2: Quantity of industrial floorspace, London, 2011-2025



Source: Arup analysis of VOA – NDR business floorspace tables (2025)

The VOA data in Table 4-3 shows that Outer London accounts for three quarters of London's industrial floorspace which includes eight boroughs with over one million square metres of space, and one (Ealing) with over two million square metres.

The average annual rates of change for each borough in Table 4-3 reflect the downward trend seen for London as a whole in all but two boroughs. which has seen a steeper reduction over this period. Despite having less industrial floorspace, declines across Inner London have been roughly 50% greater than Outer London.

Table 4-3: Industrial floorspace by borough, 2025, and average annual change in industrial floorspace by borough, 2011-2025 (thousand metres squared)

Area	Industrial floorspace, 2025	Average annual rate of change, 2011-2025
Barking and Dagenham	1,224	-13
Barnet	289	-8
Bexley	1,340	-3
Brent	1,508	-14
Bromley	509	-4
Camden	222	-8
City of London	80	-2
Croydon	640	-13
Ealing	2,029	-30
Enfield	1,453	-9
Greenwich	676	-8
Hackney	348	-14

Area	Industrial floorspace, 2025	Average annual rate of change, 2011-2025
Hammersmith and Fulham	206	-10
Haringey	588	-13
Harrow	212	-8
Havering	1,130	1
Hillingdon	1,858	18
Hounslow	1,388	-2
Islington	323	-8
Kensington and Chelsea	100	-2
Kingston upon Thames	322	-3
Lambeth	380	-11
Lewisham	337	-8
Merton	641	-6
Newham	942	-25
Redbridge	334	-3
Richmond upon Thames	125	-5
Southwark	522	-23
Sutton	510	-4
Tower Hamlets	659	-32
Waltham Forest	516	-10
Wandsworth	438	-21
Westminster	71	-6
London	**21,923**	**-304**
Thames Gateway	**6,155**	**-53**
Park Royal / A40 / Heathrow	**7,615**	**-59**
Central services circle	**3,480**	**-135**
Wandle Valley	**2,113**	**-26**
Lea Valley	**2,557**	**-32**

Source: Arup analysis of VOA – NDR business floorspace tables (2025). Note: In the second column, the colour scale (from white to dark green) indicates the relative scale of floorspace supply by borough (from lowest to highest). In the third column, the colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest).

Table 4-4 below shows the split of London's industrial land by industrial use and PMA. It can be seen that warehouses account for nearly half of London's industrial land and, along with general industry, makes up 84% of industrial land in the capital.

The Thames Gateway and Park Royal / A40 / Heathrow PMAs account for a third of industrial land supply each, with the other PMAs accounting for around 10% each.

Table 4-4: Industrial land by use and Property Market Area (hectares), 2025

Use	Central services area	Thames Gateway	Lea Valley	Park Royal / A40 / Heathrow	Wandle Valley	London
General industry	175.4	621.2	217.0	417.6	122.3	1553.3

Use	Central services area	Thames Gateway	Lea Valley	Park Royal / A40 / Heathrow	Wandle Valley	London
Light industry	55.2	42.9	8.4	63.0	40.2	209.8
Warehouses	147.8	595.5	268.2	830.4	242.1	2083.9
Open storage	14.1	162.0	17.8	98.1	14.5	306.5
Self-Storage	15.3	11.0	7.4	19.1	9.0	61.8
Wholesale Markets	23.2	0.0	12.3	7.0	0.0	42.5
Other industrial	1.4	3.3	0.0	2.2	0.0	6.9
Mixed-use (including industrial)	13.5	3.5	7.6	3.5	0.9	29.0
Film and TV Studios	1.7	6.3	2.6	25.0	0.8	36.5
Industrial-related research and development	0.0	0.0	0.0	17.7	0.0	17.7
All industrial uses	**447.4**	**1445.7**	**541.3**	**1483.6**	**429.9**	**4347.9**

Source: AECOM: LSIS 2023, GLA: PLD 2025 Note: This study also records non-industrial uses which are accommodated on industrial land.

The reasons for this difference between the floorspace and land data are complex and relate to different assumptions behind the different data sources. In addition, the London Industrial Land Supply Study may not capture industrial floorspace on non-industrial sites such as in town centres (for example, Thames Gateway saw a large increases in light industrial floorspace which is often developed on non-industrial sites).

Table 4-5 below shows the average annual rate of change in industrial land use between 2001 and 2025. It can be seen that all industrial land has been in decline. general industrial land has been lost at the highest rate followed by warehousing.

As expected, the PMAs with the most industrial land (Thames Gateway and Park Royal / A40 / Heathrow) lost the most land overall.

Table 4-5: Average annual change in industrial land use by borough (hectares), 2001-2025

Geography	General industry	Light industry	Warehouses	Open storage	Self storage	Wholesale markets	Other industrial	All industrial uses
Barking and Dagenham	-1.9	-0.9	0.1	0.9	0.1	0.0	-0.7	-19.9
Barnet	-1.0	-0.1	-0.4	0.3	-0.1	0.0	0.0	-3.7
Bexley	0.5	0.5	-0.4	0.4	0.0	0.0	-0.4	-12.9
Brent	-2.3	0.1	-0.5	0.1	-0.1	0.0	0.1	-14.5
Bromley	0.5	0.0	-0.6	0.0	0.2	0.0	-0.8	-4.0
Camden	-0.8	0.0	-0.2	0.0	0.0	0.0	0.0	-2.1
City of London	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2
Croydon	-1.3	0.1	-0.6	0.0	0.0	0.0	0.0	-6.4
Ealing	-2.8	0.3	0.0	0.3	0.0	0.0	0.2	-17.8
Enfield	-1.7	0.2	1.3	0.4	-0.1	0.0	0.4	-12.8
Greenwich	-2.0	0.3	-0.8	0.6	0.1	0.0	-1.3	-8.5
Hackney	-1.7	0.1	-0.5	0.0	0.0	0.0	0.1	-3.7
Hammersmith and Fulham	-0.5	-0.6	-0.8	-0.1	0.0	0.0	0.0	-3.5
Haringey	-0.5	0.0	-0.2	0.1	-0.1	0.0	0.0	-5.4
Harrow	-0.2	-0.6	-0.3	-0.2	0.1	0.0	-0.1	-2.9
Havering	-2.4	-0.1	-0.6	1.8	0.1	0.0	-1.4	-14.0
Hillingdon	-1.6	-0.5	0.0	1.7	0.1	-0.1	0.3	-13.7
Hounslow	-1.0	-0.7	0.8	0.1	0.2	-0.1	0.6	-13.1
Islington	-1.5	0.0	-0.5	0.0	0.0	0.0	0.1	-2.7
Kensington and Chelsea	-0.3	0.0	-0.1	0.2	0.0	0.0	0.0	-0.7

Geography	General industry	Light industry	Warehouses	Open storage	Self storage	Wholesale markets	Other industrial	All industrial uses
Kingston upon Thames	-0.3	0.0	0.1	0.0	0.0	0.0	0.0	-2.7
Lambeth	-1.2	0.0	-0.4	0.0	0.1	0.0	0.0	-3.6
Lewisham	0.0	-0.1	-1.2	0.1	0.1	0.0	-1.3	-4.6
Merton	-0.8	-0.1	0.1	0.0	0.0	0.0	0.0	-6.3
Newham	-2.4	0.4	-0.8	0.9	0.0	0.0	-1.3	-10.8
Redbridge	0.3	0.0	-0.5	0.0	0.0	0.0	-0.7	-2.8
Richmond upon Thames	-0.7	0.0	0.0	0.1	0.0	0.0	0.7	-1.6
Southwark	0.0	0.3	-0.5	0.0	0.1	0.0	-2.2	-5.7
Sutton	-0.3	0.0	0.5	0.0	-0.1	0.0	0.0	-4.8
Tower Hamlets	-0.9	0.1	-1.5	-0.1	0.1	0.0	-2.6	-7.9
Waltham Forest	-0.3	0.1	-0.6	0.2	0.1	0.0	-1.1	-6.2
Wandsworth	-0.9	-0.1	-1.3	0.0	0.0	-0.2	0.1	-5.7
Westminster	-0.2	-0.1	-0.2	0.0	0.0	0.0	0.0	-0.6
London	**-30.0**	**-1.3**	**-10.5**	**8.1**	**0.8**	**-0.5**	**-11.2**	**-225.7**
Central services area	**-7.4**	**0.3**	**-6.3**	**0.3**	**0.4**	**-0.3**	**-5.7**	**-37.4**
Thames Gateway	**-7.4**	**0.1**	**-3.8**	**4.8**	**0.4**	**0.0**	**-6.7**	**-72.8**
Lea Valley	**-2.5**	**0.2**	**0.5**	**0.7**	**-0.1**	**0.0**	**-0.7**	**-24.5**
Park Royal / A40 / Heathrow	**-10.1**	**-2.0**	**-1.1**	**2.3**	**0.1**	**-0.2**	**1.9**	**-70.8**

Geography	General industry	Light industry	Warehouses	Open storage	Self storage	Wholesale markets	Other industrial	All industrial uses
Wandle Valley	**-2.6**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.1**	**-20.2**

Source: London Industrial Land Supply Study, 2025. Note: the colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest). Note: This study also records non-industrial uses which are accommodated on industrial land. Mixed-use (including industrial), Film and TV Studios, and Industrial-related research and development have been included in Other industrial for interoperability between the 2001 and 2025 data.

Table 4-6 shows the average annual net completions of R&D, light industrial, general industrial and storage and distribution floorspace by borough between 2014 and 2023. The observed trends for London as a whole are reflective of the land use trends presented above with large annual losses of general industrial and storage and distribution floorspace. However, the data suggests a difference in the distribution of losses between the PMAs with the most significant losses in the Central services area and increases in floorspace in Thames Gateway. The reasons for this difference between the floorspace and land data are complex and relate to different assumptions behind the different data sources. In addition, the London Industrial Land Supply Study may not capture industrial floorspace on non-industrial sites such as in town centres (for example, Thames Gateway saw a large increases in light industrial floorspace which is often developed on non-industrial sites).

Table 4-6: Average annual net completions of R&D, light industrial, general industrial and storage and distribution floorspace by borough (sqm)

Geography	R&D, 2014-2019	Light industrial, 2014-2019	General industrial, 2014-2023	Storage and distribution, 2014-2023	All industrial uses
Barking and Dagenham	247	-99	-329	925	744
Barnet	-7012	-1175	-859	-1947	-10992
Bexley	-36	4976	6064	2521	13525
Brent	222	280	-7571	1097	-5972
Bromley	-178	-513	54	-1478	-2115
Camden	624	-749	-639	-914	-1679
City of London	0	-70	-	-	-70
Croydon	-42	-4026	-3173	-621	-7862
Ealing	194	640	758	-3322	-1731
Enfield	870	4279	-7750	1559	-1042
Greenwich	158	-3235	-740	-764	-4581
Hackney	4152	-2684	-671	1783	2580
Hammersmith and Fulham	-15212	-990	-87	-3279	-19568
Haringey	-154	-514	-3211	-3447	-7326
Harrow	162	32	-14627	128	-14305
Havering	180	4296	1524	-2321	3679
Hillingdon	2388	5948	-11198	10728	7865
Hounslow	8131	5817	-5623	-190	8134
Islington	377	-385	-478	-384	-871
Kensington and Chelsea	-64	579	-267	-1470	-1222
Kingston upon Thames	-304	-698	195	-248	-1055
Lambeth	237	-1738	-954	-462	-2917
Lewisham	299	-954	432	-9066	-9289
Merton	-497	-819	-773	-572	-2661
Newham	130	-496	-932	575	-723
Redbridge	0	-154	-1720	-680	-2554

Geography	R&D, 2014-2019	Light industrial, 2014-2019	General industrial, 2014-2023	Storage and distribution, 2014-2023	All industrial uses
Richmond upon Thames	-2754	-71	-450	-666	-3941
Southwark	-847	-9760	-2381	-9224	-22212
Sutton	555	122	-3294	3342	725
Tower Hamlets	-252	-2195	-7381	-4220	-14047
Waltham Forest	-207	-522	-9498	-3995	-14222
Wandsworth	-102	-3973	217	-9247	-13105
Westminster	-562	468	-78	358	187
London	**-7582**	**-8383**	**-75438**	**-35501**	**-126904**
Central services area	**3862**	**-21460**	**-12200**	**-32846**	**-62644**
Thames Gateway	**501**	**4775**	**3921**	**-1222**	**7975**
Lea Valley	**509**	**3243**	**-20459**	**-5883**	**-22590**
Park Royal / A40 / Heathrow	**-13882**	**10480**	**-39657**	**2549**	**-40510**
Wandle Valley	**-288**	**-5421**	**-7045**	**1901**	**-10853**

Source: Arup analysis of completions - Planning London Datahub (2024). Note: the colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest). Note: as R&D and light industrial fall into Class E, which do not require a planning permission or prior approval for changes of use within Class E and hence are not fully captured in the source data from 2020 (when Class E was introduced), the analysis for these uses has been done up to 2019.

Table 4-7 below shows the extent to which losses of industrial floorspace are due to prior approvals. A prior approval is the grant of planning permission by national legislation without the need to submit a planning application – development under a prior approval is known as permitted development. This does not include changes of use within Class E which are not captured by Planning London Datahub data (from 2020 onwards). It can be seen that prior approvals made up less than 5% of all losses of industrial floorspace between 2014 and 2023. Industrial gains by prior approval were not identified.

Table 4-7: Losses of industrial floorspace – Prior approvals vs total Losses (2014-2023)

-	R&D	Light industrial	Industrial	Storage and distribution
Prior approval for change of use to residential	10,495	7,250	-	22,249
Prior approval for demolition	-	-	-	2,259
Other prior approval	1,900	-	-	-
Total losses	236,886	654,754	1,365,289	1,487,853
% prior approval	5%	1%	0%	2%

Source: Arup analysis of completions - Planning London Datahub (2024)

4.4 Town centre class E and night-time uses

Town centre class E and night-time uses have been considered as part of this study. Town centre Class E includes retail (E(a)), food and beverage (E(b)), and other Class E uses such as financial, professional or other services (E(c)), indoor sport and fitness (E(d)) and creches and nurseries (E(f)). Night time-uses are considered as pubs and bars (SGp and SGq), and hot food takeaways (SGr). Other night-time uses, such as theatres or nightclubs, are considered separately under the cultural infrastructure section. Any 24-hour industrial operations are also considered within the industrial uses assessment.

Table 4-8 shows the total floorspace for each Class E and night-time uses. Existing floorspace supply for the majority of uses is sourced from HSDS Snapshot data for the year 2025, via the High Streets Data Service. This data includes all retail units in London, including those in out of centre locations. For use class E(f) – Creches or Nurseries, we have utilised March 2025 data from Ofsted (note – CAZ and NIoD data is unavailable for Class E(f)).

The supply of Class E(a) floorspace is broadly evenly distributed across London, with the majority of boroughs containing between 200,000 sqm and 400,000 sqm of floorspace. There are however particularly large amounts in Westminster and Kensington and Chelsea.

The geographical distribution of Other Class E floorspace is relatively even, albeit Westminster appears to have a high concentration of food and drink, and financial and professional services floorspace. There are also no significant trend differences between Inner and Outer London; although the former has a higher amount of food and drink floorspace, it has less floorspace in the other uses when compared to the Outer London boroughs.

For pubs and bars, Inner London boroughs have considerably more floorspace than Outer London boroughs. Boroughs which overlap the CAZ, such as Westminster, Southwark and Camden, have particularly high provision. Floorspace in the CAZ accounts for approximately 44% of all floorspace in Inner London. In the provision of hot food takeaways, geographical distribution is more evenly spread between Inner and Outer boroughs.

Table 4-8: Class E and night-time use floorspace by borough, 2025

Geography	Retail (use class E(a))	Food and drink (use class E(b))	Financial and professional services (use class E(c))	Indoor sport and fitness (use class E(d))	Creches and nurseries (use class E(f))	Pubs and bars (use classes SGp and SGq)	Hot food takeaways (use class SGr)
Barking and Dagenham	156,970	9,420	24,740	7,640	10,560	12,320	16,510
Barnet	335,820	49,510	79,540	35,220	19,040	44,470	20,970
Bexley	225,360	27,500	46,260	13,760	10,960	26,030	16,620
Brent	304,250	42,430	55,820	15,140	13,600	19,460	25,340
Bromley	330,350	50,370	70,460	32,490	20,240	25,800	22,720
Camden	390,980	114,750	70,290	37,570	9,440	134,850	67,520
City of London	94,840	61,460	37,650	41,670	640	147,390	51,280
Croydon	354,830	46,030	76,350	22,030	18,160	24,650	32,200
Ealing	247,830	44,930	67,450	24,740	18,880	80,070	26,300
Enfield	302,700	31,380	66,040	20,510	14,320	20,010	21,120
Greenwich	281,420	39,700	44,840	17,710	16,640	30,170	31,320
Hackney	175,820	50,630	48,670	15,140	12,400	81,360	20,340
Hammersmith and Fulham	288,030	54,380	70,310	28,280	9,520	64,710	15,550
Haringey	226,730	37,340	55,470	19,690	12,560	48,530	22,160
Harrow	191,770	26,680	43,450	11,270	12,320	10,800	16,620
Havering	273,050	28,430	57,000	17,990	15,040	17,970	20,880
Hillingdon	405,420	56,310	58,960	20,500	12,400	19,250	24,580
Hounslow	229,000	29,070	41,440	39,130	11,760	20,940	15,760
Islington	243,680	66,990	56,730	31,260	10,320	91,820	23,350
Kensington and Chelsea	489,370	69,350	60,490	17,230	7,760	40,580	13,030

Geography	Retail (use class E(a))	Food and drink (use class E(b))	Financial and professional services (use class E(c))	Indoor sport and fitness (use class E(d))	Creches and nurseries (use class E(f))	Pubs and bars (use classes SGp and SGq)	Hot food takeaways (use class SGr)
Kingston upon Thames	240,690	37,440	37,320	14,440	7,120	44,280	13,540
Lambeth	212,350	59,700	59,270	31,250	14,560	51,270	36,470
Lewisham	229,620	31,870	50,030	17,700	17,680	77,670	20,960
Merton	199,920	25,160	37,550	31,160	10,480	40,990	12,260
Newham	380,870	47,670	69,680	17,580	14,080	16,430	33,230
Redbridge	197,770	30,210	57,580	13,510	16,720	16,570	24,000
Richmond upon Thames	171,110	46,990	47,680	22,290	16,080	32,500	8,420
Southwark	238,420	67,450	60,390	28,650	14,320	150,290	27,460
Sutton	195,390	20,970	40,980	15,310	9,200	13,470	12,610
Tower Hamlets	265,930	77,310	57,370	42,660	10,240	49,600	30,830
Waltham Forest	203,530	33,790	59,920	15,050	11,200	44,490	21,870
Wandsworth	286,340	66,170	71,330	50,370	18,480	106,160	22,150
Westminster	942,590	262,680	134,030	46,130	8,240	225,980	150,950
London	**9,312,750**	**1,744,070**	**1,915,090**	**815,070**	**424,960**	**1,830,880**	**918,920**
Inner London	**4,520,260**	**1,070,110**	**891,080**	**423,200**	**164,320**	**1,268,280**	**544,440**
Outer London	**4,792,490**	**673,960**	**1,024,010**	**391,870**	**260,640**	**562,600**	**374,480**
CAZ	**1,665,130**	**475,590**	**220,530**	**160,190**	**-**	**510,650**	**285,080**
NIOD	**67,220**	**20,720**	**9,840**	**19,130**	**-**	**10,360**	**6,060**

Source: Nexus analysis of HSDS Snapshot data and Ofsted data (2025)

Table 4-9 details the net completions of Class E and night-time uses between 2014 and 2019 based on PLD data, where data is available. It should be noted that the net completions data does not record changes of use within Class E post-2019 and hence the trend is calculated for the 2014-2019 period. There has been a net increase in all floorspace uses, except from pubs and bars, which has experienced a minor net loss in floorspace.

Table 4-9: Average annual net completions of town centre uses (sqm)

Geography	E(a) - Retail (2014-2019)	E(c) - Financial, professional and other services (2014-2019)	E(b) - Food and drink for consumption on the premises (2014-2019)	Drinking establishments - Sui Generis) (2014-2023)	Hot food takeaways -Sui Generis (2014-2023)
Barking and Dagenham	1074	-93	-243	-14	-9
Barnet	-920	-23	232	-316	-19
Bexley	501	-378	347	-86	66
Brent	37	633	1205	353	522
Bromley	-1712	-256	1117	-320	13
Camden	1310	1061	2659	108	208
City of London	-780	-1673	315	1188	1060
Croydon	670	-795	1105	-1036	309
Ealing	129	362	2646	157	180
Enfield	-42	-87	-103	-173	17
Greenwich	12293	221	2539	1360	62
Hackney	2361	76	2091	-752	194
Hammersmith and Fulham	14076	-137	1972	-602	7
Haringey	4576	-69	244	26	16
Harrow	148	4	-113	-379	57
Havering	2025	73	-212	-486	25
Hillingdon	1950	207	672	-561	244
Hounslow	1360	120	183	15	176
Islington	27	76	1465	374	97
Kensington and Chelsea	-1563	-42	1392	29	-8
Kingston upon Thames	-1608	-182	1895	-24	204
Lambeth	2003	59	925	-291	29
Lewisham	-105	619	702	138	59
Merton	3590	-134	-159	-359	-13
Newham	2202	476	1308	416	351
Redbridge	148	-121	225	-636	10
Richmond upon Thames	-44	-115	-17	-73	-67
Southwark	4725	-189	2446	459	129
Sutton	23	155	465	-301	7
Tower Hamlets	5335	1320	2342	785	223

Geography	E(a) - Retail (2014-2019)	E(c) - Financial, professional and other services (2014-2019)	E(b) - Food and drink for consumption on the premises (2014-2019)	Drinking establishments - Sui Generis) (2014-2023)	Hot food takeaways -Sui Generis (2014-2023)
Waltham Forest	20	64	695	4	20
Wandsworth	2458	979	1101	418	445
Westminster	10440	-933	2961	-1167	-19
London	**66708**	**1278**	**34404**	**-1748**	**4596**
Inner London	**54782**	**1913**	**24219**	**2460**	**2837**
Outer London	**11926**	**-636**	**10185**	**-4208**	**1758**

Source: Arup analysis of completions - Planning London Datahub (2024). Note: the colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest). Note: For Class E uses, which do not require a planning permission or prior approval for changes of use within Class E and hence are not fully captured in the source data from 2020 (when Class E was introduced), the analysis has been done up to 2019.

We have also presented HSDS data regarding historic change in floorspace supply. This is available between 2014 and 2024 and hence provides more recent data than PLD. However, the HSDS data only covers the CAZ and designated town centres and high streets. Therefore, Table 4-10 below presents historic compound annual growth rates rather than absolute changes in floorspace. In addition to the 2014-2024 trend, 2014-2020 and 2020-2024 trends are presented to highlight trends before and since the pandemic.

Growth was generally weaker in the period 2020-2024 when compared to the period 2014-2020 – likely due to the impact of the COVID-19 pandemic.

Retail floorspace increased strongly between 2014 and 2020 (as evidenced in both the PLD completions data and the HSDS data) and was then partially offset by declines since the pandemic, mostly associated with losses in comparison goods retail and particularly in Outer London. Across the whole 2014 to 2024 period retail floorspace in London increased by 0.3% CAGR.

Growth has been strongest in hot food takeaway floorspace, which has grown by 3.4% annually since 2014, and 4.2% annually since 2020 and growth in the Outer London boroughs appears to be particularly strong.

At the London level, the only disparity in the direction of trends between the HSDS and PLD data is for pubs and bars where HSDS data suggests growth and the PLD data suggests decline. It is likely that the PLD trends are more accurate given likely losses of pubs and bars outside of the CAZ and designated town centres and high streets.

Table 4-10: Average annual % change in retail and night-time use floorspace, 2014-2024

Use class	Period	London	Inner London	Outer London	CAZ	NIoD
Retail (use class E(a))	2014-2024	0.3%	0.6%	0.0%	0.4%	6.1%
Retail (use class E(a))	2014-2020	1.3%	1.5%	1.0%	1.8%	1.0%
Retail (use class E(a))	2020-2024	-1.1%	-0.8%	-1.5%	-1.6%	14.1%
Food and drink (use class E(b))	2014-2024	2.1%	1.8%	2.5%	0.6%	1.7%
Food and drink (use class E(b))	2014-2020	3.0%	2.8%	3.4%	1.5%	1.5%
Food and drink (use class E(b))	2020-2024	0.7%	0.5%	1.1%	-0.7%	2.0%
Pubs and bars (use classes SGp and SGq)	2014-2024	0.7%	1.1%	0.0%	0.8%	7.5%
Pubs and bars (use classes SGp and SGq)	2014-2020	1.1%	1.8%	0.0%	1.4%	12.9%
Pubs and bars (use classes SGp and SGq)	2020-2024	0.9%	1.3%	0.3%	0.0%	-6.8%
Hot food takeaways (use class SGr)	2014-2024	3.4%	3.4%	3.5%	5.2%	4.5%
Hot food takeaways (use class SGr)	2014-2020	2.9%	3.1%	2.7%	6.8%	4.9%
Hot food takeaways (use class SGr)	2020-2024	4.2%	3.8%	4.7%	3.0%	4.0%

Source: Nexus analysis of HSDS data (2025)

Table 4-11 below presents annual percentage changes in Class E(c), Class E(d) and Class E(f) since 2014 based on HSDS data.

Class E(c) floorspace has decreased annually since 2014 and the trend has accelerated since 2020, which is true of all geographies except the NIoD. Whilst the PLD data suggests growth of class E(c) between 2014 and 2019, it is likely that, overall, there has been decline given national trends.

Although Class E(d) floorspace has grown since 2014, there has been a slight contraction since 2020. Class E(f) floorspace has generally grown in the period since 2014 and in the period since 2020.

Table 4-11: Average annual % change in Other Class E floorspace, 2014-2024

Use class	Period	London	Inner London	Outer London	CAZ	NIoD
Financial and professional services (use class E(c))	2014-2024	-0.6%	-0.9%	-0.4%	-2.1%	3.7%
Financial and professional services (use class E(c))	2014-2020	0.6%	0.8%	0.5%	1.3%	3.7%
Financial and professional services (use class E(c))	2020-2024	-2.4%	-3.3%	-1.7%	-7.0%	3.5%
Indoor sport and fitness (use class E(d))	2014-2024	3.1%	1.8%	5.0%	0.6%	0.1%
Indoor sport and fitness (use class E(d))	2014-2020	5.9%	5.3%	6.9%	4.0%	0.2%
Indoor sport and fitness (use class E(d))	2020-2024	-1.0%	-3.3%	2.2%	-4.4%	0.0%
Creches and nurseries (use class E(f))	2014-2024	7.4%	7.2%	7.6%	9.1%	0.0%
Creches and nurseries (use class E(f))	2014-2020	10.7%	12.1%	9.9%	10.0%	7.6%
Creches and nurseries (use class E(f))	2020-2024	2.7%	0.3%	4.2%	7.8%	-10.5%

Source: Nexus analysis of HSDS data (2025)

4.5 Cultural Infrastructure

Cultural infrastructure uses have also been considered as part of this study. While there may be considerable overlap between cultural and night-time economy uses, the two groups are separated due to differences in how supply data has been provided. The consideration of cultural infrastructure, while not exhaustive, looks to the main consumption uses such as museums/galleries, theatres, cinemas, music venues, nightclubs and libraries. Cultural production spaces, such as studios or workshops, are covered within the office and industrial uses assessments (office, general industrial, light industrial and storage and distribution uses can all accommodate cultural production uses).

4.5.1 Existing floorspace supply by borough

Existing supply of cultural infrastructure is sourced from the GLA's Cultural Infrastructure Map. Supply is presented as unit counts rather than floorspace. Data for museums and art galleries, theatres, cinemas and libraries are presented for 2023, whereas data for music venues and nightclubs relate to 2024.

Suitable historic data is not available for these uses, either as historic supply or as completions, and therefore we present the current supply of these uses only.

It is evident from Table 4-12 that there is a clear contrast within the existing provision of cultural infrastructure between Inner London boroughs and Outer London boroughs. Inner London has a total of 1,035 cultural infrastructure units (of which 430 units, or 42%, are located in the CAZ), whereas Outer London has only 458. Westminster is by some distance the most well-provided borough, reflecting the West End and Soho clusters. Camden and Hackney are also well-provided for, with the latter having a particularly high concentration of music venues and night clubs.

Table 4-12: Existing provision of cultural infrastructure (units)

Borough	Museum/ Gallery (2023)	Theatre (2023)	Cinema (2023)	Music Venue (2024)	Nightclub (2024)	Libraries (2023)
Barking and Dagenham	1	2	1	1	0	6
Barnet	4	2	3	1	0	16
Bexley	4	4	1	0	0	12
Brent	2	2	3	4	0	9
Bromley	6	3	3	3	1	13
Camden	33	27	14	36	9	12
City of London	10	6	2	11	4	4
Croydon	1	4	3	6	0	14
Ealing	1	2	1	4	3	13
Enfield	0	4	2	1	1	17
Greenwich	9	4	4	10	2	14
Hackney	7	12	5	71	31	9
Hammersmith and Fulham	4	10	4	6	1	6
Haringey	3	7	5	8	2	9

Borough	Museum/ Gallery (2023)	Theatre (2023)	Cinema (2023)	Music Venue (2024)	Nightclub (2024)	Libraries (2023)
Harrow	4	2	1	2	0	7
Havering	1	2	1	0	0	10
Hillingdon	1	3	2	0	0	17
Hounslow	9	6	3	2	1	11
Islington	12	16	3	29	11	10
Kensington and Chelsea	14	9	7	8	3	7
Kingston upon Thames	3	3	1	3	1	7
Lambeth	14	17	7	34	10	9
Lewisham	7	8	2	15	2	12
Merton	3	6	2	2	1	7
Newham	2	3	2	4	2	10
Redbridge	2	2	2	0	0	13
Richmond upon Thames	10	9	3	4	1	13
Southwark	16	20	7	13	8	12
Sutton	2	0	0	2	1	8
Tower Hamlets	15	8	6	29	12	8
Waltham Forest	6	3	0	2	0	10

Borough	Museum/ Gallery (2023)	Theatre (2023)	Cinema (2023)	Music Venue (2024)	Nightclub (2024)	Libraries (2023)
Wandsworth	1	6	3	8	1	11
Westminster	46	54	20	52	25	11
London	**253**	**266**	**123**	**371**	**133**	**347**
Inner London	**190**	**200**	**86**	**326**	**121**	**135**
Outer London	**63**	**66**	**37**	**45**	**12**	**212**
CAZ	**110**	**93**	**31**	**123**	**57**	**16**
NIoD	**1**	**0**	**2**	**2**	**0**	**1**

Source: GLA Cultural Infrastructure Map (2023 and 2024)

5 Characteristics and quality of floorspace supply

This chapter answers the following research questions:

- What is the quality of the supply of economic and infrastructure uses across London?
- What are the most prevalent non-residential building typologies?
- Which building typologies have experienced the greatest change in supply across London?
- What building typologies are most likely to become vacant, that is presenting challenges for repurposing or retrofit or conversion to another non-residential use due to lack of demand, viability or changes in regulations?

5.1 Introduction

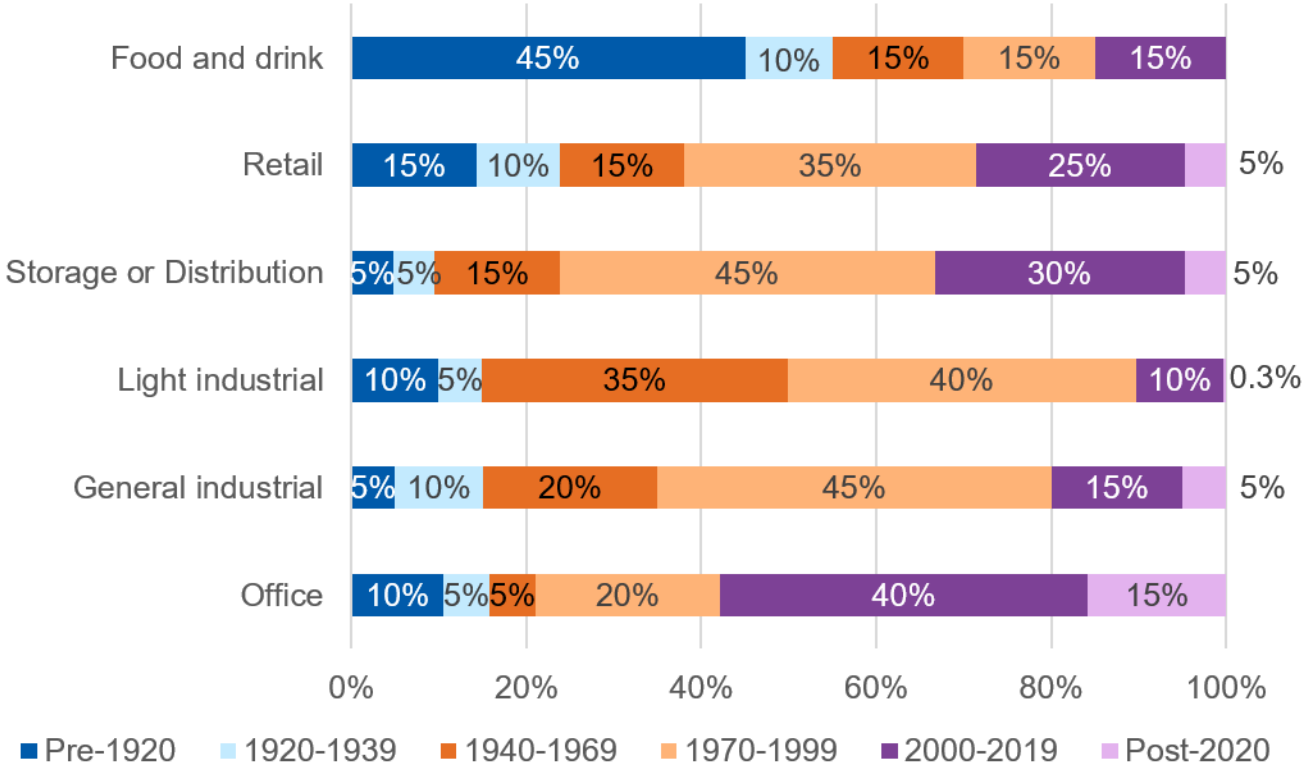
CoStar data has been analysed to understand the quality of London's supply of economic floorspace considering multiple factors. The results of this analysis have been presented in % terms (i.e. % of floorspace which in a given category) and rounded to the nearest 5%. This reflects the fact that the quantity of floorspace across London (for each use class) differs by source and hence presenting absolute data could be inaccurate. All data presented is for 2025.

5.2 Floorspace by age

Figure 5-1 below shows the split of London's floorspace by use class and by age. Age refers to the year of construction or renovation (whichever is later). Age bands have been created in line with generally accepted periods in which building characteristics are similar.

It can be seen that for most uses, the majority of floorspace was constructed or renovated since 1970. However, around half of light industrial floorspace was constructed or renovated before 1970, and around two-thirds Food and drink floorspace was constructed or renovated before 1970, including a majority before 1940.

Figure 5-1: Floorspace by age, London, 2025

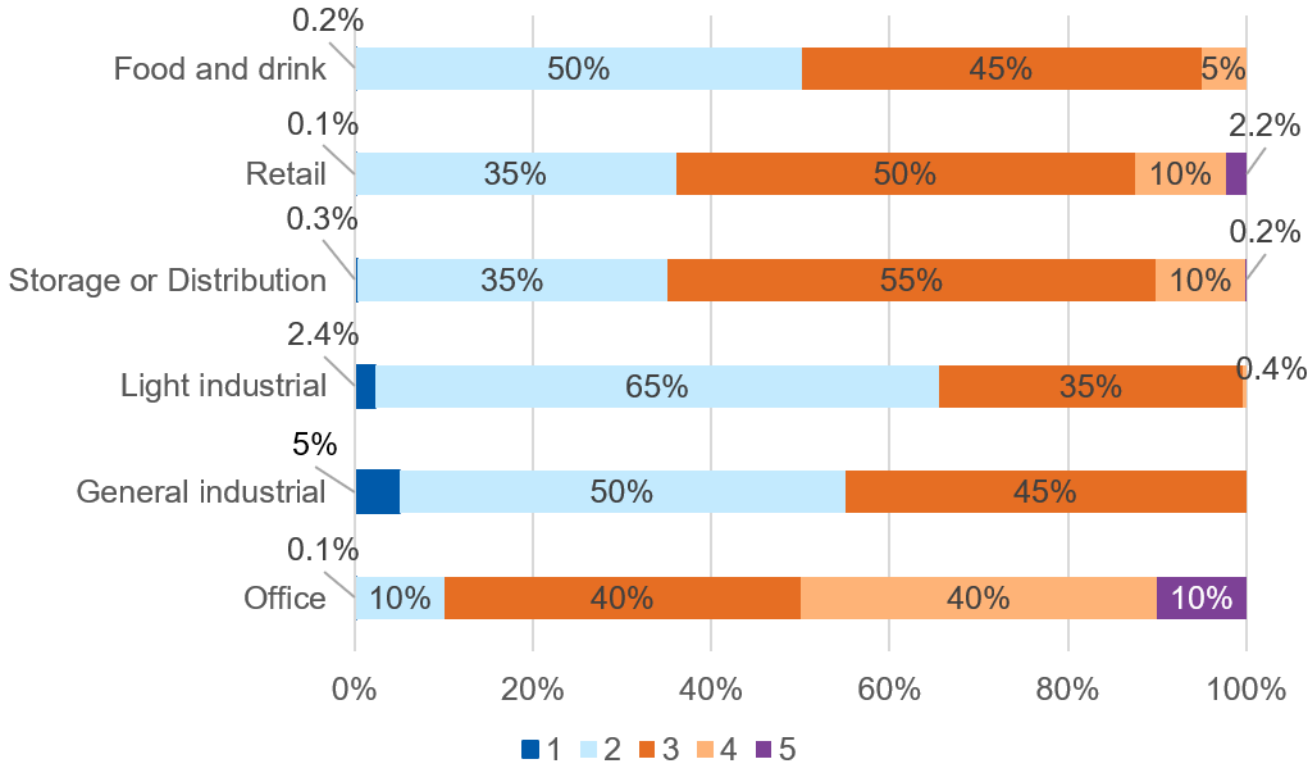


Source: Arup analysis of CoStar data. May not sum due to rounding.

5.3 Floorspace by CoStar star rating

Figure 5-2 below shows the split of London's floorspace by use class and CoStar star rating[ii] where 1-star represents the lowest quality stock and 5-star represents the highest quality stock.

Figure 5-2: Floorspace by CoStar star rating, London, 2025



Source: Arup analysis of CoStar data. May not sum due to rounding.

It can be seen that over 95% of general industrial and light industrial floorspace is in 2-3 star buildings, a majority of which is 2-star buildings. On the other hand, storage and distribution floorspace tends to be of a higher quality – around a third of stock has a 3-star rating or higher.

Over 90% of Food and drink floorspace is in 2-3 star buildings with around 5% in 4-star buildings. Retail floorspace tends to occupy better stock, with around 50% in 3-star buildings, around 10% in 4-star buildings and a small percentage in 5-star buildings.

Around 80% of office stock is in 3-4 star buildings with around 10% in 2-star buildings and 10% in 5-star buildings.

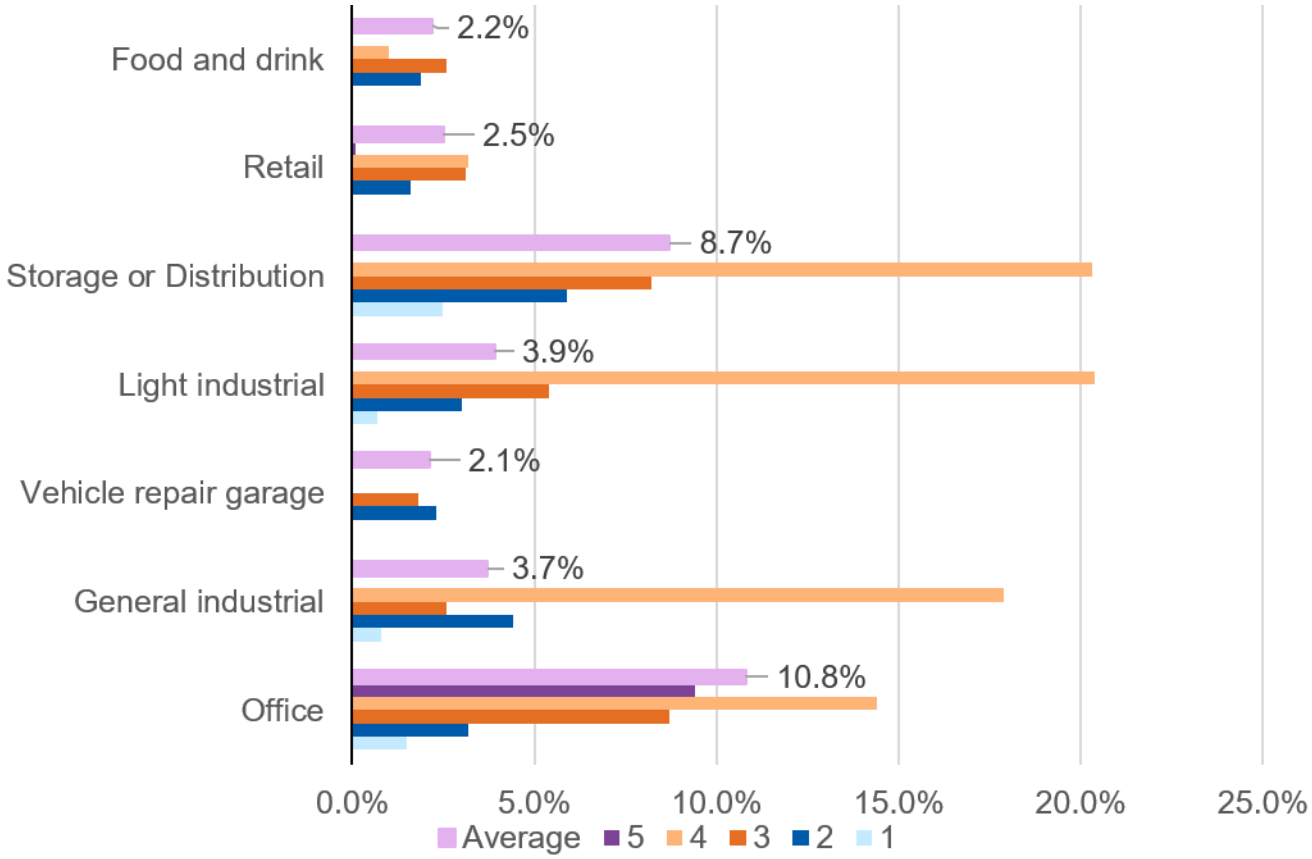
5.4 Vacancy rate by CoStar star rating, 2025

Figure 5-3 shows the vacancy rate of floorspace in London by use class and star rating. For context, a healthy vacancy rate, which allows for choice and churn in the market, is around 8%, although this varies by geography (London requires a higher 'frictional vacancy' than existing smaller urban areas as occupiers tend to require greater choice).

It can be seen that, across all uses aside from Retail and Food and drink, vacancy rates tend to be higher for stock of a higher star rating. This suggests strong demand (relative to supply) for lower quality floorspace, probably due to the number of occupiers seeking more affordable space in the expensive London market. However, higher quality stock is more likely to be new and hence not yet let meaning this analysis should not be taken as evidence for a lack of demand for high quality stock. In the storage and distribution sector, lots of new stock signed on short-term leases during the pandemic has recently come back to the market which may have led to high vacancy rates for high quality stock.

Overall vacancy rates are not overly high for any use class. This also suggests that the higher vacancy rates for the highest quality stock do not point to a lack of demand for such stock.

Figure 5-3: Vacancy rate by CoStar star rating, London, 2025

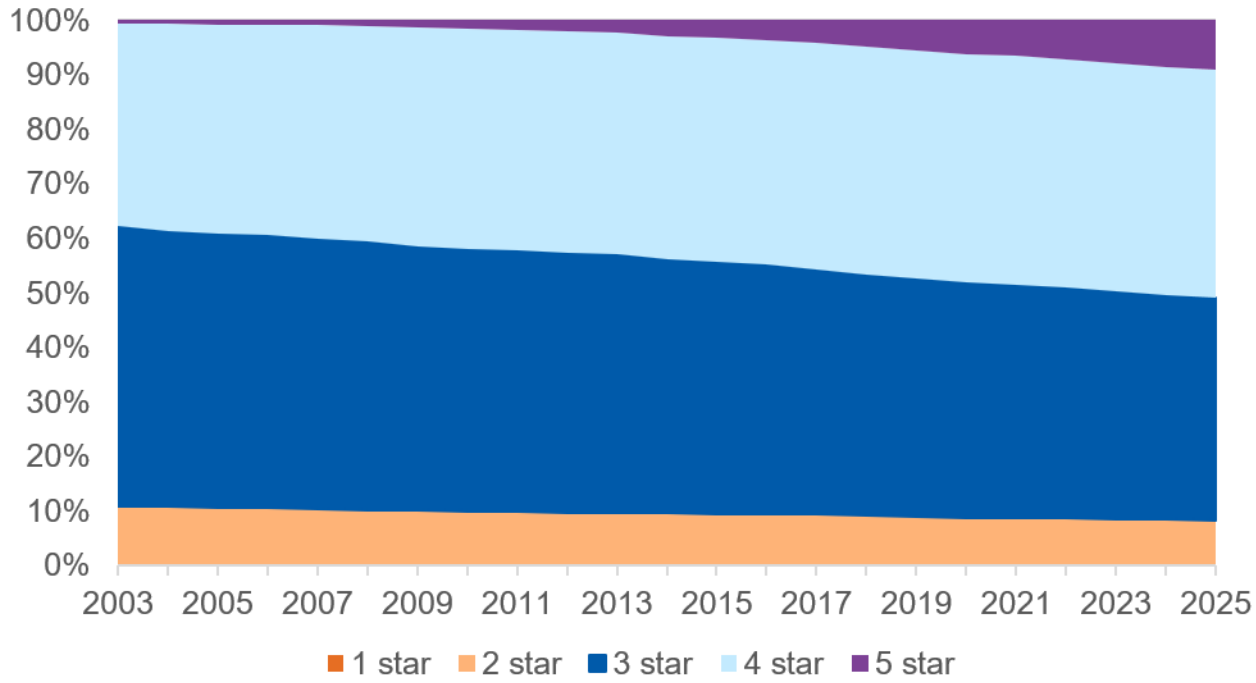


Source: Arup analysis of CoStar data. Note: Zero values do not indicate no vacancy but that there is no floorspace of this rating or an insufficient sample size.

5.5 Office 'flight to quality'

Figure 5-4 shows the split of office floorspace by CoStar star rating (top) 2003 and 2025. It can be seen that there has been a 'flight to quality in office floorspace' with 5-star space making up a growing proportion of total stock over time. For 5-star space, this trend has generally accelerated over time although there has not been a further marked acceleration since the COVID-19 pandemic.

Figure 5-4: Split of office floorspace by CoStar star rating (top) and class (bottom), 2003-2025



Source: Arup analysis of CoStar data.

5.6 Minimum Energy Efficiency Standards

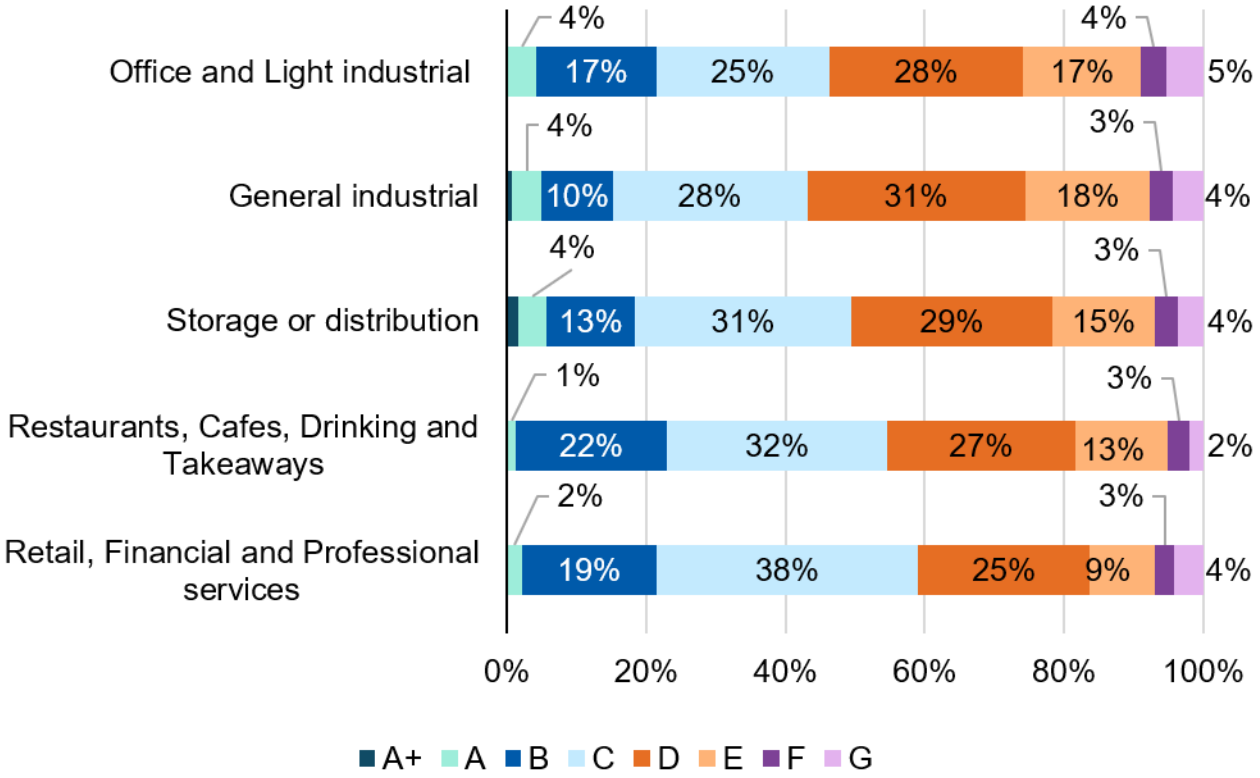
This section analyses EPC data[9] to indicatively assess the extent to which London's existing stock of commercial properties meet MEES. MEESs apply to properties which are legally required to have an EPC (most buildings which have been sold, let or modified in the last ten years) and which have a tenancy agreement of typically between six months and 99 years. However, there are also a number of exemptions including certain listed buildings, properties with low energy demand (such as workshops and agricultural buildings), temporary properties and places of worship.

The current MEES for applicable non-domestic properties is an EPC rating of E. However, the government currently plans to raise the standard to C by 2027-2028 and B by 2030.

Figure 5-5 shows the percentage of properties falling under each EPC rating across London and by use class (for those which detailed quantitative analysis is required). Retail, Financial and Professional services has the greater proportion of C+ compliant properties, with 59% meeting the 2028 requirement). Restaurants, Cafes, Drinking and Takeaway properties are similarly high performing, with 55% of buildings C+ compliant. general industrial has the greatest proportion of under-performing dwellings, with 57% not currently meeting 2030 minimum standards (C+).

[9] Energy Performance of Buildings Data: England and Wales (DLUHC, 2025)

Figure 5-5: Proportion of properties across London by Energy Performance Certificates (EPC) band and use class



Source: Arup analysis of MHCLG data

Table 5-1 below shows the proportion of properties with an EPC rating of B or above by borough and for the CAZ and NIOD.

Table 5-1: Proportion of properties with a B+ EPC rating

Borough	Office and light industrial	General industrial	Storage and distribution	Restaurants, cafes drinking and takeaways	Retail, financial and professional services
Barking and Dagenham	25%	13%	21%	16%	16%
Barnet	16%	14%	11%	19%	19%
Bexley	14%	13%	17%	18%	18%
Brent	15%	13%	19%	27%	27%
Bromley	12%	30%	30%	22%	16%
Camden	24%	10%	14%	24%	22%
City of London	34%	N/A	55%	30%	20%
Croydon	14%	7%	17%	18%	18%
Ealing	14%	16%	19%	24%	20%
Enfield	13%	24%	22%	19%	18%

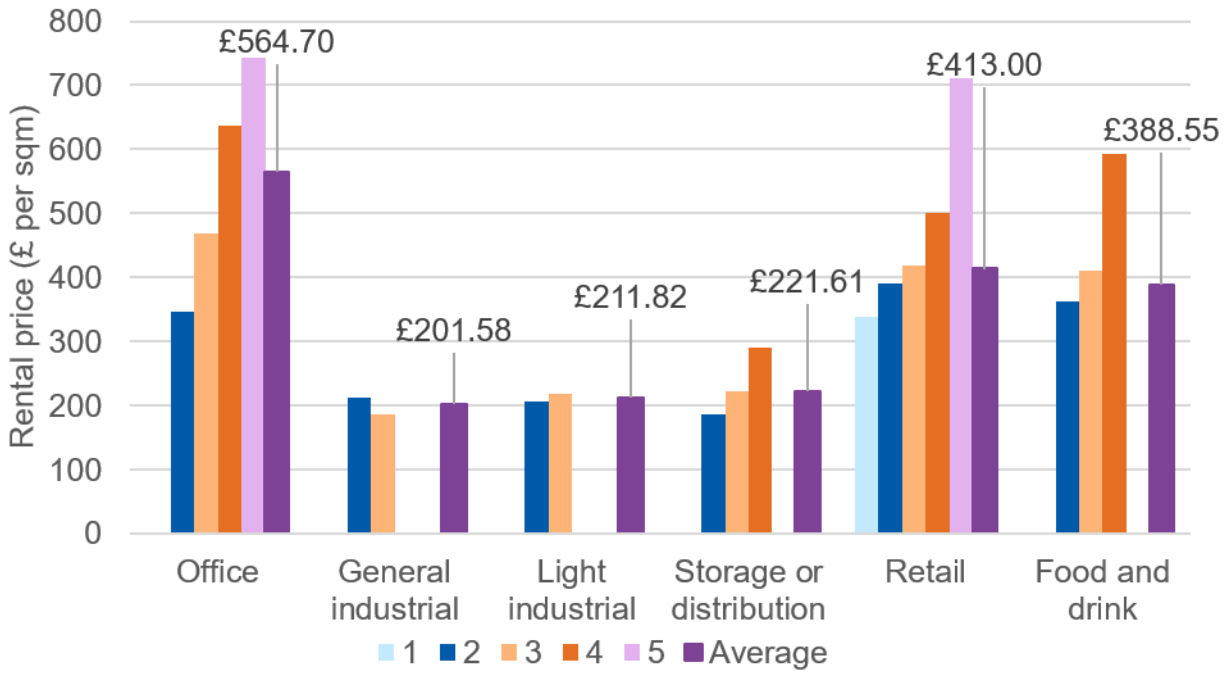
Borough	Office and light industrial	General industrial	Storage and distribution	Restaurants, cafes drinking and takeaways	Retail, financial and professional services
Greenwich	19%	9%	13%	25%	24%
Hackney	26%	16%	8%	25%	22%
Hammersmith and Fulham	18%	4%	5%	20%	30%
Haringey	14%	11%	16%	21%	21%
Harrow	11%	14%	17%	20%	18%
Havering	12%	25%	23%	17%	15%
Hillingdon	13%	21%	25%	22%	19%
Hounslow	19%	27%	23%	19%	21%
Islington	31%	5%	18%	20%	21%
Kensington and Chelsea	19%	3%	13%	23%	20%
Kingston upon Thames	12%	16%	19%	22%	21%
Lambeth	26%	8%	17%	20%	19%
Lewisham	14%	11%	19%	18%	18%
Merton	13%	9%	13%	19%	22%
Newham	22%	15%	11%	23%	33%
Redbridge	10%	3%	17%	17%	16%
Richmond upon Thames	19%	10%	9%	17%	16%
Southwark	28%	18%	8%	27%	26%
Sutton	9%	17%	31%	17%	15%
Tower Hamlets	21%	17%	19%	26%	24%
Waltham Forest	13%	11%	16%	22%	19%
Wandsworth	17%	9%	18%	23%	25%
Westminster	27%	15%	18%	32%	25%
CAZ	**30%**	**21%**	**14%**	**31%**	**27%**
NIOD	**21%**	**0%**	**62%**	**36%**	**30%**
London	**21%**	**15%**	**18%**	**23%**	**21%**

Source: Arup analysis of MHCLG data

5.7 Rental price by CoStar rating

Figure 5-6 shows rental prices by CoStar rating. It can be seen that rental prices increase with quality of stock as expected.

Figure 5-6: Rental price by CoStar rating



Source: Arup analysis of CoStar data. Note: Zero values do not indicate a zero rental price but that there is no floorspace of this rating or an insufficient sample size.

5.8 Affordability of rents

Table 5-2 below shows the extent to which affordable office stock is available across London (assumed to be less than 80% of average rental prices). It can be seen that a very small percentage of stock can be classed as affordable in this sense.

Table 5-2: % if stock at less than 80% of average asking rent

Use	Average asking rent	80% of average asking rent	% of stock at less than 80% of average asking rent
Office	£630.01	£504.01	12%
General industrial	£209.45	£167.56	1%
Light industrial	£240.22	£192.18	3%
Storage and distribution	£215.95	£172.76	3%
Retail	£488.98	£391.18	6%
Food and drink	£484.65	£387.72	2%

Source: Arup analysis of CoStar data

5.9 Spatial distribution and average rents of industrial and warehousing floorspace

Table 5-3 shows the distribution of industrial and warehousing (including general industrial, storage and distribution and light industrial floorspace) by designation and the average rents for this floorspace in each designation. It can be seen that nearly half of all floorspace is on SIL (Strategic Industrial Land), with nearly two-thirds on LSIS (Locally Significant Industrial Sites) or SIL. Around 2% of floorspace is in town-centres and over a third is on non-designated land.

Average rents for industrial and warehousing floorspace are around £186 per sqm. This is similar to average values for floorspace in town centres and LSIS. Average rents on non-designated land are slightly higher at around £193-£194 whilst average rents on SIL are slightly lower at £178.

Table 5-3: Spatial distribution and average rents for industrial and warehousing floorspace

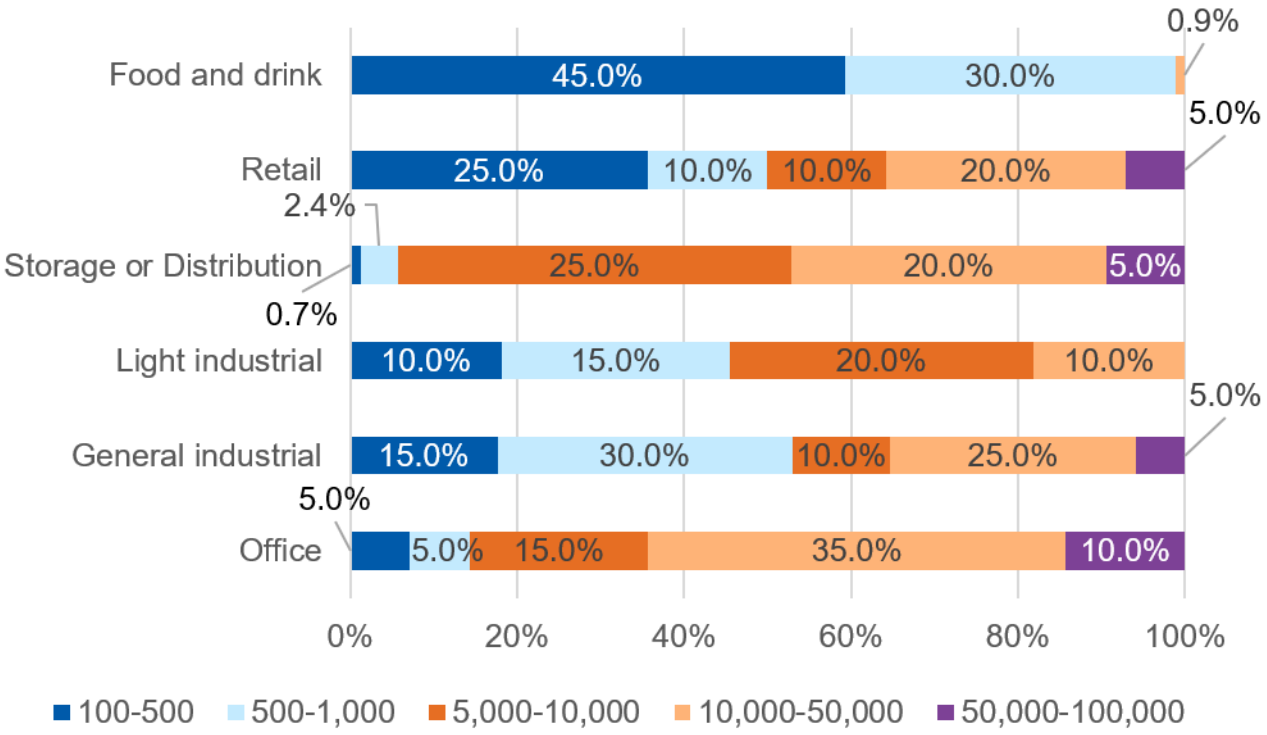
Designation	% of industrial floorspace	Average rents (£ per sqm)
LSIS	16%	£188
SIL	47%	£178
Town Centre	2%	£187
No designation	36%	£194
Total	-	£186

Source: Arup analysis of CoStar data. For the purposes of this table 'industrial and warehousing' floorspace includes general industrial, storage and distribution and light industrial.

Floorspace by size band Figure 5-7 below shows the split of London's floorspace by use class and by size (sqm), where size refers to the size of the building rather than floors/areas within the building.

The splits for each use do not show anything unexpected – over 90% of storage and distribution floorspace is in building of over 1,000 sqm whilst around 80% of Food and drink floorspace is in buildings of under 1,000 sqm, with other use classes falling between these two extremes.

Figure 5-7: Floorspace by size band (sqm)



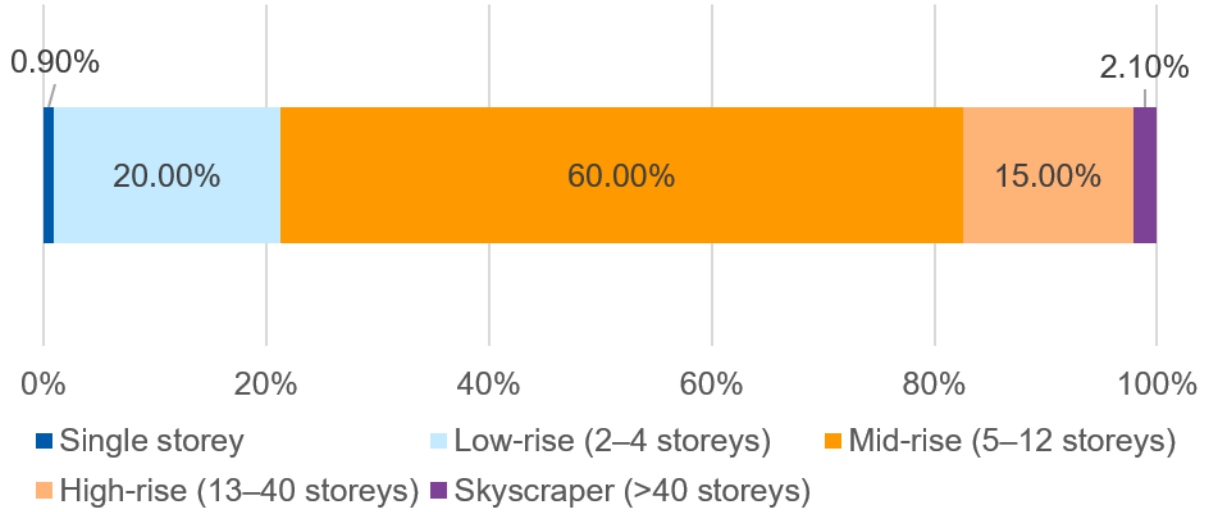
Source: Arup analysis of CoStar data. May not sum due to rounding.

5.10 Office floorspace by height band

Figure 5-8 below shows the split of London's office floorspace and by height band in terms of number of floors. Data is not available for other uses.

It can be seen that a majority of office floorspace is in mid-rise buildings of 5-12 storeys. Only a small percentage office space is in single storey buildings and skyscrapers (>40 storeys). Around a third of office floorspace in in low-rise (2-4 storeys) and mid-rise (5-12 storeys) buildings.

Figure 5-8: Floorspace by height band



Source: Arup analysis of CoStar data. May not sum due to rounding.

6 Quantitative floorspace demand drivers

6.1 Introduction

This chapter answers the following research question:

- What are the drivers of floorspace demand and what are the interdependencies between these?

This chapter presents projections of the four key demand drivers (employment, GVA, spend and population) which inform the assessment of future demand for new floorspace.

The interdependencies between the drivers of floorspace demand are reflected in the demand assessment methodologies set out in the subsequent chapters.

6.2 Employment

Employment projections are used in the employment-based and storage and distribution demand assessments.

Long-run latest 2024-based bi-angulated employment projections, provided by GLA Economics (2026), have been converted into full-time equivalent (FTE) figures[10]. To make this conversion sector-specific, ratios of jobs to FTEs were calculated based on full-time to part-time employment[11] and an assumption has been made that part-time employees work half the hours of full-time staff[12].

The interdependencies between the drivers of floorspace demand are reflected in the demand assessment methodologies set out in the subsequent chapters.

Table 6-1 presents projected trend-based FTE employment in London by sector at five-year intervals to 2050. Professional, Real Estate, Scientific and Technical Activities is currently the largest sector (1.04 million FTEs in 2024) and is projected to grow fastest, with a compound annual growth rate (CAGR) of 1.10%. Other high-growth sectors include Information and communication (1.00% CAGR) and Accommodation and food service activities. The Manufacturing, Wholesale, Transportation and Storage and Retail sectors are projected to experience a decline in FTEs until 2050, with Manufacturing notably seeing the fastest rate of decline (-1.18% CAG).

[10] To align with job density benchmarks which convert employment projections into floorspace requirements for each use class.

[11] Using BRES data from NOMIS

[12] Employment Density Guide, 3rd edition.

Table 6-1: Projected FTE employment by sector[13], London (all boroughs)

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Primary & utilities	37,100	38,000	39,200	40,400	41,300	41,900	0.47%
Manufacturing	129,100	119,800	113,800	107,800	101,400	94,700	-1.18%
Construction	254,800	259,100	265,600	271,500	275,600	277,700	0.33%
Wholesale	176,000	168,100	163,500	158,700	152,900	146,200	-0.71%
Retail	303,700	297,000	294,700	291,700	286,600	279,500	-0.32%
Transportation and Storage	269,300	261,200	257,300	252,900	246,800	239,000	-0.46%
Accommodation and food service activities	341,500	356,200	372,900	389,400	403,700	415,400	0.76%
Information and Communication	529,600	560,500	593,900	627,700	658,700	686,100	1.00%

[13] The sector categorisations in this analysis are used by the GLA and based on SIC (2007) classifications with some minor adjustments. 'Primary & utilities' combines the classifications Agriculture, forestry and fishing (A) with Mining, quarrying and Utilities (BDE). 'Professional, Real Estate, Scientific and Technical activities' brings together Property (L) and Professional, scientific and technical (M). Lastly, the sectors Wholesale and Retail are sub-sectors from the SIC classifications 'Wholesale and retail trade; repair of motor vehicles and motorcycles' (G).

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Financial and insurance activities	445,400	457,400	472,700	487,300	498,800	506,700	0.50%
Professional, Real Estate, Scientific and technical activities	1,045,200	1,113,000	1,185,400	1,259,300	1,328,300	1,390,600	1.10%
Administrative and support service activities	534,300	546,200	562,300	577,400	588,700	595,700	0.42%
Public Admin and defence	266,000	268,400	273,200	277,500	279,800	280,000	0.20%
Education	337,800	343,400	351,900	359,700	365,000	367,700	0.33%
Health	588,300	610,000	635,500	660,400	681,300	697,700	0.66%
Arts, entertainment and recreation	182,900	184,000	187,000	189,500	190,700	190,500	0.16%
Other services	156,800	158,800	162,300	165,400	167,300	168,000	0.27%
Total	**5,597,800**	**5,741,100**	**5,931,200**	**6,116,600**	**6,266,900**	**6,377,400**	**0.50%**

Source: Arup analysis of GLA Economics (2026) and BRES data. Colour scale (from dark red to dark green) indicates the relative values and rates of change by borough (from lowest to highest).

Projected trend-based FTE employment by boroughs, the CAZ and NIoD up to 2050 is presented in Table 6-2**.** All geographies are expected to experience positive employment growth over this period, with total London jobs projected to grow at a CAGR of 0.5% to 2050. Tower Hamlets, and the NIoD, are projected to experience the fastest growth (1.05% CAGR), followed by City of London (0.94%) and Barking and Dagenham (0.87%). The CAZ is also projected to experience strong growth above the London average at CAGRs of 0.6%.

Table 6-2: Projected FTE employment by borough

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Barking and Dagenham	63,000	63,000	73,100	77,800	78,900	79,600	0.87%
Barnet	141,700	142,700	144,600	148,100	150,700	151,900	0.27%
Bexley	76,300	74,100	75,000	76,400	77,400	77,900	0.08%
Brent	122,900	123,000	123,800	125,800	127,400	128,200	0.16%
Bromley	110,700	107,600	107,900	109,500	110,800	111,400	0.02%
Camden	379,100	388,400	397,500	407,100	415,000	429,600	0.48%
City of London	649,200	699,300	716,900	749,700	795,500	827,100	0.94%
Croydon	126,700	126,600	131,900	135,700	137,600	138,800	0.35%
Ealing	131,200	131,800	133,100	137,200	140,300	141,600	0.29%

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Enfield	106,300	105,900	107,200	108,700	109,500	109,700	0.12%
Greenwich	87,400	86,700	91,400	94,700	96,300	97,300	0.41%
Hackney	165,900	176,000	182,600	188,900	194,400	198,900	0.70%
Hammersmith and Fulham	139,600	150,000	156,800	162,500	166,500	169,100	0.74%
Haringey	85,800	84,600	88,500	91,300	92,900	94,000	0.35%
Harrow	77,000	76,300	77,600	79,100	79,900	80,200	0.16%
Havering	90,200	88,300	89,200	90,800	92,200	93,000	0.12%
Hillingdon	187,600	185,100	189,600	195,500	200,500	204,300	0.33%
Hounslow	157,200	158,900	167,400	173,200	176,000	177,400	0.47%
Islington	252,900	259,300	271,200	282,900	292,700	301,100	0.67%
Kensington and Chelsea	134,600	134,700	137,000	139,600	141,400	142,300	0.21%
Kingston upon Thames	77,900	78,000	78,700	79,600	80,300	80,500	0.13%

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Lambeth	157,600	170,700	181,900	187,600	190,700	192,700	0.78%
Lewisham	75,400	74,600	76,600	79,800	81,900	83,000	0.37%
Merton	77,000	76,700	77,500	79,100	80,400	81,100	0.20%
Newham	134,800	141,200	150,400	157,100	162,000	166,300	0.81%
Redbridge	81,200	80,500	82,500	84,900	86,800	88,100	0.31%
Richmond upon Thames	83,400	83,500	85,200	87,000	88,400	89,100	0.25%
Southwark	300,900	328,500	348,200	360,600	367,600	372,000	0.82%
Sutton	87,800	87,400	90,400	93,200	95,100	96,500	0.36%
Tower Hamlets	293,300	317,500	345,300	363,200	375,000	385,000	1.05%
Waltham Forest	78,100	76,900	78,400	80,100	81,300	81,900	0.18%
Wandsworth	126,800	132,000	135,800	139,000	141,500	143,200	0.47%
Westminster	738,500	731,300	738,100	750,600	760,000	764,500	0.13%

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
CAZ	2,212,200	2,301,200	2,366,900	2,444,100	2,522,200	2,582,200	0.60%
NIOD	121,800	131,800	143,400	150,800	155,700	159,800	1.05%
London	5,597,800	5,741,100	5,931,300	6,116,600	6,266,900	6,377,300	0.50%

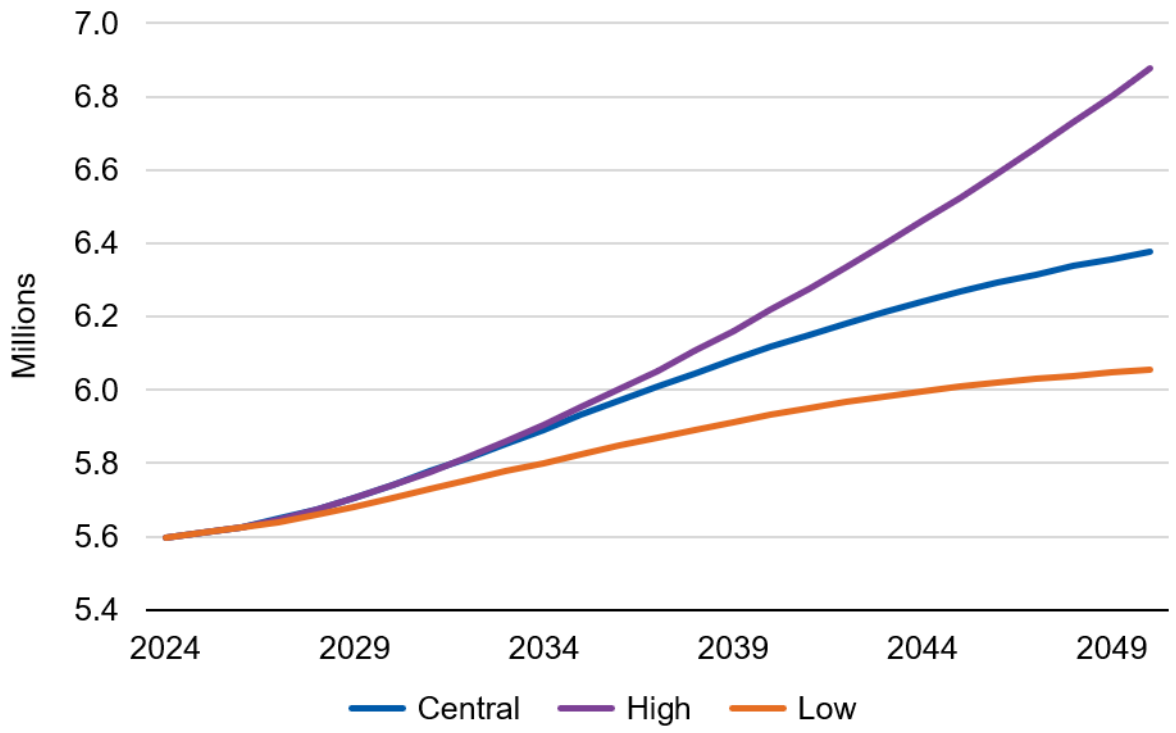
Source: Arup analysis of GLA Economics (2026) and BRES data. Colour scale (from light green to dark green) indicates the relative values and rates of change by borough (from lowest to highest).

The largest absolute increase in jobs is projected in the City of London's Professional, Real Estate, Scientific and Technical Activities sector, which is expected to add 78,600 FTE roles between 2024 and 2050. However, the fastest percentage growth rate is projected in the same sector in Barking and Dagenham, where employment is projected to grow at an average annual rate of 1.83% (CAGR).

High and low employment growth scenarios are also tested to assess the sensitivity of floorspace demand projections to different trajectories of employment growth. These employment scenarios are designed to reflect realistic potential variations in long-term growth, rather than extreme outcomes. They are output (Gross Value Added - GVA) driven, with productivity assumed constant. The central scenario assumes GVA growth will rise from 1.6% per annum in 2025 to 2.0% in 2030s, to 2.5% by 2050. In the high scenario, GVA growth is assumed to rise to 2.5% per annum by 2050, while 1.5% by 2050 is assumed in the low scenario.

These employment projections are presented in Figure 6-1. In the central scenario, the number of FTE roles in London job numbers are projected to rise from 5.6 million in 2024 to almost 6.4 million by 2050 – a 14% increase. This contrasts with the high scenario, where there are projected to be 6.9 million employees (FTE) in London by 2050 (22% rise), and the low scenario, with 6.0 million FTE employees by 2050 (8% increase).

Figure 6-1: FTE employment projections in London across three GLA employment scenarios, 2024-2050



6.3 Spend

To inform the demand assessment for storage and distribution, Class E(a) retail, Class E(b) food/beverage and sui generis food/beverage floorspace uses, three specific demand drivers have been used to create a spend projection for each borough:

- area-specific spending data;
- forecasts for future growth/change in spending levels (based on projected change in population and per capita spending levels);
- the influence of online spending on shopping patterns and the use of physical 'bricks and mortar' stores.

Local differences in retail and food and beverage (F&B) spending are a key influence on demand. Therefore, up to date data has been obtained from Experian which reflects local (Borough-level) socio-economic characteristics. Spend per head on retail and F&B purposes is shown in Table 6-3.

Table 6-3: Per capita spending levels, 2025

Geography	Convenience goods expenditure per head	Comparison goods expenditure per head	Spend per head at cafes and restaurants	Spend per head at take-aways and pubs/bars
Barking and Dagenham	£2,013	£2,709	£488	£645
Barnet	£2,471	£3,681	£966	£1,005
Bexley	£2,502	£3,537	£895	£926
Brent	£2,031	£2,904	£664	£812
Bromley	£2,789	£4,113	£1,130	£1,080
Camden	£2,815	£4,746	£1,466	£1,536
City of London	£3,388	£6,256	£1,364	£1,733
Croydon	£2,450	£3,508	£858	£926
Ealing	£2,180	£3,244	£762	£880
Enfield	£2,268	£3,202	£735	£810
Greenwich	£2,350	£3,432	£833	£950
Hackney	£2,331	£3,516	£959	£1,083
Hammersmith and Fulham	£2,628	£4,403	£1,406	£1,445
Haringey	£2,270	£3,387	£839	£992
Harrow	£2,262	£3,285	£813	£848
Havering	£2,514	£3,548	£899	£916
Hillingdon	£2,260	£3,224	£764	£811

Geography	Convenience goods expenditure per head	Comparison goods expenditure per head	Spend per head at cafes and restaurants	Spend per head at take-aways and pubs/bars
Hounslow	£2,116	£3,088	£716	£825
Islington	£2,700	£4,444	£1,336	£1,427
Kensington and Chelsea	£3,014	£5,407	£1,443	£1,598
Kingston upon Thames	£2,614	£3,976	£1,114	£1,120
Lambeth	£2,477	£3,878	£1,111	£1,222
Lewisham	£2,356	£3,493	£843	£985
Merton	£2,389	£3,660	£948	£1,015
Newham	£1,807	£2,378	£474	£657
Redbridge	£2,082	£2,979	£710	£782
Richmond upon Thames	£2,758	£4,511	£1,325	£1,283
Southwark	£2,444	£3,696	£940	£1,081
Sutton	£2,531	£3,648	£981	£985
Tower Hamlets	£2,309	£3,626	£908	£1,089
Waltham Forest	£2,171	£2,995	£630	£799
Wandsworth	£2,614	£4,418	£1,337	£1,398
Westminster	£3,053	£5,380	£1,339	£1,563
London	**£2,453**	**£3,766**	**£970**	**£1,067**

Source: Per capita expenditure data provided by Experian to Nexus in May 2026

Having set spending levels (per head), a further driver of demand is the forecast level of change in retail and F&B spending over the assessment period (2025-2050). The forecasts set out in Table 6-4 have been adopted for the demand assessment. These are taken from the latest (2026) version of Experian's Retail Planner Briefing Note No.23, and set out projected growth in per capita spending within the UK.

Table 6-4: Volume growth in UK spending per head, between 2025 and 2050

Volume growth per head (%)	Convenience Goods Spending	Comparison Goods Spending	Food & Beverage Spending
2025	-1.7	-1.1	0.7
2026	-0.6	0.8	0.8
2027	-0.7	1.2	0.6
2028	-0.4	1.7	1.1
2029	-0.4	2	1.1
2030	-0.5	2	1.1
2031	-0.3	2.2	1.1
2032	-0.3	2.2	1.1
2033	-0.3	2.1	1.0
2034	-0.3	2.1	1.0
2035	-0.3	2.1	1.0
2036	-0.3	2.1	1.0
2037	-0.3	2.1	1.0
2038	-0.3	2.1	1.0
2039	-0.2	2.2	1.0
2040	-0.3	2.1	1.0
2041	-0.3	2.0	1.0
2042	-0.3	2.0	1.0
2043	-0.3	2.0	1.0
2044	-0.3	2.0	1.0
2045	-0.3	2.0	1.0
2046	-0.3	2.0	1.0
2047	-0.3	2.0	1.0
2048	-0.3	2.0	1.0
2049	-0.3	2.0	1.0
2050	-0.3	2.0	1.0

Source: Experian Retail Planner Briefing Note 26 (March 2026)

The above forecasts are based upon Experian's central case scenario for future retail and leisure spending in the UK in the short, medium and longer term. For retail spending, the convenience and comparison goods spending forecasts (in Table 6-4 and separate

technical annex[14]) have been adjusted for non-store sales. These forecasts make the distinction between pure online sales and those online sales which are fulfilled via existing 'bricks and mortar' stores, with those sales within the latter category remaining within the forecasts (i.e. change in expenditure associated with pure online sales has been removed from the forecasts, given that this study is focused upon physical land use floorspace / land provision).

6.4 Population

Population projections are used in all of the demand assessment methods aside from the employment-based method. For the purposes of the demand assessment, we have adopted the GLA's interim 2024-based population projections by borough (central scenario). These are set out in Table 6-5.

The population across London is projected to grow by 1,390,915 persons between 2024 and 2050, which is equivalent to an annual growth rate of 0.5%. The population growth is not spread equally, however, with the highest growth (in absolute terms) projected in Havering, Barnet and Hillingdon, and the lowest growth projected in Richmond, the City of London and Kensington and Chelsea

[14]A3 Technical Annex: Retail, Food and Beverage Demand Assessment Methodology – by Nexus Analytics & Research (available on the London Datastore)

Table 6-5: Interim Population Projections by Borough, 2024-2050

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Barking and Dagenham	232,747	241,054	248,226	254,955	262,539	268,701	0.6%
Barnet	405,050	432,196	457,525	471,773	489,490	507,845	0.9%
Bexley	256,434	259,874	257,288	262,438	267,361	267,987	0.2%
Brent	352,976	371,414	386,968	395,388	398,290	398,745	0.5%
Bromley	335,319	336,775	333,420	346,247	366,834	377,668	0.5%
Camden	216,943	221,456	222,922	226,935	230,939	233,021	0.3%
City of London	9,051	9,377	10,076	10,709	11,390	12,019	1.1%
Croydon	409,342	418,873	438,998	461,473	478,692	489,134	0.7%
Ealing	385,985	405,000	419,309	427,916	433,433	437,566	0.5%
Enfield	327,434	334,579	347,104	351,707	354,508	356,647	0.3%
Greenwich	299,528	319,688	338,260	345,803	351,500	355,811	0.7%

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Hackney	266,758	268,010	269,355	276,333	284,569	290,571	0.3%
Hammersmith and Fulham	188,687	197,514	210,477	220,746	230,539	241,076	0.9%
Haringey	263,850	272,826	298,500	307,672	312,427	316,040	0.7%
Harrow	270,724	278,014	294,017	302,274	307,220	308,643	0.5%
Havering	276,274	285,327	311,619	346,266	389,576	422,706	1.6%
Hillingdon	329,185	334,799	359,102	386,756	414,878	429,610	1.0%
Hounslow	299,424	312,353	322,628	329,682	334,655	338,816	0.5%
Islington	223,024	225,814	224,819	228,787	233,477	237,009	0.2%
Kensington and Chelsea	144,518	145,165	146,418	148,915	151,879	153,826	0.2%
Kingston upon Thames	172,692	174,010	186,716	190,017	191,929	192,759	0.4%
Lambeth	316,920	324,298	326,300	331,405	337,175	341,139	0.3%
Lewisham	301,255	306,934	305,369	312,436	318,986	324,247	0.3%

Sector	2024	2030	2035	2040	2045	2050	2024-2050 CAGR
Merton	218,539	222,284	226,357	229,687	233,410	236,845	0.3%
Newham	374,523	399,842	424,450	438,620	446,697	450,352	0.7%
Redbridge	321,231	324,001	340,178	354,840	363,696	365,415	0.5%
Richmond upon Thames	196,678	196,866	192,231	191,050	192,650	194,322	0.0%
Southwark	314,786	335,865	360,414	375,607	385,927	393,463	0.9%
Sutton	214,525	216,733	221,052	223,318	228,459	231,480	0.3%
Tower Hamlets	331,886	347,126	370,410	384,501	390,586	393,587	0.7%
Waltham Forest	279,737	284,538	299,935	304,002	306,630	308,066	0.4%
Wandsworth	337,655	349,120	353,279	359,951	367,403	372,385	0.4%
Westminster	209,996	212,144	217,310	220,395	224,202	227,092	0.3%
Total	**9,083,676**	**9,363,869**	**9,721,030**	**10,018,604**	**10,291,947**	**10,474,591**	**0.5%**

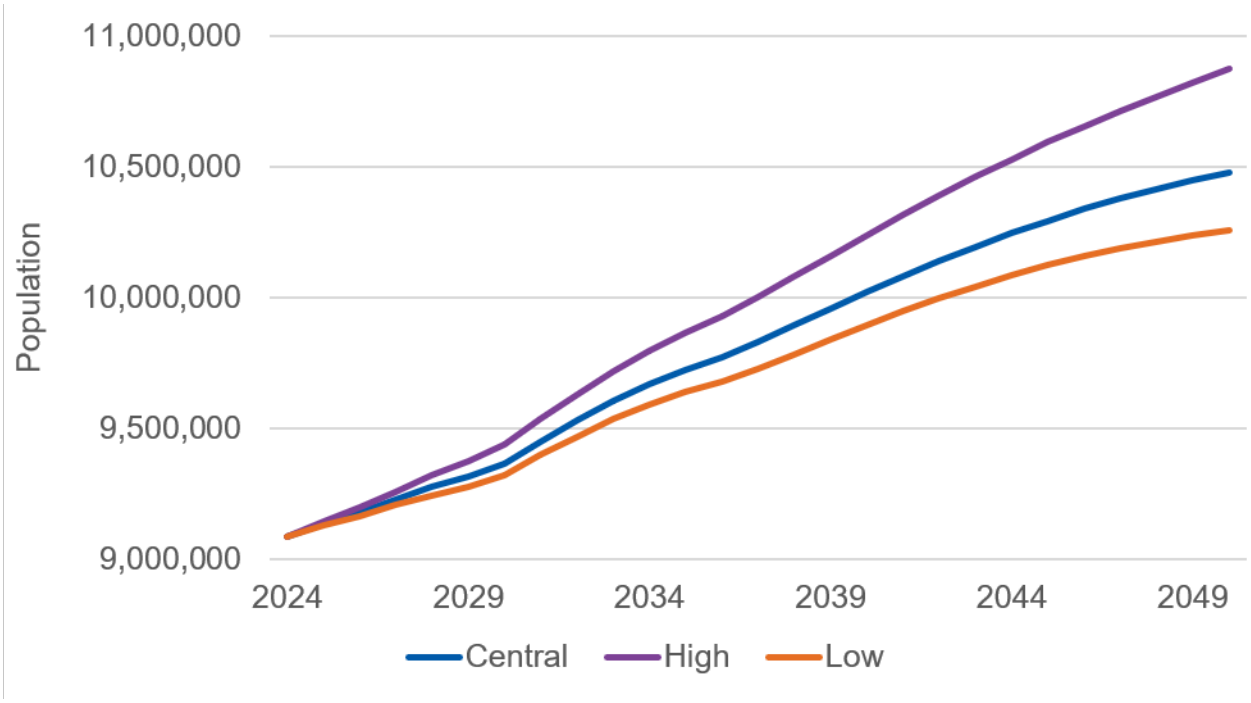
Source: GLA (2026)

The GLA has also produced high and low scenarios of the interim 2024-based population projections by borough. The projections incorporate assumptions about future housing development, and therefore the different scenarios allow to understand how differences in future housing supply might impact population change, and, consequently, the demand for various uses.

Under the high scenario, the population of London is expected to grow by 1,787,664 people between 2024 and 2050, equivalent to an annual growth rate of 0.7%. Under the low scenario, the population of London is expected to grow by 1,171,693 people over the same period, which equates to an annual growth rate of 0.5%.

Figure 6-2 below summarises the projected population growth in London to 2050 under the central, high and low scenarios. This report uses the central scenario as the basis for its projections, although final results under the high and low scenarios are also presented as sensitivities.

Figure 6-2: Interim London population projections across three GLA population scenarios, 2024-2050



Source: GLA (2026)

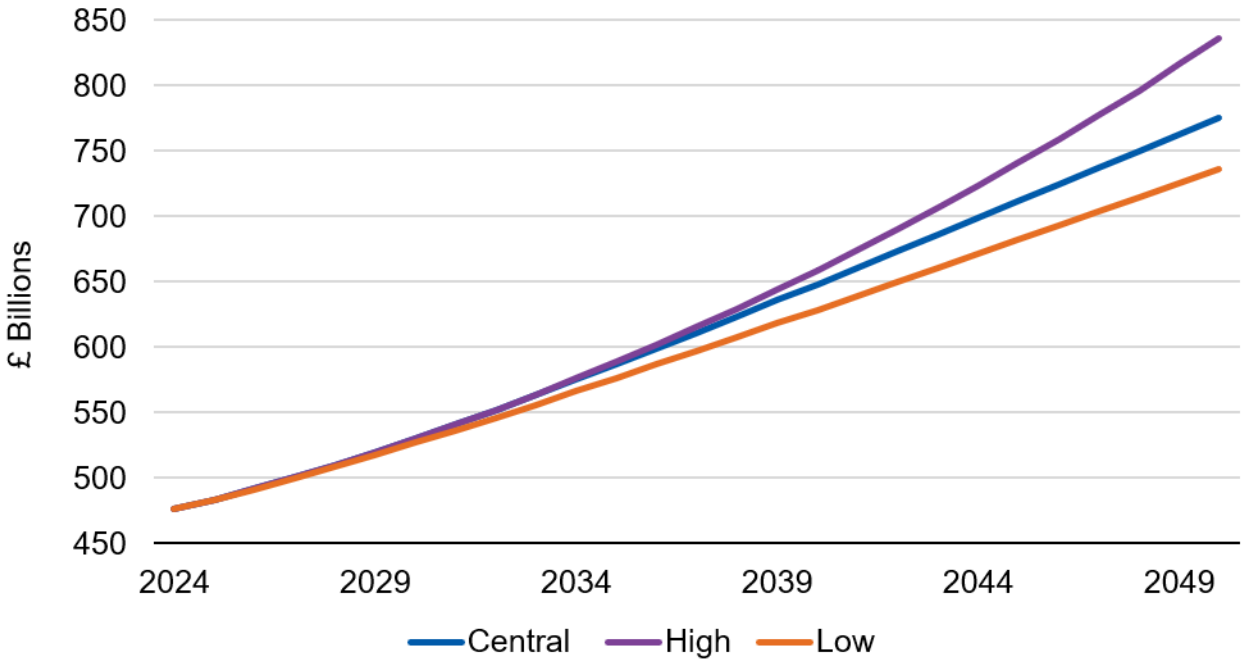
6.5 GVA

Gross Value Added (GVA) projections are used in the storage and distribution needs assessment. GVA is a key driver of storage and distribution demand, acting as a proxy for business activity and the wider economic growth that generates demand for logistics space. As economic output increases, businesses require additional warehousing, distribution and supply chain capacity to support higher levels of production and consumption. GVA projections produced by GLA Economics are available at borough level and have been used to test central, high and low growth scenarios.

Figure 6-3 presents the GVA projections used in the analysis. Under the central scenario, London's GVA is projected to increase from £480 billion in 2024 to £775 billion by 2050, representing growth of 61%. Under the high growth scenario, GVA is projected to reach

£840 billion by 2050, a 75% increase, while the low growth scenario projects GVA of £740 billion, equivalent to growth of 54%.

Figure 6-3: London GVA projections across three GLA employment scenarios, 2024-2050 (£ billion)



Source: GLA Economics (2026)

7 Employment-based floorspace demand

7.1 Introduction

This chapter sets out the employment-based floorspace/land demand methodology and the subsequent results. This covers office, R&D, light industrial and general industrial floorspace.

This chapter answers the following research questions:

- What are the drivers of floorspace demand and what are the interdependencies between these?
- What is the demand for floorspace, and where appropriate land, for economic uses from 2024 to 2050?
- What land uses are considered to have the greatest demand?
- What land uses considered will experience the greatest increases and decreases in demand to 2050?

7.2 Methodology

An overview of the employment-based methodology is set out below. Details of the methodology are included (with the results) in the subsequent sections of this chapter.

Step 1: Conversion of FTE employment by sector projections to FTE employment by use-class projections based on sector-use class conversions agreed with the GLA.

Step 2: Selection of employment densities (floorspace required per FTE) for each use class under a range of scenarios.

Step 3: Conversion of these employment densities into a singular unit (sqm GIA per employed person).

Step 4: Application of the employment densities to the FTE employment by use class projections (employment density multiplied by FTE employment) to produce a projection of demand for new floorspace (sqm GIA).

Step 5: Adjustment of demand for new floorspace to account for the need to maintain a frictional vacancy rate of 8%[15] allowing for movement and competition in the market (projections divided by 92%).

Step 6: Further adjustment to account for an existing under/over-supply of floorspace in the projection base year, based on the amount of floorspace required to reach a frictional vacancy rate of 8%.

[15] GLA (2016), Policy 4.2 Offices and Savills (2019), London Plan EiP M62 Land for Industry

Step 7: Conversion of new floorspace demand to a land requirement for General and light industrial and R&D uses using land plot ratios under a range of scenarios.

7.3 Demand for new floorspace

7.3.1 Step 1: Conversion of FTE employment by sector projections to FTE employment by use-class projections

The FTE employment projections (2026 GLA Long-run employment projections by sector and geography (introduced in Chapter 6) are converted into FTE employment projections by use class. This is done by assigning each sector to a Standard Industrial Classification 5-digit sub-sector which is then assigned one of the five following use classes:

- Office
- General industrial
- Light industrial
- Research and development (R&D)[16]
- Other

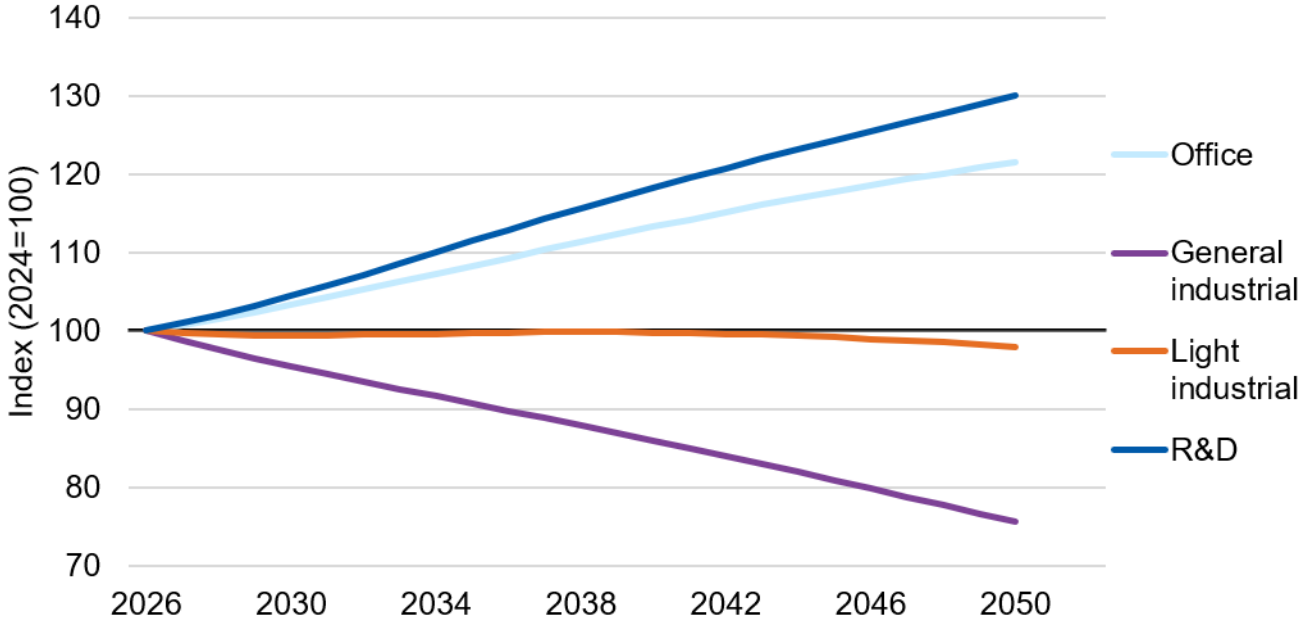
Employment assigned 'Other' is discounted from the analysis and is covered by other demand assessment methods.

Trend-based employment by sector projections are converted to SIC sub-sector projections according to level of employment in each SIC sub-sector as a percentage of its assigned sector, using BRES 2023 employment data. SIC sub-sector projections are then converted to use class projections based on the assignment.

Figure 7-1 presents the FTE employment projections by use class for the whole of London, in terms of percentage change. FTE employment in R&D space is projected to grow the fastest, increasing by over 30% between 2024 and 2050. Office-based employment is also expected to rise, at a rate of 21% over the same period. In contrast, employment in the remaining use classes is expected to decline, with jobs in general and light industrial projected to fall by 24% and 2% respectively.

[16] The R&D use class comprises only the following two SIC (2007) 5-digit sub-sectors: '72110 : Research and experimental development on biotechnology' and '72190 : Other research and experimental development on natural sciences and engineering'.

Figure 7-1: Projected FTE employment by use class, London, 2024-2050 (2024=100)



Source: Arup analysis of GLA Economics and BRES data

Table 7-1 provides the borough breakdown of the projected absolute change in FTE employment for each use between 2024 and 2050. Office-based employment is projected to grow in every borough, with the City of London (+160,800), Tower Hamlets (+64,200) and Southwark (+49,500) seeing the largest rise. The CAZ is also projected to experience high employment growth, with an additional 332,600 office FTEs (56% of London's total) and 2,200 additional R&D FTEs. Elsewhere, jumps in R&D-based employment are small (in absolute terms) and projected to be concentrated in a few boroughs. In contrast, general industrial employment is set to decline in every borough with the largest shrinkages in Ealing and Westminster (-3,000) and Brent (-2,400). Meanwhile, light industrial is projected to decline moderately in most boroughs.

Table 7-1: Projected absolute change in FTE employment by use class and borough (2024-2050)

Geography	Office	General industrial	Light industrial	R&D
Barking and Dagenham	4,300	-500	500	-
Barnet	6,700	-900	-300	-
Bexley	2,300	-1,300	-200	-
Brent	4,300	-2,400	-400	200
Bromley	2,500	-700	-400	-
Camden	38,500	-700	-400	1,400
City of London	160,800	-400	400	900
Croydon	7,300	-400	-100	-
Ealing	7,600	-3,000	-	-
Enfield	3,200	-1,300	-300	-
Greenwich	3,500	-500	-200	-
Hackney	23,300	-500	-100	300
Hammersmith and Fulham	18,000	-400	-	1,200
Haringey	4,900	-700	-300	-
Harrow	3,600	-600	-200	-
Havering	2,100	-800	-100	-
Hillingdon	10,300	-1,600	-	100
Hounslow	16,800	-800	100	400
Islington	38,000	-600	-	700
Kensington and Chelsea	7,300	-400	-100	100
Kingston upon Thames	2,900	-600	-200	-
Lambeth	13,600	-400	400	500
Lewisham	3,100	-300	-	-
Merton	4,000	-600	-200	-
Newham	13,500	-600	400	-
Redbridge	3,700	-300	-100	-
Richmond upon Thames	4,600	-300	-100	500
Southwark	49,500	-500	200	600

Geography	Office	General industrial	Light industrial	R&D
Sutton	3,800	- 400	100	300
Tower Hamlets	64,200	- 300	300	500
Waltham Forest	2,100	- 600	- 100	-
Wandsworth	7,800	- 400	-	-
Westminster	34,300	- 3,000	- 1,800	600
CAZ	**322,600**	**- 5,600**	**- 500**	**2,200**
NIOD	**26,700**	**- 100**	**100**	**200**
London	**572,400**	**- 26,800**	**- 3,200**	**8,300**

Source: Arup analysis of GLA Economics and BRES data. Colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest).

7.3.2 Step 2: Selection of employment densities

For office uses, employment densities are derived by combining two components: desk density (floorspace provided per desk) and the desk sharing ratio (the number of FTE employees supported per desk). Dividing the desk density by the desk sharing ratio gives the implied job density in sqm NIA per FTE. This approach is used in place of a single job density (sqm per employee) figure, as it better reflects the two distinct drivers of office space requirements in a post-pandemic context: how much space is provided around each workstation, and how intensively those workstations are shared under hybrid working.

Desk densities are based on the British Council for Offices (BCO) Guide to Specification Key Design Criteria (2023 Update)[17], which recommends 10 sqm NIA per desk as the central assumption. This reflects the trend towards higher-quality workplaces, including greater provision of breakout areas and amenities. A high-density sensitivity of 8 sqm NIA per desk is taken from the previous (2019)[18] edition of the same guide, while a low-density sensitivity of 12 sqm NIA per desk is taken from BCO (2022) report on the Future of Office Densities [19], reflecting more generous space provision in line with the flight to quality.

Desk sharing ratios are derived from peak office utilisation evidence in the BCO's Review of Post-Pandemic UK Office Utilisation (2025)[20]. The central ratio of 1.5 FTE per desk is based on a UK peak utilisation rate of 66%, reflecting established hybrid working patterns. The high sharing ratio of 1.7 FTE per desk is based on London's lower observed peak utilisation of 59% from the same report. The low ratio of 1.3 FTE per desk is based on the BCO's pre-pandemic recommendation of 80% peak utilisation.

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[17] British Council for Offices (2023), Guide to Specification Key Criteria Update

[18] British Council for Offices (2019), Guide to Specification Key Criteria

[19] British Council for Offices (2022), The Future of UK Office Densities

[20] British Council for Offices (2025), Review of Post-Pandemic UK Office Utilisation

Combining these inputs gives implied job densities of 6.7 sqm NIA per FTE in the central scenario, 4.7 sqm NIA per FTE in the high density scenario and 9.2 sqm NIA per FTE in the low density scenario.

The employment densities for the remaining four use classes are sourced from the HCA Employment Density Guide (2015)[21]. Fixed figures are provided for general industrial (36 sqm GIA per FTE) and light industrial (47 sqm NIA per FTE). The high and low-density scenarios have been assumed based on professional judgement and available evidence. For example, the high job density of general industrial is based on light industrial's central estimate, for example. These densities reflect typical space needs for production and machinery.

R&D employment densities are set at 50 sqm NIA per FTE, with the guidance providing a range of 40-60 sqm NIA. This range is used for the low and high-density scenarios to reflect different workspace configurations: lower densities assume more individualised workstations, while higher densities account for collaborative labs, shared equipment areas and greater circulation space.

Initial employment densities are outlined in Table 7-2.

Table 7-2: Initial employment densities (NIA and GIA per FTE), by use class and sensitivity

Use class	Central	High	Low	Unit	Source:
Office	6.7	4.7	9.2	Sqm NIA per FTE	Multiple BCO documents (see Step 2 above for details)
General industrial	36.0	47.0	15.0	Sqm GIA per FTE	HCA Employment Density Guide (2015)
Light industrial	47.0	60	15.0	Sqm NIA per FTE	HCA Employment Density Guide (2015)
R&D	50.0	60.0	40.0	Sqm NIA per FTE	HCA Employment Density Guide (2015)

7.3.3 Step 3: Conversion of employment densities to sqm GIA

To produce consistent estimates of floorspace demand, all employment densities are converted to a common unit: Gross Internal Area (GIA). This aligns with the Planning London Datahub's approach and is the chosen metric for reporting. Conversion factors from Net Internal Area (NIA) and Gross External Area (GEA) to GIA vary by use class.

For office uses, the British Council for Offices (2019)[22] indicate that NIA typically accounts for 80–85% of GIA while the London Office Policy Review (2017)[23] recommends that NIA makes up 80% of GIA for office space. An 80% conversion factor is adopted in this study which is consistent across both sources. For office in the City of London, a lower ratio of

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

[22] British Council for Offices Specification for Offices (2019), Quick Guide to Key Criteria

[23] Greater London Authority (2017), London Office Policy Review

75% NIA to GIA is applied as per City of London guidance[24], reflecting the distinct office typologies in the Square Mile (e.g. towers and complex shared cores).

For industrial uses, the HCA Employment Density Guide (2015) provides a standard GIA to NIA ratio of 95%, and a further GIA to GEA ratio of 95% is applied to translate internal to gross external floorspace. These ratios are applied to general and light industrial and R&D uses.

The implied NIA and GEA to GIA conversions are presented in Table 7-3.

Table 7-3: Conversion factors from NIA to GIA to GEA by use class

Conversion	Office (All geographies, excluding CoL)	Office (City of London)	Industrial (All)	Source
NIA:GIA	80%	75%	95%	LOPR/CoL/HCA Employment Density Guide (2015)
GIA:GEA	Not required	N/A	95%	HCA Employment Density Guide (2015)

The final employment densities, in terms of GIA sqm per employee, are presented in Table 7-4.

Table 7-4: Final employment densities by use class, transformed into GIA per FTE

Use class	Central	Low	High	Unit
Office (London)	13.8	15.6	12.5	GIA per FTE
Office (City of London)	14.7	16.7	13.3	GIA per FTE
General industrial	36	40	35	GIA per FTE
Light industrial	49.5	52.6	47.4	GIA per FTE
R&D	52.6	63.2	42.1	GIA per FTE

7.3.4 Steps 4-6: Calculation of future demand for new floorspace

The employment density assumptions presented in Table 7-4 are applied to the employment by use class and geography projections presented in Table 7-1 to provide projections of future demand for new floorspace by use class and geography.

The floorspace demand projections are then adjusted to account for a frictional vacancy rate of 8% (i.e. the floorspace demand projections are divided by 92%), reflecting the level of vacant floorspace assumed to be required to support healthy competition while allowing space for tenants to relocate, landlords to upgrade facilities. This 8% assumption is

[24] City of London (2021), City of London Local Plan City Plan 2036 Proposed Submission Draft Topic Paper 1 – OFFICES

commonly applied in London planning evidence, including previous GLA office policy evidence[25] and industrial land evidence prepared for the London Plan Examination[26].

In addition, where boroughs have an oversupply of floorspace relative to the frictional vacancy rate of 8%, projections demand is reduced to reflect the excess provision of floorspace. Conversely, where vacancy is below the frictional vacancy rate, additional demand is added. Inventory data is sourced from CoStar.

7.3.5 Floorspace demand under alternative employment densities

Table 7-5 presents the projected net change across London in floorspace demand to 2050 across different land use classes under three employment density scenarios: central, high, and low.

Across the central employment density assumptions, office space sees the most substantial growth in demand, increasing by 5.0 million sqm between 2024 and 2050. R&D space demand expands modestly, by 490,000 sqm. By contrast, demand for general industrial and light industrial space is projected to reduce by 930,000 sqm and 100,000 sqm respectively.

Lower-density assumptions yield higher projected floorspace demand, particularly for space-intensive uses such as office. This reflects not only modelled differences in employment per sqm but also broader trends such as growing preferences for higher-quality, amenity-rich office environments that tend to require more space per worker. For example, projected office demand ranges from 3.2 million sqm under the high-density scenario to 7.3 million sqm under the low-density scenario. General industrial shows consistent declines in projected demand across all scenarios, with only modest variation depending on density assumptions. light industrial follows a similar pattern in the central and low-density scenarios, with small projected declines of 0.10 and 0.16 million sqm respectively. The high-density scenario is the exception, showing a marginal increase of around 30,000 sqm, reflecting more intensive use of space per worker tipping projected employment growth into positive net floorspace demand. R&D shows modest growth, ranging from 0.40 to 0.60 million sqm.

Table 7-5: Projected change in floorspace demand across London by use class across three employment density scenarios between 2024-2050 (GIA, million sqm)

Use class	Central	Low density	High density
Office	4.97	7.26	3.22
General industrial	-0.92	-1.25	-0.31
Light industrial	-0.10	-0.16	0.03
R&D	0.49	0.59	0.39

Source: Arup analysis of GLA Economics, BRES and CoStar data.

[25] GLA (2016), Policy 4.2 Offices

[26] Savills (2019), London Plan EiP M62 Land for Industry

7.3.6 Floorspace demand under alternative employment growth projections

Table 7-6 sets out the projected change in floorspace demand in London to 2050 across use classes under three employment growth scenarios: central, high, and low variants as provided by GLA Economics. The results are presented assuming central employment densities. Office demand is most sensitive, ranging from 3.5 million sqm under the low scenario to 7.2 million sqm under the high scenario. General industrial shows consistent decline across all scenarios between 0.7 million sqm in the high scenario to 1.1 million sqm in the low scenario, while light industrial shifts from a fall of 0.4 million sqm in the low scenario to growth of 0.4 million sqm in the high scenario. R&D maintains steady growth across scenarios, from 0.4 to 0.7 million sqm.

Table 7-6: Projected change in floorspace demand across London by use class across three employment growth scenarios between 2024-2050 (GIA, million sqm)

Use class	Central	Low density	High density
Office	4.97	7.24	3.50
General industrial	-0.92	-0.70	-1.07
Light industrial	-0.10	0.41	-0.44
R&D	0.49	0.65	0.39

Source: Arup analysis of GLA Economics, BRES and CoStar data.

7.3.7 Final borough-level floorspace demand projections

Table 7-7 presents projected floorspace demand (sqm GIA) across London and geographies by use class, net of existing over/under supply. Please note that these are projections and not a prediction or forecast and do not take into account current and future changes to policies to promote economic growth. Final floorspace demand results take the central employment density and employment scenarios.

Across boroughs, the largest increases in office floorspace demand are in the City of London (+1.4 million sqm), Islington (+450k sqm), Tower Hamlets (+373k sqm), Southwark (+373k) and Westminster (+348k). The CAZ is projected to increase its office floorspace by 2.4 million sqm by 2050. Growth in demand for R&D space is concentrated in boroughs such as Camden (+79k sqm), Hammersmith & Fulham and Islington. In contrast, general industrial floorspace demand is projected to fall across nearly all boroughs, with the largest reductions in Ealing, Westminster and Brent. Light industrial paints a more mixed picture, with Islington and Hillingdon projected to experience substantial increases in demand while Westminster is projected to experience a considerable contraction of over 100,000 sqm until 2050.

Table 7-7: Projected new floorspace demand (GIA sqm) by use class, net of existing over/under supply (2024-2050)

Geography	Office	General industrial	Light industrial	R&D
Barking and Dagenham	41,800	-8,500	32,600	2,200
Barnet	76,100	-30,200	-13,200	1,300

Geography	Office	General industrial	Light industrial	R&D
Bexley	29,800	-30,400	-7,100	200
Brent	41,600	-88,100	-20,100	9,100
Bromley	34,800	-27,100	-20,300	800
Camden	220,000	-16,300	-18,900	79,100
City of London	1,393,300	-30,500	20,400	50,500
Croydon	94,100	-9,400	-2,600	900
Ealing	92,500	-102,700	6,600	2,700
Enfield	57,000	-48,800	-14,000	500
Greenwich	44,400	-12,600	-6,300	1,100
Hackney	254,200	-16,700	-100	17,600
Hammersmith and Fulham	97,700	-9,600	3,500	65,800
Haringey	78,500	-15,900	-12,900	600
Harrow	60,000	-20,500	-11,100	1,700
Havering	40,100	-23,700	-5,800	300
Hillingdon	106,300	-54,800	1,900	8,400
Hounslow	127,300	-28,700	5,500	24,300
Islington	454,400	-20,200	6,800	40,600
Kensington and Chelsea	98,000	-14,000	-6,200	8,400
Kingston upon Thames	12,400	-23,100	-14,400	1,700
Lambeth	149,100	-14,600	23,400	27,300
Lewisham	57,300	-10,500	1,400	1,800
Merton	30,300	-18,900	-3,800	1,300
Newham	29,000	-23,900	21,900	1,600
Redbridge	33,800	-11,200	-4,700	600
Richmond upon Thames	26,200	-7,700	-5,100	25,800
Southwark	373,700	-21,400	14,800	33,400
Sutton	25,400	-9,900	4,900	16,300
Tower Hamlets	373,700	-16,600	22,100	27,900
Waltham Forest	22,400	-23,600	-4,500	400

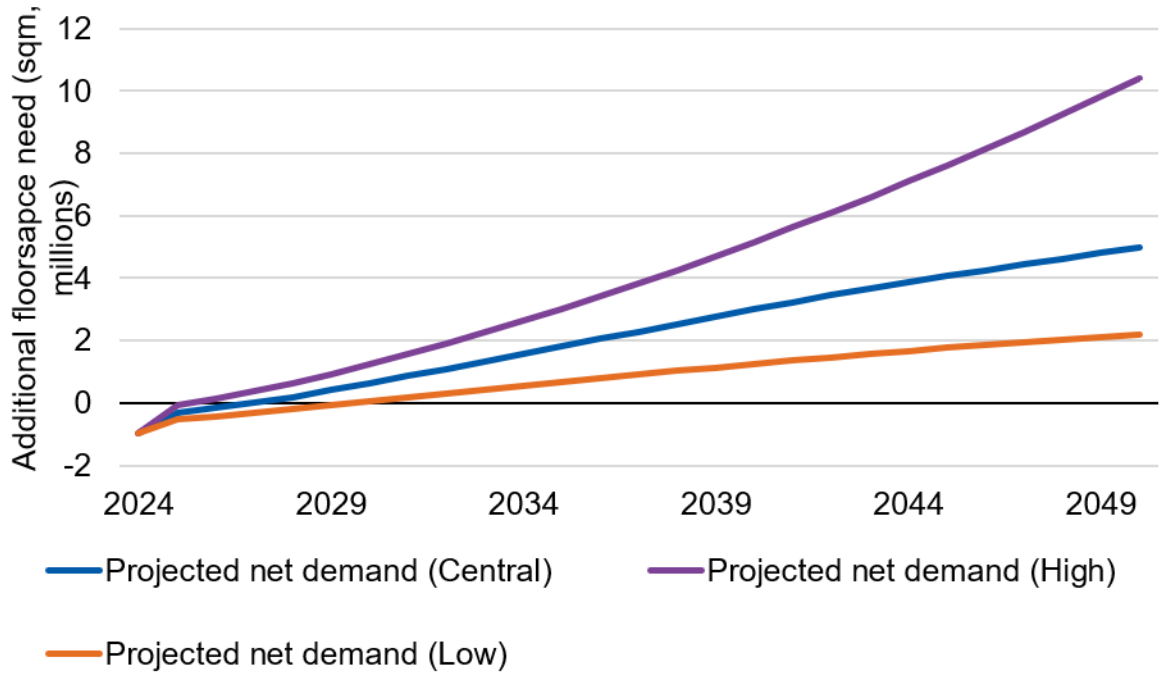
Geography	Office	General industrial	Light industrial	R&D
Wandsworth	47,000	-17,000	2,300	1,900
Westminster	348,500	-117,800	-100,200	34,700
CAZ	**2,433,000**	**-215,800**	**-18,500**	**125,500**
NIOD	**212,900**	**-4,500**	**7,400**	**11,600**
London	**4,970,400**	**-924,900**	**-103,200**	**490,800**

Source: Arup analysis of GLA Economics, BRES and CoStar data. Colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest).

7.3.8 Summary of floorspace demand projections

Figure 7-2 presents the office floorspace demand projections from this study, net of existing vacancy relative to the frictional vacancy rate. The high and low demand scenarios represent the upper and lower end of the floorspace demand modelled in this study, with the high scenario combining high employment and high floorspace per job (low density) assumptions.

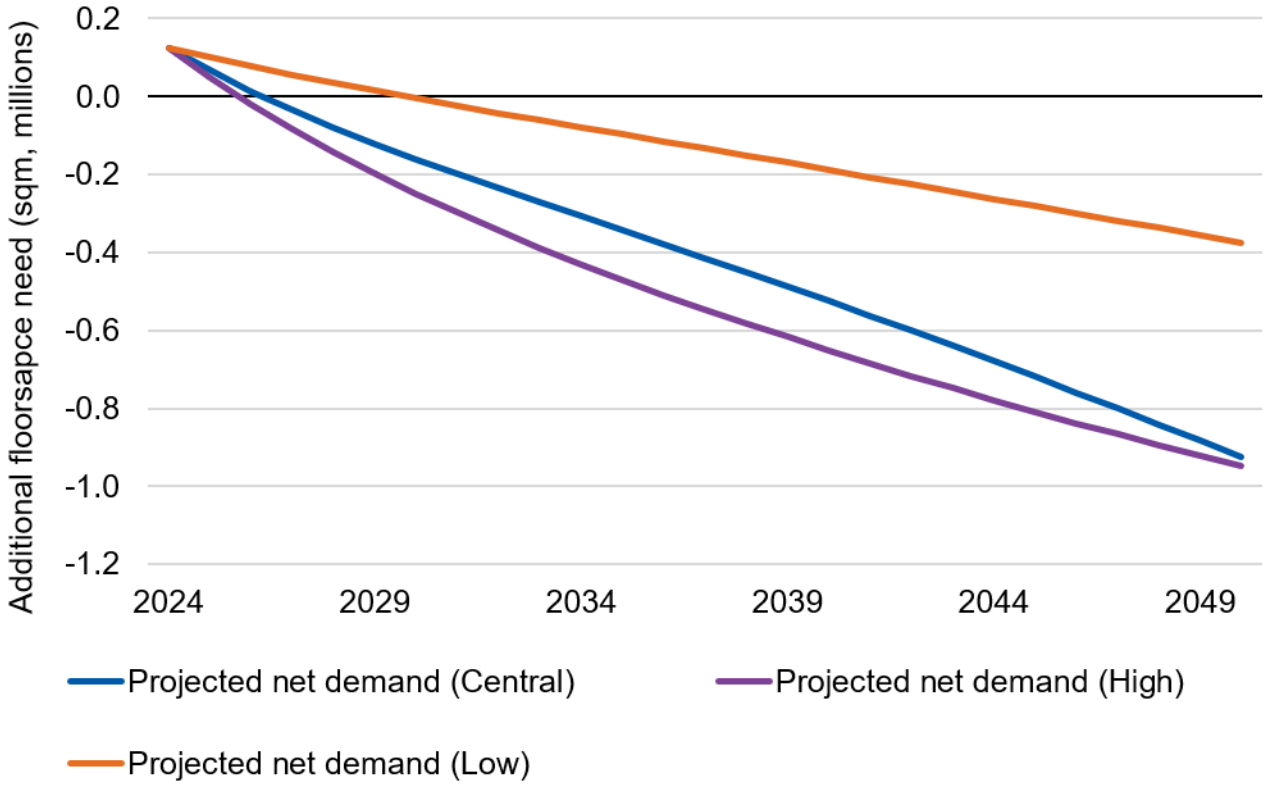
Figure 7-2: Additional Office floorspace requirement in London (2024-50, sqm GIA)



Source: Arup analysis of GLA Economics, BRES and CoStar data. Negative demand in 2024 reflects existing vacancy over the 8% frictional rate.

Figure 7-3 presents the projected range of change in general industrial floorspace . The central and high scenarios follow a similar trajectory, with both projecting a contraction of around 1.0 million sqm by 2050. This reflects the relatively similar job density assumptions used in these scenarios, at 36 sqm and 47 sqm GIA per FTE respectively. By contrast, the low scenario assumes a much higher employment density of 15 sqm GIA per FTE, resulting in a divergence away from the other two scenarios.

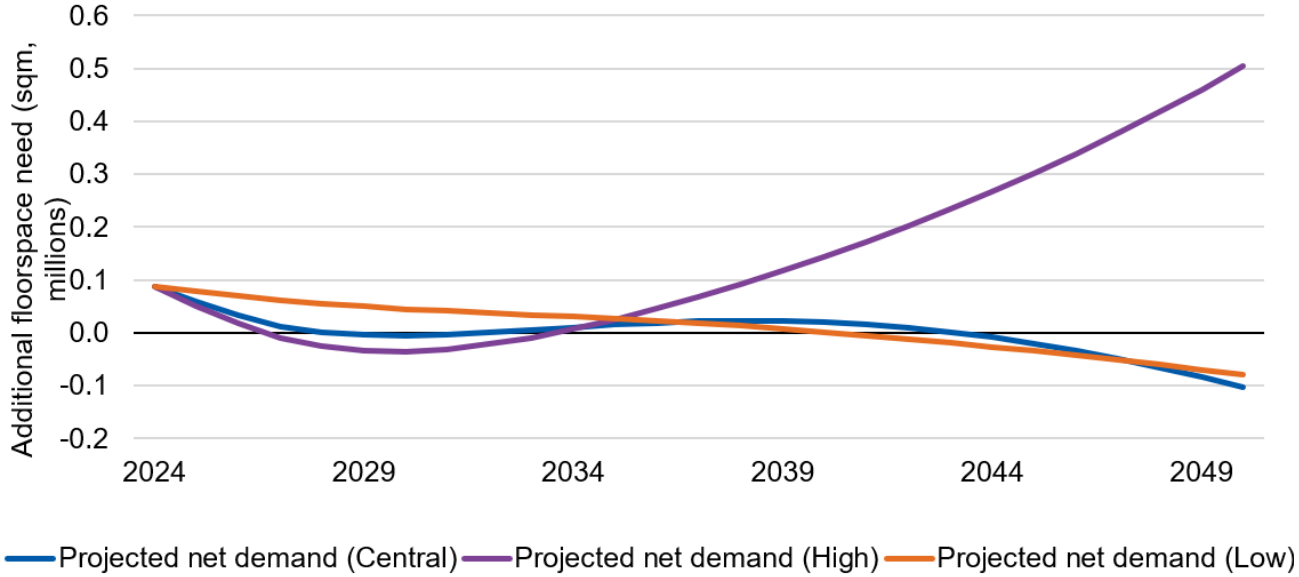
Figure 7-3: Additional general industrial floorspace requirement in London (2024-50, sqm GIA)



Source: Arup analysis of GLA Economics, BRES and CoStar data. Positive demand in 2024 reflects vacancy is under the 8% frictional rate.

Figure 7-4 presents the range of projected change in light industrial floorspace alongside. By 2050 the scenarios show a relatively wide range of outcomes: the high scenario indicates growth of around 500,000 sqm, while the low scenario and central scenarios fall by around 100,000 sqm. This divergence is mainly driven by the underlying employment projections: the high scenario assumes growth in light industrial FTEs after a period of small contraction in the early 2030s, whereas the central and low scenarios assume steady but modest decreases over the projection period.

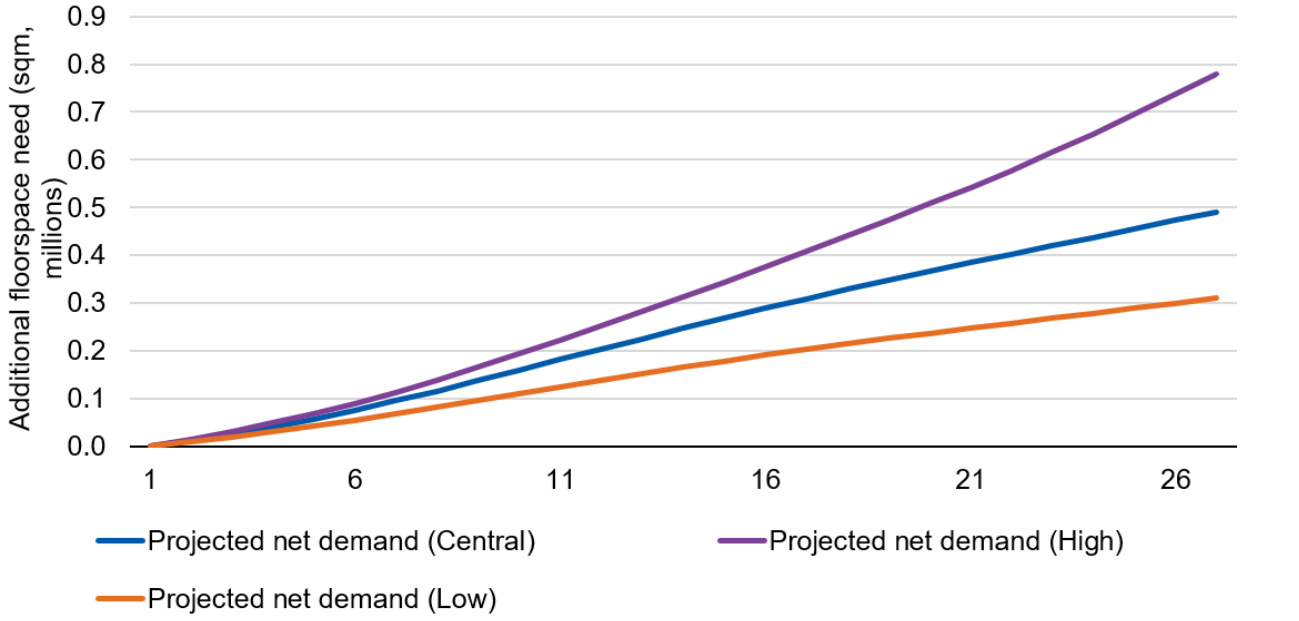
Figure 7-4: Additional light industrial floorspace requirement in London (2024-50, sqm GIA



Source: Arup analysis of GLA Economics, BRES and CoStar data. Positive demand in 2024 reflects vacancy is under the 8% frictional rate.

Figure 7-5 presents the range of projected change in R&D floorspace. The central projection sits in the middle of the low and high projections which range from 310,000 sqm to 780,000 sqm.

Figure 7-5: Additional R&D floorspace requirement in London, net of existing vacancy (2024-50, sqm GIA)



Source: Arup analysis of GLA Economics, BRES and CoStar data. Vacancy adjustment not made as reliable vacancy data is not available for R&D uses.

7.3.9 Step 7: Calculation of new land requirement

To estimate future land requirements, plot ratios are applied to the floorspace demand projections for industrial use classes. A plot ratio represents the relationship between the gross internal area of floorspace and the total land area it occupies. For example, a plot ratio of 0.6 implies that 600 sqm of floorspace would require 1,000 sqm of land. It accounts for the typical development intensity of a given use class, including building height, layout and site coverage.

No land conversion is applied to office floorspace. This reflects the predominantly vertical nature of office development in London, where new demand is typically met through intensification or redevelopment within existing commercial zones.

To reflect uncertainty around land plot ratio benchmarks, scenarios which assume a central, low and high scenario are modelled. The central scenario assumes a plot ratio of 0.6 for general industrial uses, with a high plot ratio of 0.7 and a low plot ratio of 0.45 in both sensitivity scenarios (Table 7-8). These benchmarks are sourced from the London Employment Sites Database (2021)[27] and capture variations in operational efficiency, building heights and sprawl. Plot ratios for light industrial uses are moderately higher across all scenarios, assumed to be 0.60 in the central scenario and ranging from 0.65 to 1.05 in the sensitivities. The high scenario exceeds a ratio of 1.0, which is plausible in multi-storey light industrial schemes. R&D is assumed to follow the same ratios as light industrial, given similar characteristics. These sensitivities are adapted from the 'Analysis of plot ratios in industrial development in London' report by the GLA (2011-2018)[28]

Table 7-8: Land plot ratio benchmarks employed in analysis

Use class	Central	High	Low	Source:
General industrial	0.60	0.7	0.45	London Employment Sites Database (2021)
Light industrial	0.75	1.05	0.65	GLA Analysis of plot ratios in industrial development in London (2011-2018)
R&D	0.75	1.05	0.65	GLA Analysis of plot ratios in industrial development in London (2011-2018)

Table 7-9 presents the estimated change in land demand (in hectares) across London by use class under the three plot ratio scenarios. general industrial shows the largest reduction in land need, ranging from 133 to 206 hectares, reflecting declining floorspace demand and relatively lower plot ratios. light industrial sees a smaller decline, while R&D shows positive land demand growth across all scenarios, with up to 77 hectares required under the low plot ratio scenario.

Table 7-9: Projected land requirement across London by industrial use classes and sensitivity scenario between 2024-2050 (ha)

Geography	Central	High plot ratio	Low plot ratio
General industrial	-155	-132	-207

[27] CAG Consultants (2021), London Employment Sites Database

[28] GLA (2018), Analysis of plot ratios in industrial development in London (2011-2018)

Geography	Central	High plot ratio	Low plot ratio
Light industrial	-12	-10	-14
R&D	66	47	77

Source: Arup analysis of GLA Economics, BRES and CoStar data.

7.3.10 Final borough-level land demand projections

High-efficiency plot ratios are applied when presenting floorspace projections to 2050, reflecting the greater scope for efficiency gains in land over this longer time horizon. Table 7-10 presents the additional land need across each borough and use class. The largest contractions in general industrial land are concentrated in a few boroughs, particularly Westminster (-16.8 ha), Ealing (-14.7 ha) and Brent (-12.6 ha), with other notable reductions in Hillingdon (-7.8 ha) and Enfield (-7.0 ha). light industrial changes are comparatively small, with modest declines spread across boroughs such as Barnet (-1.3 ha) and Kingston (-1.4 ha), alongside limited gains in locations including Barking and Dagenham (+3.1 ha) and Newham (+2.1 ha). R&D demand, by contrast, is positive in most boroughs, with the largest increases observed in Camden (+7.5 ha), Hammersmith and Fulham (+6.3 ha), and the City of London (+4.8 ha).

Table 7-10: Projected new land need (ha), net of existing over/under supply, by borough and use class, under high-efficiency land use assumptions (2024-2050)

Geography	General industrial	Light industrial	R&D
Barking and Dagenham	-1.2	3.1	0.2
Barnet	-4.3	-1.3	0.1
Bexley	-4.3	-0.7	0.0
Brent	-12.6	-1.9	0.9
Bromley	-3.9	-1.9	0.1
Camden	-2.3	-1.8	7.5
City of London	-4.4	1.9	4.8
Croydon	-1.3	-0.2	0.1
Ealing	-14.7	0.6	0.3
Enfield	-7.0	-1.3	0.0
Greenwich	-1.8	-0.6	0.1
Hackney	-2.4	0.0	1.7
Hammersmith and Fulham	-1.4	0.3	6.3
Haringey	-2.3	-1.2	0.1
Harrow	-2.9	-1.1	0.2

Geography	General industrial	Light industrial	R&D
Havering	-3.4	-0.5	0.0
Hillingdon	-7.8	0.2	0.8
Hounslow	-4.1	0.5	2.3
Islington	-2.9	0.7	3.9
Kensington and Chelsea	-2.0	-0.6	0.8
Kingston upon Thames	-3.3	-1.4	0.2
Lambeth	-2.1	2.2	2.6
Lewisham	-1.5	0.1	0.2
Merton	-2.7	-0.4	0.1
Newham	-3.4	2.1	0.2
Redbridge	-1.6	-0.4	0.1
Richmond upon Thames	-1.1	-0.5	2.5
Southwark	-3.1	1.4	3.2
Sutton	-1.4	0.5	1.5
Tower Hamlets	-2.4	2.1	2.7
Waltham Forest	-3.4	-0.4	0.0
Wandsworth	-2.4	0.2	0.2
Westminster	-16.8	-9.5	3.3
London	**-132.2**	**-9.8**	**46.7**

Source: Arup analysis of GLA Economics, BRES and CoStar data. Colour scale (from dark red to dark green) indicates the relative rate of change by borough (from lowest to highest).

8 Storage and distribution floorspace demand

8.1 Introduction

This chapter sets out the household demand-based and the business demand-based storage and distribution floorspace and land demand methodology and subsequent results. For the purposes of this specific demand assessment, storage and distribution primarily includes warehouses and distribution but also light distribution, refrigeration and cold storage. Outdoor storage, self-storage, transport depots and data centres are excluded from storage and distribution in this specific demand assessment. Wholesale markets are partially included (as the input data only partially includes this use).

This chapter answers the following research questions:

- What are the drivers of floorspace demand and what are the interdependencies between these?
- What is the demand for floorspace, and where appropriate land, for economic uses from 2024 to 2050?
- What land uses are considered to have the greatest demand?
- What land uses considered will experience the greatest increases and decreases in demand to 2050?

8.2 Methodology

An overview of the storage and distribution floorspace demand methodology is set out below. Details of the methodology are included (with the results) in the subsequent sections of this chapter.

Step 1: Preparation of storage and distribution floorspace demand driver projections at the London level. These include consumer goods and F&B expenditure as an indicator of storage and distribution demand from the final consumer (i.e. people in London) and GVA as an indicator of demand from businesses.

Step 2: Calculation of ratios between the inventory of storage and distribution floorspace in London (sourced from CoStar) and both demand drivers. The ratio of GVA to storage and distribution floorspace is projected to 2050 at the historic growth rate.

Step 3: Calculation of new floorspace need by applying these ratios to the demand driver projections.

Step 4: Distribution of the London-level floorspace need across the boroughs in line with their projected share of total London growth. Borough level GVA projections were not available so employment projections were used.

Step 5: Accounting for any existing under/over-supply of floorspace is considered based on the amount of floorspace needed to achieve a frictional vacancy rate of 8%. However, as the 2024 vacancy rate for London was 8% no adjustment was applied in practice.

It should be noted that an adjustment to allow for an 8% frictional vacancy in new stock wasn't applied to the GVA and spend based projections. This adjustment is implicitly included in the ratio of storage and distribution floorspace to GVA/spend, as the floorspace figure includes vacant stock.

Step 6: The GVA-based and spend-based projections are averaged at the London-level, and distributed across boroughs based on each area's share of the spend-based projection.

Step 7: The GVA-based and spend-based projections are averaged with 2013-24 trends in net take-up (move-ins minus move-outs) of storage and distribution floorspace using CoStar data. These are adjusted to take into account the need for an 8% frictional vacancy rate in the new stock.

Step 8: Adjustment to account for increased efficiency of storage and distribution floorspace relative to the existing ratio of inventory to spend/GVA.

Step 9: Segmentation of storage and distribution stock into three sub-types: Single-storey big box, Urban single/multi-storey warehousing and Cross-docking/High throughput based on data from CoStar.

Step 10: Conversion of new floorspace demand to a land requirement for all projection methods using land plot ratios which differ across the three storage and distribution sub-types and under three sensitivity scenarios.

8.3 Demand for new floorspace

An alternative methodology has been used because employment-based modelling which is traditionally used in employment needs assessments tends does not provide a good projection of storage and distribution needs. As storage and distribution facilities are increasingly automated and capital-intensive the number of workers does not correlate well with future demand for floorspace.

There are two key drivers of demand for storage and distribution floorspace – household demand and businesses demand for goods. It is not possible to estimate warehouse demand by separately quantifying and then aggregating these sources, as this would risk double counting. Instead, the methodology captures each driver individually, while recognising that both measures inherently reflect elements of both household and business demand.

It is important to note that the GVA-based and spend-based projections assess the level of underlying demand for storage and distribution floorspace (i.e. demand for storage and distribution service from people and businesses) and where this demand originates from spatially. This method overcomes issues around suppressed demand which are associated with pure projections of net take-up as needs are based on the level of underlying need for storage and distribution services from people and businesses rather than historic rates of revealed demand. However, historic net absorption rates are also considered in the modelling to provide appropriate balance between historically revealed demand and potential needs. Utilising net absorption rates by borough also helps provide a more realistic picture of the spatial distribution of floorspace demand, given it is not necessarily practical or desirable to meet floorspace demand in the same location as the underlying demand for storage and distribution services.

8.3.1 Step 1: Demand driver projections

Household demand for storage and distribution is proxied by growth in per capita consumer expenditure on goods and food and beverage (F&B) as well as population growth. Projected increases in household demand for goods are derived by multiplying projected population growth by projected per capita consumer spend growth, thereby capturing the combined effect of a larger population and rising per capita expenditure.

Growth in real Gross Value Added (GVA) serves as a proxy for business demand, reflecting the wider expansion of economic activity that underpins logistics requirements, while demand is also captured indirectly through the same household-driven factors as businesses expand in response to higher levels of consumption.

8.3.2 Step 2: Establishing drivers to floorspace ratios

Ratios are required to translate measures of household demand into an implied level of storage and distribution floorspace. Since there is no direct measure of how much storage and distribution floorspace households will need in the future, these ratios capture the current (2024-based) relationship between the consumer spend and GVA demand drivers and warehouse provision.

8.3.3 Step 3: Calculation of future demand for floorspace

The benchmark ratios are applied to the demand driver projections to estimate future gross requirements for storage and distribution floorspace at the London level.

8.3.4 Step 4: Distribution of the London-level floorspace need across the boroughs

The London-wide gross demand is distributed across boroughs according to each borough's share of projected growth. Household demand is apportioned using borough-level projections of population (as borough level spend projections are not available) so that areas with faster growth in population receive a higher share of floorspace need. Business-related demand is apportioned using borough-level employment projections, since GVA projections are not available at this level of geography.

8.3.5 Step 5: Adjustment for existing under/over-supply of floorspace

Adjustment for existing imbalances in the supply of storage and distribution floorspace is considered (under-supply or over-supply relative to a target frictional vacancy rate of 8%). However, as the 2024 vacancy rate for London was 8% (based on CoStar data) no adjustment was applied in practice.

8.3.6 Step 6-7: Combination of driver and historic net take-up trend projections

Projected storage and distribution floorspace demand is first estimated by averaging the results from the spend-based and GVA-based projection methods at the London level. This reflects the importance of both drivers: spend captures the spatial pattern of consumer-related logistics demand, while GVA remains an important driver of business-level economic activity and associated storage and distribution requirements.

As a result, the London-level midpoint between the spend-based and GVA-based projections is distributed across boroughs using the spend-based projection only, so that the borough-level allocation reflects the spatial skew arising from the spend-based projections.

The average of this ‘driver’ projection and the historic net-take up trend projection (adjusted to take into account the need for an 8% frictional vacancy rate in the new stock) is then taken as the central estimate. This ensures that these projections remain anchored in observed delivery rates at the borough level, by balancing the drivers of demand with the rate at which floorspace has historically come forward across boroughs in London. When selecting a historical trend to project forward the choice of time period is important. For this analysis, the 2013–2025 trend is taken forward. This avoids the period around the 2009 economic downturn, where there is uncertainty over data reliability, while still using as long a time series as possible given the projection horizon extends to 2050.

8.3.7 Step 8: Floorspace efficiency adjustment

Floorspace demand is adjusted to consider how future storage and distribution stock could be used more efficiently. This reflects the potential for operational improvements such as automation, layout optimisation and digital inventory management to reduce new space requirements.

Arup and the GLA engaged with a small number of storage and distribution developers and occupiers to explore this issue. When asked how much more efficient new floorspace could become relative to existing stock, responses ranged from ~5 to ~50% depending on the type of facility, whilst the majority of responses were ~10% or 25%.

A 10% reduction is applied to the annual future demand (2024-2050) based on the engagement described above, professional judgement and a case study described by McKinsey (2024)[29]. To reflect uncertainty associated with this assumption, high and low efficiency scenarios are also explored - a 20% reduction in new floorspace demand is applied in the high scenario and no efficiency adjustment is made in the low scenario.

8.3.8 Floorspace demand under alternative floorspace efficiency scenarios

Table 8-1 presents the projected additional storage and distribution floorspace demand under three assumptions about the future efficiency of new stock. The choice of efficiency assumption has a material impact on projected demand at the London level, ranging from 3.5 million sqm under no efficiency savings to 2.8 million sqm under the high-efficiency (20% savings) scenario. The relative distribution across PMAs remains consistent across scenarios, with the Thames Gateway, Park Royal / A40 / Heathrow and Central Services Area continuing to account for the majority of projected demand.

[29] McKinsey (2024), Navigating warehouse automation strategy for the distributor market.

Table 8-1: Projected change in storage and distribution floorspace demand by Property Market Area (PMA) across three efficiency scenarios between 2024-2050 (sqm)

PMA	20% efficiency savings	10% efficiency savings	No efficiency savings
Central services area	763,000	859,000	954,000
Thames Gateway	768,000	864,000	960,000
Lea Valley	202,000	227,000	253,000
Park Royal / A40 / Heathrow	754,000	848,000	942,000
Wandle Valley	332,000	374,000	416,000
London	**2,822,000**	**3,175,000**	**3,528,000**

Source: Arup and Nexus analysis of GLA Economics, CoStar, ONS and Experian data.

8.3.9 Floorspace demand under alternative GVA, employment and population projections

Table 8-2 presents the projected additional storage and distribution floorspace demand under three GVA, employment and population growth scenarios. GVA and population are used as a key driver of London-wide storage and distribution demand, while employment projections are then used to distribute this London-level demand across boroughs. The high and low projections change total London demand to around 3.3 million sqm under the high scenario and falls to around 2.5 million sqm under the low scenario. The percentage change from the central scenario is broadly consistent across PMAs, increasing by around 15-20% across each PMA in the high scenario, while under the low scenario demand falls by around 8-12%.

Table 8-2: Projected change in storage and distribution floorspace demand by Property Market Area (PMA) across three GVA, employment and population scenarios between 2024-2050 (sqm)

PMA	Central	High projections	Low projections
Central services area	763,000	903,000	669,000
Thames Gateway	768,000	880,000	703,000
Lea Valley	202,000	242,000	178,000
Park Royal / A40 / Heathrow	754,000	879,000	677,000
Wandle Valley	332,000	386,000	300,000
London	**2,822,000**	**3,292,000**	**2,530,000**

Source: Arup and Nexus analysis of GLA Economics, CoStar, ONS and Experian data.

8.3.10 Final borough-level floorspace demand projections

The high-efficiency floorspace scenario is applied when presenting floorspace projections to 2050, reflecting the potential for operational improvements, such as automation, layout optimisation and digital inventory over the long projection horizon to 2050. The results presented in Table 8-3 therefore apply the high-efficiency scenario (a 20% reduction in new demand).

The total storage and distribution floorspace demand projected to 2050 is presented in Table 8-3. An additional 2.8 million sqm of floorspace is projected to be required between 2024 and 2050. Demand is spread across the Central services Area, Thames Gateway and Park Royal / A40 / Heathrow PMAs, each accounting for approximately 27% of demand. At the borough level, Havering (part of Thames Gateway) has the highest projected demand (217,000 sqm), ahead of Hillingdon (182,000 sqm) and Barnet (167,000 sqm) and Bexley (167,000 sqm) - reflecting the combined influence of strong historic take-up growth in these boroughs and their relatively high share of spend-based demand. By contrast, demand in central and inner-west boroughs such as the City of London, Newham, and Richmond upon Thames is markedly lower, reflecting either the limited scope for logistics provision in these areas or the declining trend in take-up across these areas.

Table 8-3: Projected new storage and distribution floorspace demand (sqm) by geography, under high efficiency assumptions (2024-2050)

Geography	Floorspace demand (sqm)
Barking and Dagenham	75,000
Barnet	167,000
Bexley	167,000
Brent	56,000
Bromley	139,000
Camden	72,000
City of London	7,000
Croydon	133,000

Geography	Floorspace demand (sqm)
Ealing	80,000
Enfield	63,000
Greenwich	79,000
Hackney	59,000
Hammersmith and Fulham	70,000
Haringey	86,000
Harrow	80,000
Havering	217,000
Hillingdon	182,000
Hounslow	70,000
Islington	59,000
Kensington and Chelsea	58,000
Kingston upon Thames	70,000
Lambeth	90,000
Lewisham	67,000
Merton	60,000
Newham	9,000
Redbridge	82,000
Richmond upon Thames	49,000
Southwark	105,000
Sutton	70,000
Tower Hamlets	71,000
Waltham Forest	53,000
Wandsworth	86,000
Westminster	89,000
Central services area	**763,000**
Thames Gateway	**768,000**
Lea Valley	**202,000**
Park Royal / A40 / Heathrow	**754,000**
Wandle Valley	**332,000**
London	**2,822,000**

Source: Arup and Nexus analysis of GLA Economics, ONS, CoStar and Experian data. Colour scale (from light green to dark green) indicates the relative change by borough (from lowest to highest)

8.4 Demand for new land

8.4.1 Step 9: Segmentation of SoD stock

To translate floorspace demand into land requirements, projected storage and distribution demand is segmented into three broad sub-types: Single-storey big-box, Single/multi-storey warehousing and Cross-docking/high-throughput space. This reflects the fact that different logistics formats operate at different plot ratios and therefore require different amounts of land for a given amount of floorspace. Based on CoStar data, 20% of future demand is assumed to be single-storey big-box, reflecting the share of London's existing floorspace in larger strategic units of 10,000 sqm. The remaining 80% is split equally between

single/multi-storey warehousing and cross-docking/high-throughput uses, informed by the observed distribution of plot ratios across London's existing storage and distribution stock.

8.4.2 Step 10: Calculation of new land requirement

To estimate future land requirements, plot ratios per storage and distribution sub-type are applied to the new floorspace demand projections for each of the storage and distribution projection drivers. Evidence suggests that mean average industrial plot ratios and are typically higher for storage and distribution floorspace compared to general industrial floorspace[30], but that plot ratios vary significantly by the type of storage and distribution stock (Table 8-4). For each sub-type, a central plot ratio is applied alongside high and low sensitivity assumptions, drawing on survey responses and interviews. These assumptions are used to convert projected floorspace demand into land requirements.

[30] CAG Consultants (2021), London Employment Sites Database

Table 8-4: Storage and distribution plot ratios

SoD sub-type	Central	High	Low	Evidence:
Single-storey big box (Assumed to be 20% of need)	0.50	0.55	0.40	The central assumption is based on developer/occupier engagement responses and typically used upper end assumptions for single-storey big-box logistics stock. The high sensitivity reflects developer/occupier engagement comments on aspirational plot ratios for this type of stock, while the low sensitivity reflects the lower end of the survey range and typical benchmark assumptions.
Single/multi storey warehousing (Assumed to be 40% of need)	0.90	1.30	0.50	Assumptions are based on the mid-point between typical single-storey warehousing and multi-storey warehousing benchmarks, reflecting that this category includes both conventional and more land-efficient warehouse formats. Based on evidence from the developer/occupier engagement and case studies, multi-storey warehousing plot ratios range from 0.65 to 2.
Cross-docking – high throughput (Assumed to be 40% of need)	0.30	0.35	0.25	The low sensitivity is informed by developer/occupier engagement responses and case study evidence regarding existing plot ratios. The high sensitivity reflects the maximum realistic upper end for a single-storey cross-docking unit, recognising that yard space is a particularly key requirement and multi-storey formats are less applicable to genuine cross-docking operations. The central assumption is taken as the mid-point between the low and high benchmarks (this is higher than business-as-usual assumptions).

8.4.3 Land demand under alternative plot ratios

Land need is subsequently aggregated across all three storage and distribution sub-types to produce a total need across London.

Table 8-5 presents the projected storage and distribution land requirement across London to 2050 under three land plot ratio sensitivities, where higher ratios reflect more intensive use of land (e.g. multi-storey formats) and lower ratios reflect more extensive, single-storey development. The results show that land need is highly dependent to land efficiency assumptions. Under the high ratio, an additional 510 hectares of Storage and distribution

land is required between 2024 and 2050, rising to 610 hectares (20% increase) under the central ratio and 820 ha (34% increase) hectares under the low ratio.

Table 8-5: Projected new storage and distribution land requirement across London by land plot sensitivity scenario and methodology between 2024-2050 (ha)

PMA	High land plot ratio	Central land plot ratio	Low land plot ratio
Central services area	140	170	220
Thames Gateway	140	170	220
Lea Valley	40	40	60
Park Royal / A40 / Heathrow	140	160	220
Wandle Valley	60	70	100
London	**510**	**610**	**820**

Source: Arup and Nexus analysis of GLA Economics, CoStar, ONS and Experian data. Figures are rounded to the nearest 10 hectares.

8.4.4 Final borough-level land need projections

High plot ratios are employed when projecting land demand until 2050 to reflect potential for increased spatial efficiency when projecting over a long horizon to 2050. These are applied concurrently with high floorspace efficiency assumptions and central GVA, employment and population projections. Table 8-6 summarises projected land demand for storage and distribution uses across London to 2050, showing that 510 hectares of land is required across London, with the Thames Gateway, Park Royal/A40/Heathrow and Central Services Area PMAs all requiring 140 ha of storage and distribution land each. Havering (40 ha), Barnet and Bexley (30 ha each) have the highest land need.

Table 8-6: Projected new storage and distribution land need (ha), by borough and PMA (2024-2050)

Geography	Land (ha)
Barking and Dagenham	14
Barnet	30
Bexley	30
Brent	10
Bromley	25
Camden	13
City of London	1
Croydon	24
Ealing	15
Enfield	11
Greenwich	14
Hackney	11
Hammersmith and Fulham	13

Haringey	16
Harrow	15
Havering	39
Hillingdon	33
Hounslow	13
Islington	11
Kensington and Chelsea	11
Kingston upon Thames	13
Lambeth	16
Lewisham	12
Merton	11
Newham	2
Redbridge	15
Richmond upon Thames	9
Southwark	19
Sutton	13
Tower Hamlets	13
Waltham Forest	10
Wandsworth	16
Westminster	16
Central services area	**139**
Thames Gateway	**139**
Lea Valley	**37**
Park Royal / A40 / Heathrow	**137**
Wandle Valley	**60**
London	**512**

Source: Arup and Nexus analysis of GLA Economics, CoStar, ONS and Experian data. Colour scale (from light green to dark green) indicates the relative change by borough (from lowest to highest).

9 Spend-based floorspace demand

9.1 Introduction

This chapter sets out the spend-based floorspace/land demand methodology and the subsequent results. This covers Class E(a) – retail , Class E(b) - food and beverage for consumption on the premises (referred to as E(b) F&B hereafter) and Sui Generis - drinking establishments and hot food takeaways (referred to as SG F&B hereafter).

This chapter answers the following research questions:

- What are the drivers of floorspace demand and what are the interdependencies between these?
- What is the demand for floorspace, and where appropriate land, for economic uses from 2024 to 2050?
- What land uses are considered to have the greatest demand?
- What land uses considered will experience the greatest increases and decreases in demand to 2050?

Three separate floorspace demand assessments are provided:

- Class E(a) retail floorspace (based upon separate assessments of convenience and comparison goods retail spending, which are then brought together into one assessment for all Class E(a) retail floorspace)
- Class E(b) F&B floorspace (cafes and restaurants)
- Sui Generis F&B floorspace (take-aways/fast food, pubs/bars/drinking establishments)

9.2 Methodology

An overview of the spend-based methodology is set out below. Due to the detailed nature of the methodology further details of the methodology (and accompanying demand assessment tables) are included in Annex 3 of this report.

Step 1: Identification of population changes to 2050 in each borough, using the GLA's 2024-based interim housing-based central population projections.

Step 2: Estimation of total available expenditure generated by the residents of each Borough on retail goods (including in person and online) and food/beverage trips, between the base year of the assessment and 2050.

Step 3: Assessment of the distribution of spending by Borough and, in addition, the amount/proportion of expenditure which is being attracted from outside of London.

Step 4: Projection of total turnover potential levels (for each Borough) forwards across the assessment period (to 2050) on the assumption that existing London market share by borough remains constant.

Step 5: In order to assess demand for new floorspace, comparison of total turnover potential levels (step 4) with baseline turnover levels. Baseline turnover levels assume an equilibrium starting point at the base year of the assessment, and are then subject to alternative scenarios regarding changes in floorspace productivity/efficiency. This chapter presents the preferred scenario, with details of the alternative scenarios to be found in the attached detailed briefing note.

9.3 Demand for new floorspace

Demand is measured in terms of the amount of 'available' expenditure to support both existing and net additional floorspace.

9.3.1 Step 1: Identification of population changes to 2050 in each Borough

In order to inform the calculation of total available retail and food/beverage expenditure, the spend-based assessment has utilised the GLA's 2024 interim housing-based population projections set out in Table 6-5.

9.3.2 Step 2: Calculation of total available spending on retail goods and food/beverage trips across each Borough to 2050

Calculation of total available retail and food/beverage spending in each Borough over the period to 2050 taking into account forecast changes in spending per head and the population projections from step 1. The estimates of annual change for each category are presented in Table 6-4. Again, these convenience and comparison goods spending forecasts have been adjusted to remove non-store based sales.

9.3.3 Step 3: Assessment of current spending patterns for retail and food/beverage uses, within each Borough and, in addition, the amount/proportion of expenditure which is being attracted from outside of London.

To inform the assessment of existing and future demand for retail and food/beverage floorspace, data on existing spending levels at the Borough level has been obtained from Experian (using its Spend Insight database). Spending data for convenience and comparison goods stores, along with cafe/restaurant and night-time food/beverage uses has been obtained for the 2024 calendar year. This raw spending data, which is based upon a large sample of debit and credit card transactions, has been translated into market share data in order to show: (a) market share levels for individual Boroughs across London; and (b) the scale of expenditure which is flowing into each of the London Borough from elsewhere in the UK.

9.3.4 Step 4: Projection of total turnover potential levels (for each Borough) forwards across the assessment period (to 2050) on the assumption that existing market share levels remain constant.

These market share levels have then been applied to available total expenditure on a Borough-by-Borough basis to calculate the scale of expenditure that is being directed at retail and food/beverage floorspace in each Borough. These calculations are undertaken for each year up to 2050 on the assumption that market share levels across the study area remain constant through the assessment period.

To ensure that the assessment concentrates upon 'bricks and mortar' floorspace demand across each of the London Boroughs, the forecast annual turnover levels up to 2050 strip out any expenditure growth which is associated with purely online sales.

9.3.5 Step 5: Assessment of demand for retail and food/beverage floorspace up to 2050

The final step in the spend-based demand assessment is to compare the total turnover potential of each Borough with baseline turnover levels, up to 2050. To provide a comprehensive assessment, a number of scenarios have been adopted.

Various scenarios have been adopted which take alternative approaches to baseline turnover levels for retail floorspace (at Borough level) up to 2050. These are:

- Scenario A: maintaining baseline turnover levels at constant (2024) levels over the assessment period (i.e. no growth / change, with existing stock assumed to be at capacity);
- Scenario B: allowing existing floorspace to increase their capacity due to changes in efficiency/productivity levels over the assessment period (with the range of change in productivity/efficiency assuming no change in baseline floorspace levels);
- Scenario C: allowing existing floorspace to increase their capacity due to changes in efficiency/productivity levels over the assessment period (with the range of change in productivity/efficiency assuming future changes in baseline floorspace levels);

The attached detailed briefing note explains the individual characteristics of each of these scenarios and outlines a preference for Scenario C: 'floorspace productivity / efficiency (changing floorspace) projections, on the basis that it allows existing floorspace within each of the Boroughs to benefit from a proportion of growth/change in available spending via increases in productivity within existing businesses (in order to support future viability levels) and / or bringing floorspace back into productive use. The extent to which reliance is placed upon the floorspace efficiency/productivity scenarios is a policy choice.

9.3.6 Floorspace demand projections

Table 9-1 provides the demand floorspaces up to 2050 for the preferred scenario - Scenario B: 'floorspace productivity / efficiency (changing floorspace) projections

Table 9-1: Class E(a) Retail, Class E(b) and Sui Generis F&B Floorspace Demand (sqm) (up to 2050) – Scenario b: 'floorspace productivity / efficiency (changing floorspace) projections

Borough	Class E(a) Retail	Class E(b) F&B	Sui Generis F&B
Barking and Dagenham	19,083	3,763	6,621
Barnet	68,641	28,354	34,360
Bexley	(3,714)	10,348	11,669

Borough	Class E(a) Retail	Class E(b) F&B	Sui Generis F&B
Brent	27,851	18,998	16,760
Bromley	25,555	24,789	27,747
Camden	16,574	108,643	81,982
City of London	17,701	82,274	86,414
Croydon	53,037	19,952	27,027
Ealing	28,300	27,017	26,806
Enfield	12,678	10,875	15,996
Greenwich	34,884	34,907	26,576
Hackney	5,750	11,428	20,453
Hammersmith and Fulham	53,948	45,412	36,210
Haringey	27,514	14,673	20,714
Harrow	21,188	8,822	12,509
Havering	154,968	29,586	35,518
Hillingdon	71,471	47,475	43,819

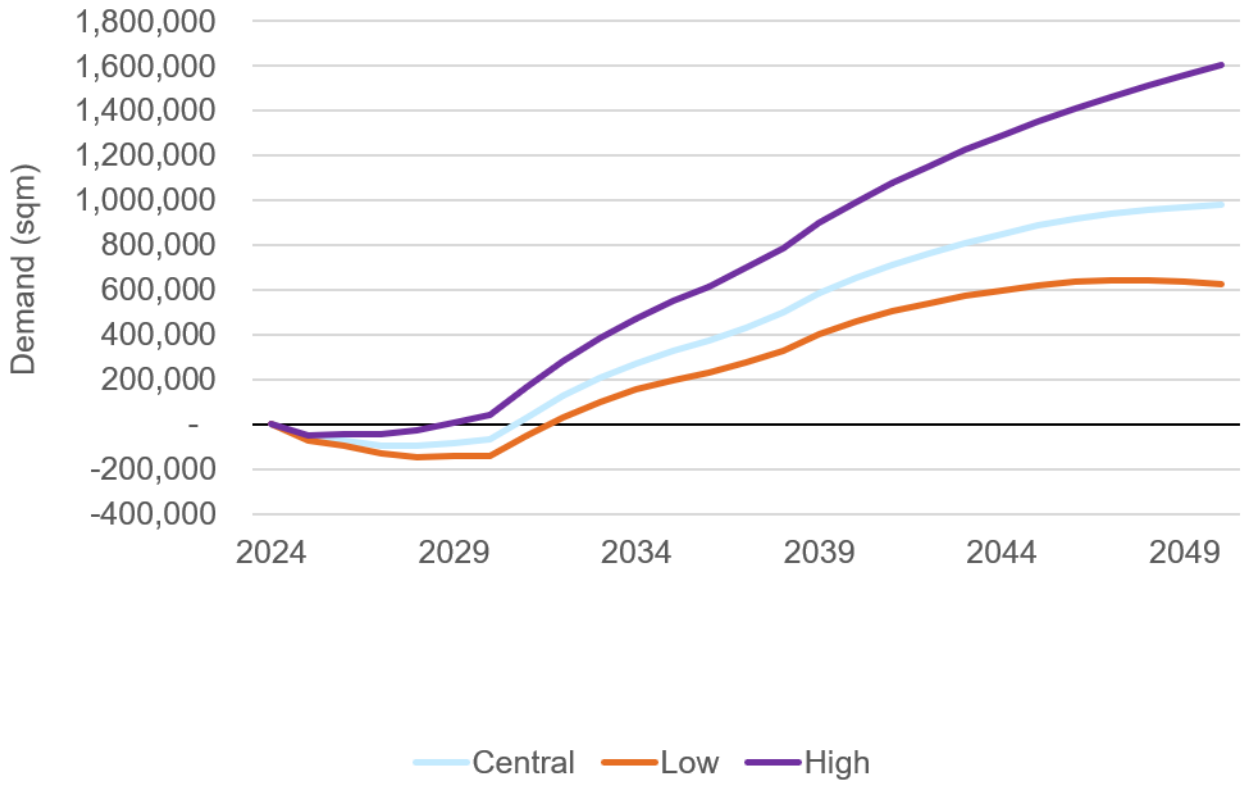
Borough	Class E(a) Retail	Class E(b) F&B	Sui Generis F&B
Hounslow	18,288	13,630	19,175
Islington	10,160	28,622	34,446
Kensington and Chelsea	26,541	68,059	37,753
Kingston upon Thames	3,792	18,033	16,699
Lambeth	7,938	47,671	37,553
Lewisham	9,105	9,212	13,113
Merton	4,599	20,221	14,130
Newham	62,536	45,260	37,103
Redbridge	25,177	15,441	15,830
Richmond upon Thames	(10,111)	28,720	17,497
Southwark	40,898	86,246	55,343
Sutton	2,987	7,741	11,724
Tower Hamlets	32,652	58,043	35,062
Waltham Forest	12,328	4,430	12,757

Borough	Class E(a) Retail	Class E(b) F&B	Sui Generis F&B
Wandsworth	12,043	33,088	32,130
Westminster	83,546	294,443	199,769
London	**977,909**	**1,306,178**	**1,121,267**
CAZ	**152,691**	**625,587**	**417,682**
NIOD	**9,783**	**32,041**	**14,220**

Source: Tables 15f, 28c, and 30c of Appendix 3

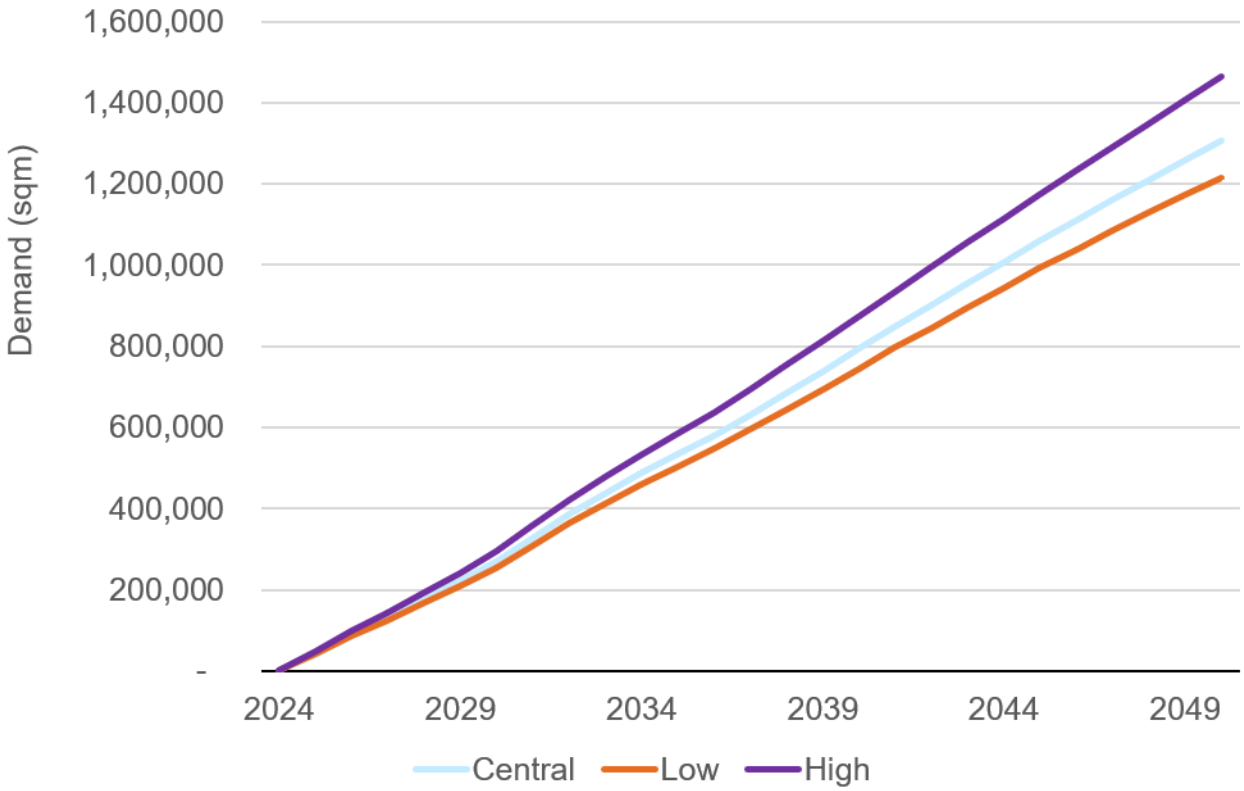
The figures below illustrate the projected changes in floorspace demand under the central, high and low population scenarios.

Figure 9-1: Demand (sqm) for Class E(a) floorspace across three population scenarios



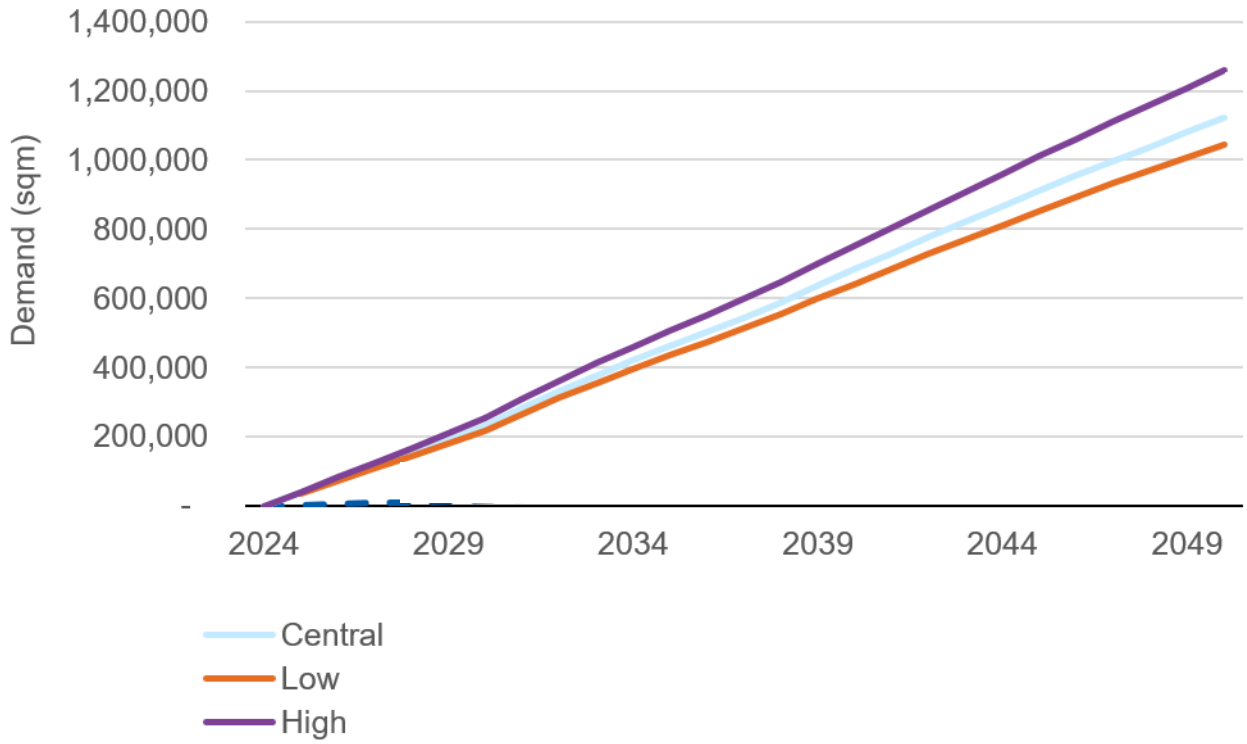
Source: Nexus analysis (2025)

Figure 9-2: Demand (sqm) for Class E(b) floorspace across three population scenarios



Source: Nexus analysis (2025)

Figure 9-3: Demand (sqm) for Sui Generis F&B floorspace across three population scenarios



Source: Nexus analysis (2025)

10 Population-based floorspace demand

10.1 Introduction

This chapter sets out the population-based demand methodology and the subsequent results. This covers a number of Class E and Sui Generis cultural, leisure and service uses.

This chapter answers the following research questions:

- What are the drivers of floorspace demand and what are the interdependencies between these?
- What is the demand for floorspace, and where appropriate land, for economic uses from 2024 to 2050?
- What land uses are considered to have the greatest demand?
- What land uses considered will experience the greatest increases and decreases in demand to 2050?

10.2 Methodology

An overview of the population-based methodology is set out in below. Specific details of the methodology are included (with the results) in the subsequent sections of this chapter.

Step 1: Identification of existing provision in each borough, either by sqm floorspace (other Class E) or units (cultural infrastructure).

Step 2: Identification of population changes to 2050 in each borough, using the GLA's housing-led projections (2022-based 15-year migration high fertility identified capacity).

Step 3: Identification of the current ratios of provision per capita.

Step 4: Calculation of the net increase in overall provision for London based on projected population growth to 2050, and provision per capita ratios.

Step 5: Identification of the existing provision within each borough as a proportion of the overall supply in London.

Step 6: Calculation of the distribution of the identified net increase between boroughs by applying each borough's proportion of overall supply to the net provision total (method A).

Step 7: Calculation of the distribution of the identified net increase between boroughs by applying the proportion of projected population growth in each borough to the net provision total (method B).

Step 8: The average of Steps 6 and 7 is taken to calculate the indicative net increase in supply within each borough to 2050.

Step 9: For cultural infrastructure only, projected demand in each borough is rounded up to the nearest whole number to support an increase in provision across all parts of London.

10.3 Demand for new floorspace – Indoor sport and fitness and creches and nurseries

Future demand is calculated on the basis that existing supply meets existing demand, and that demand will be driven by population growth and patterns of visitors and workers.

10.3.1 Step 1: Identification of existing provision in each borough

For indoor sport and fitness, existing supply is sourced from the 2025 LDC Snapshot data. For creches and nurseries, we have used Ofsted data on childcare providers, which also captures providers within schools, and is provided as of March 2025.

10.3.2 Step 2: Identification of population changes to 2050 in each borough

Population growth is identified using GLA projections, as set out in Table 6-5. The overall population growth is used for indoor sport and fitness. For Creches and nurseries, population growth is based on the same GLA population projections, but looking only to the age group of 0-3 year olds.

10.3.3 Step 3: Identification of the current ratios of provision per capita

Table 10-1 details existing provision ratios, expressed as persons per sqm as of 2025. Ratios for Indoor sport and fitness are calculated on the basis of the total population, whereas ratios for creches and nurseries are calculated on the basis of the number of 0-3 year olds in each borough, which more appropriately reflects the likely level of demand. The results for London as a whole are presented below.

Table 10-1 Indoor sport and fitness and creches and nurseries provision ratios (persons per sqm)

Geography	Indoor sport and fitness - Use class E(d)	Creches and nurseries - Use class E(f)
Barking and Dagenham	30.5	1.4
Barnet	11.5	1.0
Bexley	18.6	1.1
Brent	23.3	1.3
Bromley	10.3	0.7
Camden	5.8	0.8
City of London	0.2	0.3
Croydon	18.6	1.1
Ealing	15.6	0.9
Enfield	16.0	1.1
Greenwich	16.9	0.9
Hackney	17.6	1.1
Hammersmith and Fulham	6.7	0.8

Geography	Indoor sport and fitness - Use class E(d)	Creches and nurseries - Use class E(f)
Haringey	13.4	1.0
Harrow	24.0	1.1
Havering	15.4	0.9
Hillingdon	16.1	1.4
Hounslow	7.7	1.2
Islington	7.1	0.8
Kensington and Chelsea	8.4	0.7
Kingston upon Thames	12.0	1.0
Lambeth	10.1	0.8
Lewisham	17.0	0.8
Merton	7.0	1.0
Newham	21.3	1.5
Redbridge	23.8	1.1
Richmond upon Thames	8.8	0.5
Southwark	11.0	0.9
Sutton	14.0	1.0
Tower Hamlets	7.8	1.5
Waltham Forest	18.6	1.4
Wandsworth	6.7	0.8
Westminster	4.6	0.9
London	**11.1**	**1.0**

Source: Nexus analysis of LDC Snapshot data (2025), Ofsted data (2025) and GLA population projections (2026)

10.3.4 Step 4: Calculation of the net increase in overall provision for London based on projected population growth to 2050, and provision per capita ratios

Following this, we calculate the net London requirement for each use, based on existing provision ratios and applied to the population projections established in Step 2. Over the period to 2050, the net requirements for London as a whole are projected in Table 10-2 below.

Table 10-2 Net demand of Other Class E for London to 2050 (sqm)

Geography	Indoor sport and fitness - Use class E(d)	Creches and nurseries - Use class E(f)
London	124,800	26,400

Source: Nexus analysis of LDC Snapshot data (2025), Ofsted data (2025) and GLA population projections (2026)

10.3.5 Step 5: Identification of the existing provision within each borough as a proportion of the overall supply in London

Using the results from Step 1, which identified existing supply in each borough, we calculate each borough's supply as a proportion of overall supply.

10.3.6 Step 6: Calculation of the distribution of the identified net increase between boroughs by applying each borough's proportion of overall supply to the net provision total

The overall demand projections in Table 10-2 are distributed in accordance with the existing supply proportions established in Step 5. It is considered that this approach reflects existing patterns of workers and visitors which may influence current provision, and which are expected to continue in the future.

10.3.7 Step 7: Calculation of the distribution of the identified net increase between boroughs by applying the proportion of projected population growth in each borough to the net provision total

The growth in each borough as a proportion of the overall population growth projection to 2050 is calculated. The overall demand is then distributed to the boroughs on this basis. This approach accounts for the influence of population growth on future demand levels.

10.3.8 Step 8: The average of Steps 6 and 7 is taken to calculate the net increase in supply

The demand projections are then taken as an average of Steps 6 and 7 above. The total London requirement is then taken as the sum of all individual borough requirements. The results of this exercise are displayed in Table 10-3 below.

Table 10-3: Indoor sport and fitness and Creches and nurseries floorspace demand, 2024-2050 (sqm)

Geography	Indoor sport and fitness - Use class E(d)	Creches and nurseries - Use class E(f)
Barking and Dagenham	2,200	800
Barnet	7,300	1,900
Bexley	1,600	-100
Brent	3,200	700
Bromley	4,400	800
Camden	3,600	400
City of London	3,300	100

Geography	Indoor sport and fitness - Use class E(d)	Creches and nurseries - Use class E(f)
Croydon	5,300	1,200
Ealing	4,200	800
Enfield	2,900	400
Greenwich	3,900	1,200
Hackney	2,200	400
Hammersmith and Fulham	4,500	1,200
Haringey	3,800	1,000
Harrow	2,600	400
Havering	7,900	3,000
Hillingdon	6,100	1,800
Hounslow	4,800	500
Islington	3,000	400
Kensington and Chelsea	1,700	200
Kingston upon Thames	2,000	400
Lambeth	3,500	900
Lewisham	2,400	600
Merton	3,200	300
Newham	4,700	1,400
Redbridge	3,000	500
Richmond upon Thames	1,600	200
Southwark	5,700	2,000
Sutton	1,900	100
Tower Hamlets	6,000	1,300
Waltham Forest	2,400	200
Wandsworth	5,400	1,100
Westminster	4,300	200
London	**124,800**	**26,400**

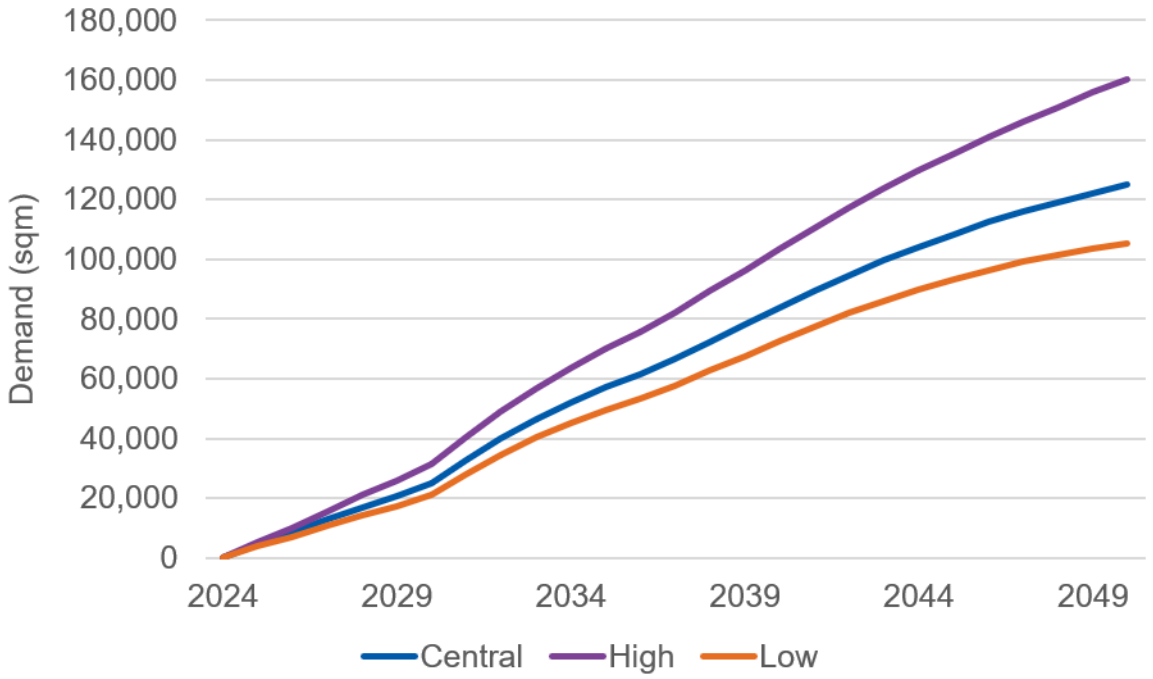
Source: Nexus analysis of LDC Snapshot data (2025), Ofsted data (2025) and GLA population projections (2026)

The figures below summarise the results of this exercise across central, high and low scenarios.

Under the high population scenario, demand for indoor sport and fitness floorspace is expected to increase to 160,400 sqm, whereas under the low population scenarios, demand is expected to rise by only 105,100 sqm.

All three projections are well below the projection based on HSDS trends between 2014 and 2024, which results in a net demand for 925,300 sqm of indoor sport and fitness floorspace. However, all three population scenarios are also well above the projection based on HSDS trends between 2020 and 2024, which results in a demand for negative 184,600 sqm.

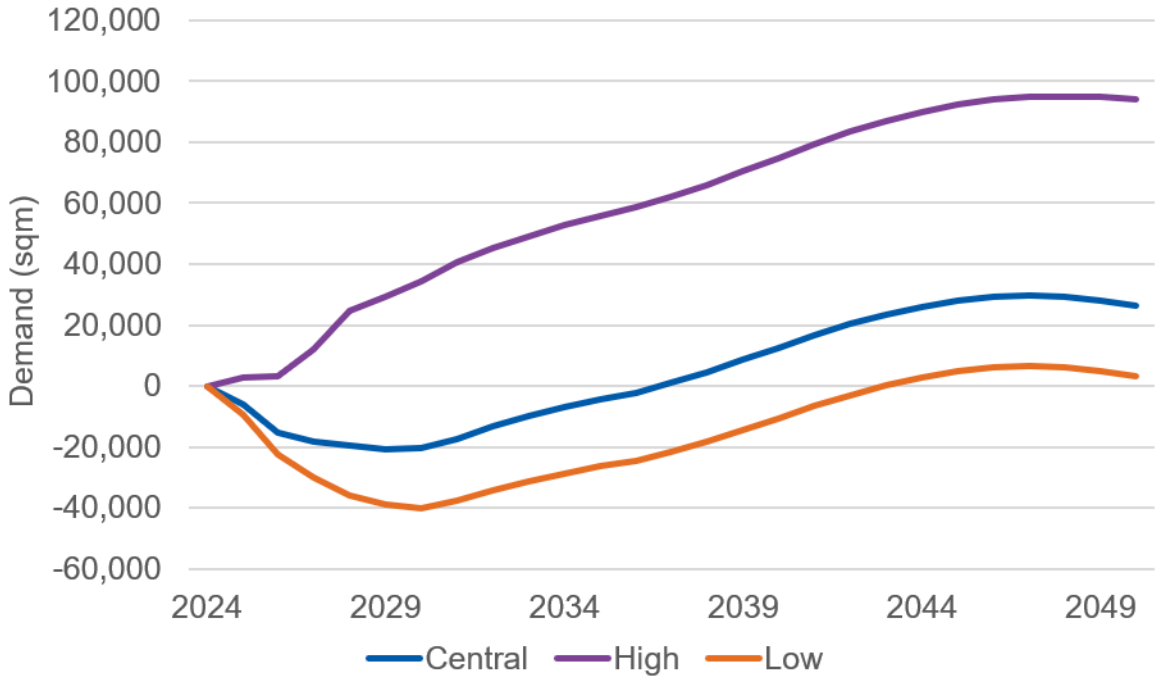
Figure 10-1: Demand (sqm) for indoor sport and fitness floorspace across three population scenarios and historic delivery projections



Source: Nexus analysis of LDC Snapshot data (2025) and GLA population projections (2026)

Under the high population scenario, demand for creches and nurseries floorspace is expected to increase to 94,000 sqm, whereas under the low population scenario, only a very minor demand of 3,400 sqm is anticipated.

Figure 10-2: Demand (sqm) for creches and nurseries floorspace across three population scenarios and historic projections



Source: Nexus analysis of LDC Snapshot data (2025), Ofsted data (2025) and GLA population projections (2026)

10.4 Demand for new floorspace - Class E(c) Financial and professional services

Nationally, there is a trend of banks moving towards online banking, and closing and consolidating their physical locations. Unlike Class E(d) and E(f), we therefore do not assume that demand will increase in line with existing provision ratios, but that demand will follow observed trends of the previous ten-year period. However, London level needs are distributed to boroughs based on existing provision ratios (of Class E(c) floorspace to population.

10.4.1 Step 1: Identification of existing provision in each borough

For Class E(c), existing supply is sourced from the 2025 LDC Snapshot data.

10.4.2 Step 2: Analysis of trends in previous ten-year period

Using HSDS data on Class E(c) floorspace in the period 2014-2024, we have identified a net change in Class E(c) floorspace in London of negative 0.6%.

10.4.3 Step 3: Calculation of demand for floorspace across London based on historic trends

Following this, we calculate the London demand for Class E(c), based on the historic trend identified at Step 2. Projecting this forward to 2050, we estimate a decrease in demand of 277,400 sqm Class E(c) floorspace across London.

10.4.4 Step 4: Identification of the existing provision within each borough as a proportion of the overall supply in London

Using the results from Step 1, which identified existing supply in each borough, we calculate each borough's supply as a proportion of overall supply.

10.4.5 Step 5: Calculation of the distribution of the identified demand between boroughs by applying each borough's proportion of overall supply to demand total

The overall demand projection in Step 3 is distributed in accordance with the existing supply proportions established in Step 4. It is considered that this approach reflects existing patterns of workers and visitors which may influence current provision, and which are expected to continue in the future.

Table 10-4: Demand for Class E(c) floorspace to 2050 (sqm)

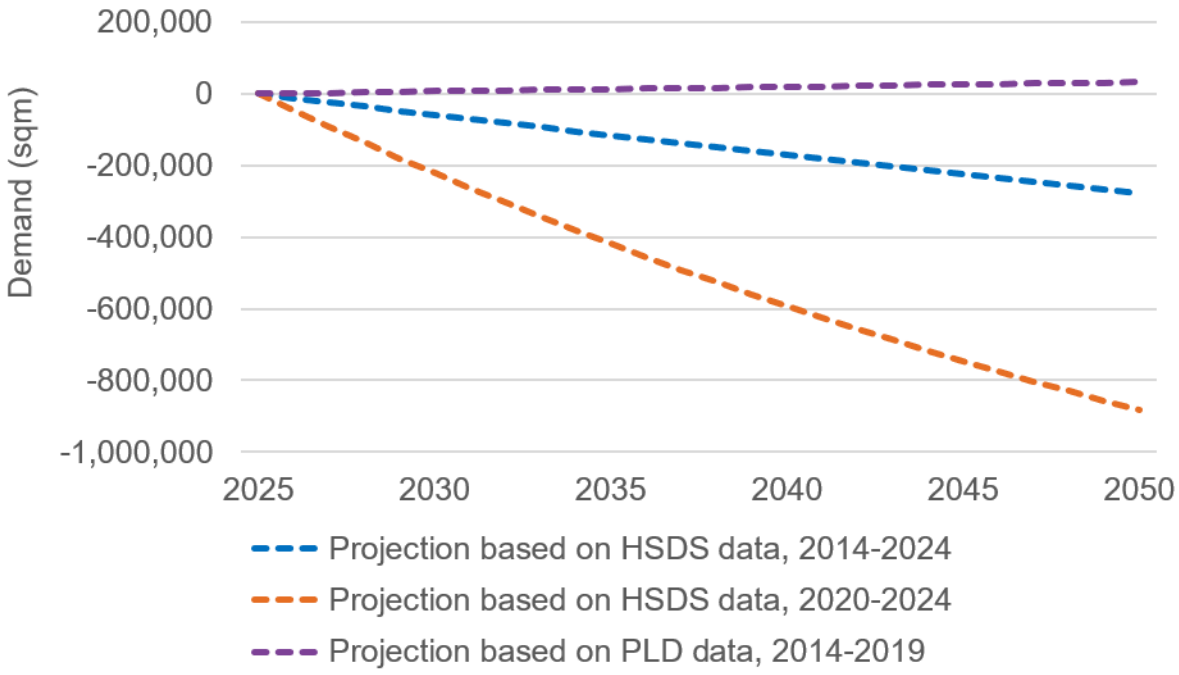
Geography	Class E(c)
Barking and Dagenham	-3,600
Barnet	-11,500
Bexley	-6,700
Brent	-8,100
Bromley	-10,200
Camden	-10,200
City of London	-5,500
Croydon	-11,100
Ealing	-9,800
Enfield	-9,600
Greenwich	-6,500
Hackney	-7,100
Hammersmith and Fulham	-10,200
Haringey	-8,000
Harrow	-6,300
Havering	-8,300
Hillingdon	-8,500
Hounslow	-6,000
Islington	-8,200
Kensington and Chelsea	-8,800
Kingston upon Thames	-5,400
Lambeth	-8,600
Lewisham	-7,200
Merton	-5,400
Newham	-10,100

Geography	Class E(c)
Redbridge	-8,300
Richmond upon Thames	-6,900
Southwark	-8,700
Sutton	-5,900
Tower Hamlets	-8,300
Waltham Forest	-8,700
Wandsworth	-10,300
Westminster	-19,400
London	**-277,400**

Source: Nexus analysis of LDC Snapshot data (2025)

The figure below details the results of this assessment using HSDS trends from 2014-2024, in comparison to HSDS trends from 2020-2024, and using PLD completions trends from 2014-2019. It can be seen that that chosen historic trend projection, HSDS data (2014-2024), sits in the middle of the three projections.

Figure 10-3: Net demand (sqm) for Class E(c) floorspace based on historic projections



Source: Nexus analysis of LDC Snapshot data (2025) and PLD data (2025)

10.5 Demand for new floorspace – Cultural infrastructure

Future demand is calculated on the basis that existing supply meets existing demand, and that demand will be driven by population growth and patterns of visitors and workers.

10.5.1 Step 1: Identification of existing provision in each borough, either by sqm floorspace (other Class E) or units (cultural infrastructure)

Existing supply is sourced from the GLA's cultural infrastructure map. For museums/galleries, theatres, cinemas and libraries, this data is provided for 2023 and for music venues and nightclubs this data is provided for 2024.

10.5.2 Step 2: Identification of population changes to 2050 in each borough

Population figures and growth are based on GLA projections, as set out in Table 6-5.

10.5.3 Step 3: Identification of the current ratios of provision per capita

The first stage of this is to identify existing provision ratios for each cultural use. Table 10-5 details these ratios, expressed as residents per unit. There are clear trends in existing provision, wherein existing cultural infrastructure provision is concentrated in the Inner London boroughs, particularly in Westminster, Camden, Hackney, Islington, Kensington and Chelsea and Lambeth. These patterns largely reflect existing trends of worker and visitor locations.

Table 10-5: Cultural infrastructure provision ratios by borough (residents per unit)

Geography	Museums/ Galleries (2023)	Theatres (2023)	Cinemas (2023)	Music Venues (2024)	Nightclub (2024)	Libraries (2023)
Barking and Dagenham	226,301	113,151	226,301	232,747	-	37,717
Barnet	99,548	199,096	132,730	405,050	-	24,887
Bexley	63,031	63,031	252,124	-	-	21,010
Brent	174,376	174,376	116,250	88,244	-	38,750
Bromley	55,414	110,827	110,827	111,773	335,319	25,576
Camden	6,583	8,046	15,517	6,026	24,105	18,103
City of London	836	1,393	4,179	823	2,263	2,090
Croydon	402,217	100,554	134,072	68,224	-	28,730
Ealing	379,203	189,602	379,203	96,496	128,662	29,169
Enfield	-	82,004	164,007	327,434	327,434	19,295

Geography	Museums/ Galleries (2023)	Theatres (2023)	Cinemas (2023)	Music Venues (2024)	Nightclub (2024)	Libraries (2023)
Greenwich	32,936	74,105	74,105	29,953	149,764	21,173
Hackney	37,916	22,118	53,082	3,757	8,605	29,490
Hammersmith and Fulham	46,870	18,748	46,870	31,448	188,687	31,247
Haringey	87,787	37,623	52,672	32,981	131,925	29,262
Harrow	66,723	133,446	266,891	135,362	-	38,127
Havering	270,305	135,153	270,305	-	-	27,031
Hillingdon	321,977	107,326	160,989	-	-	18,940
Hounslow	32,802	49,204	98,407	149,712	299,424	26,838
Islington	18,528	13,896	74,111	7,690	20,275	22,233
Kensington and Chelsea	10,464	16,278	20,928	18,065	48,173	20,928
Kingston upon Thames	56,927	56,927	170,780	57,564	172,692	24,397
Lambeth	22,767	18,749	45,534	9,321	31,692	35,415
Lewisham	42,889	37,528	150,113	20,084	150,628	25,019
Merton	72,378	36,189	108,568	109,270	218,539	31,019
Newham	184,097	122,731	184,097	93,631	187,262	36,819
Redbridge	158,278	158,278	158,278	-	-	24,350

Geography	Museums/ Galleries (2023)	Theatres (2023)	Cinemas (2023)	Music Venues (2024)	Nightclub (2024)	Libraries (2023)
Richmond upon Thames	19,606	21,785	65,354	49,170	196,678	15,082
Southwark	19,593	15,674	44,784	24,214	39,348	26,124
Sutton	106,168	-	-	107,263	214,525	26,542
Tower Hamlets	21,943	41,143	54,857	11,444	27,657	41,143
Waltham Forest	46,418	92,835	-	139,869	-	27,851
Wandsworth	333,859	55,643	111,286	42,207	337,655	30,351
Westminster	4,580	3,901	10,533	4,038	8,400	19,151
Total	**35,551**	**33,994**	**73,126**	**24.484**	**68,298**	**25,921**

Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

10.5.4 Step 4: Calculation of the increase in overall provision for London based on projected population growth to 2050 and provision per capita ratios

Following this, we calculate the London demand for each use, based on existing provision ratios and applied to the population projections set out in Table 6-5. The demand for London as a whole between 2024 and 2050 is presented in Table 10-6.

Table 10-6: Demand of cultural infrastructure in London to 2050 (units)

Geography	Museums/ Galleries	Theatres	Cinemas	Music Venues	Nightclub	Libraries
London	42	44	20	57	20	57

Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

10.5.5 Step 5: Identification of the existing provision within each borough as a proportion of the overall supply in London

Using the results from Step 1, which identified existing supply in each borough, we calculate each borough's supply as a proportion of overall supply.

10.5.6 Step 6: Calculation of the distribution of demand between boroughs by applying each borough's proportion of overall supply to total demand

The overall demand projections in Table 10-6Table 10-2 are distributed in accordance with the existing supply proportions established in Step 5. This approach reflects existing patterns of workers and visitors which may influence current provision, and which are expected to continue in the future.

10.5.7 Step 7: Calculation of the distribution of demand between boroughs by applying the proportion of projected population growth in each borough to total demand

The growth in each borough as a proportion of the overall population growth projection to 2050 is calculated. The overall demand is then distributed to the boroughs on this basis. This approach accounts for the influence of population growth on future demand levels.

10.5.8 Step 8: Average of Steps 6 and 7

The demand projections are then taken as an average of Steps 6 and 7 above. The total London requirement is then taken as the sum of all individual borough requirements.

10.5.9 Step 9: Round up projected demand in each borough

Reflecting the GLA's ambitious culture policy, the requirement in each borough has been rounded up to the nearest whole number. The total London demand is then taken as the sum of all individual borough requirements. The results of this exercise are displayed in Table 10-7.

Table 10-7 Demand for new night-time and cultural uses to 2050 (units)

Geography	Museums/ Galleries	Theatres	Cinemas	Music Venues	Nightclub	Libraries
Barking and Dagenham	1	1	1	1	1	2
Barnet	2	2	1	3	1	4
Bexley	1	1	1	1	1	2
Brent	1	1	1	2	1	2
Bromley	2	1	1	2	1	2
Camden	3	3	2	4	1	2
City of London	1	1	1	1	1	1
Croydon	2	2	1	3	1	3

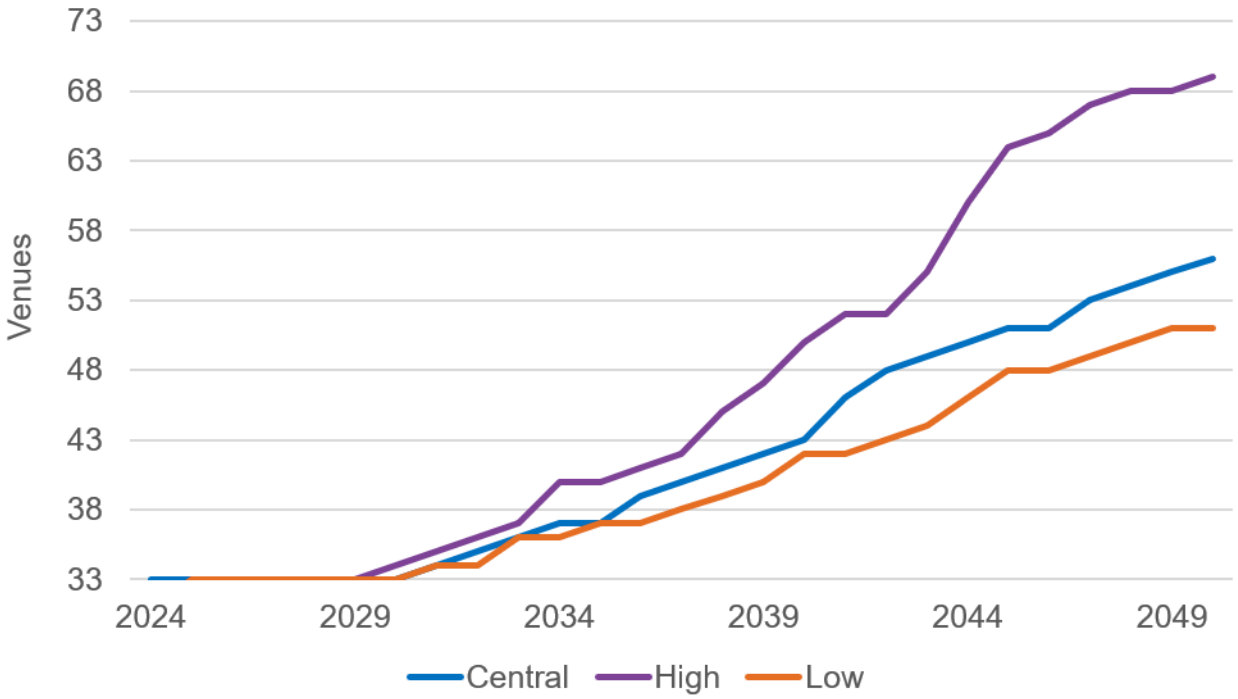
Geography	Museums/ Galleries	Theatres	Cinemas	Music Venues	Nightclub	Libraries
Barking and Dagenham	1	1	1	1	1	2
Ealing	1	2	1	2	1	3
Enfield	1	1	1	1	1	2
Greenwich	2	2	1	2	1	3
Hackney	1	2	1	6	3	2
Hammersmith and Fulham	2	2	1	2	1	2
Haringey	1	2	1	2	1	2
Harrow	1	1	1	1	1	2
Havering	3	3	2	3	2	4
Hillingdon	2	2	1	3	1	4
Hounslow	2	2	1	1	1	2
Islington	2	2	1	3	1	2
Kensington and Chelsea	2	1	1	1	1	1
Kingston upon Thames	1	1	1	1	1	1
Lambeth	2	2	1	4	1	2
Lewisham	1	2	1	2	1	2
Merton	1	1	1	1	1	1
Newham	2	2	1	2	1	3

Geography	Museums/ Galleries	Theatres	Cinemas	Music Venues	Nightclub	Libraries
Barking and Dagenham	1	1	1	1	1	2
Redbridge	1	1	1	1	1	3
Richmond upon Thames	1	1	1	1	1	2
Southwark	3	3	2	3	2	3
Sutton	1	1	1	1	1	2
Tower Hamlets	3	2	1	4	2	2
Waltham Forest	1	1	1	1	1	2
Wandsworth	1	2	1	2	1	2
Westminster	5	5	2	5	3	2
Total	**56**	**58**	**37**	**72**	**40**	**74**

Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

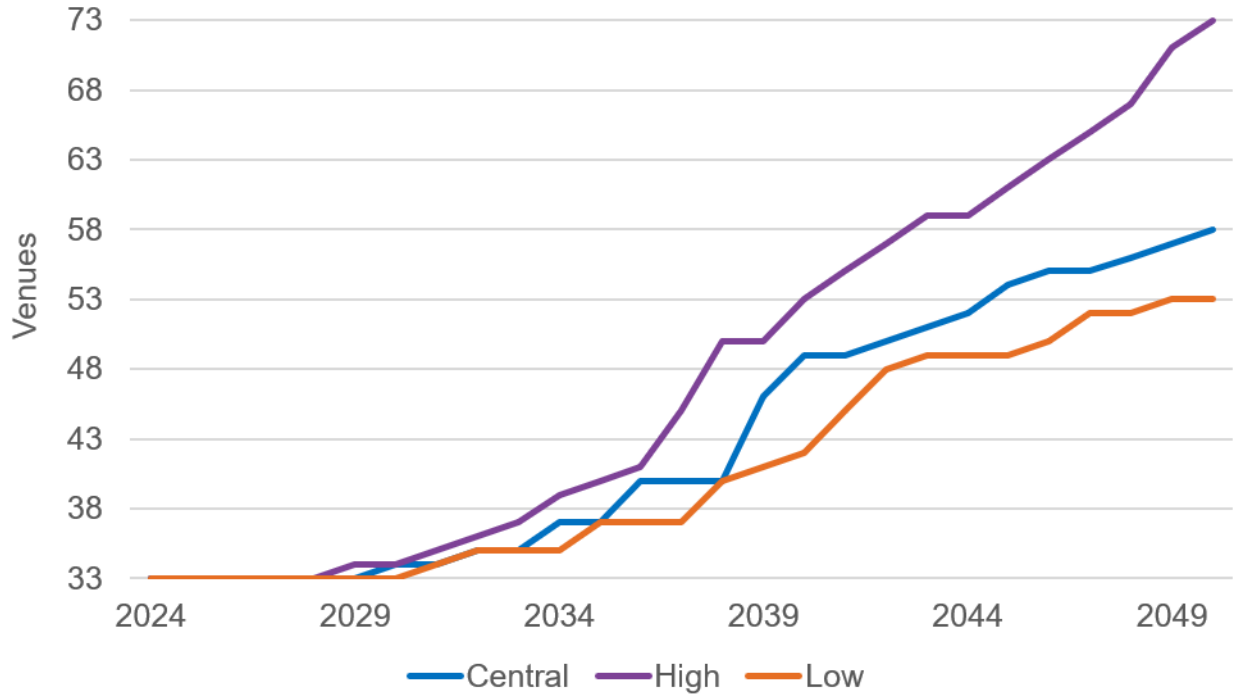
The figures below illustrate how demand for each form of cultural infrastructure is anticipated to increase by 2050, under each of the three population scenarios.

Figure 10-4: Demand for museums across three population scenarios



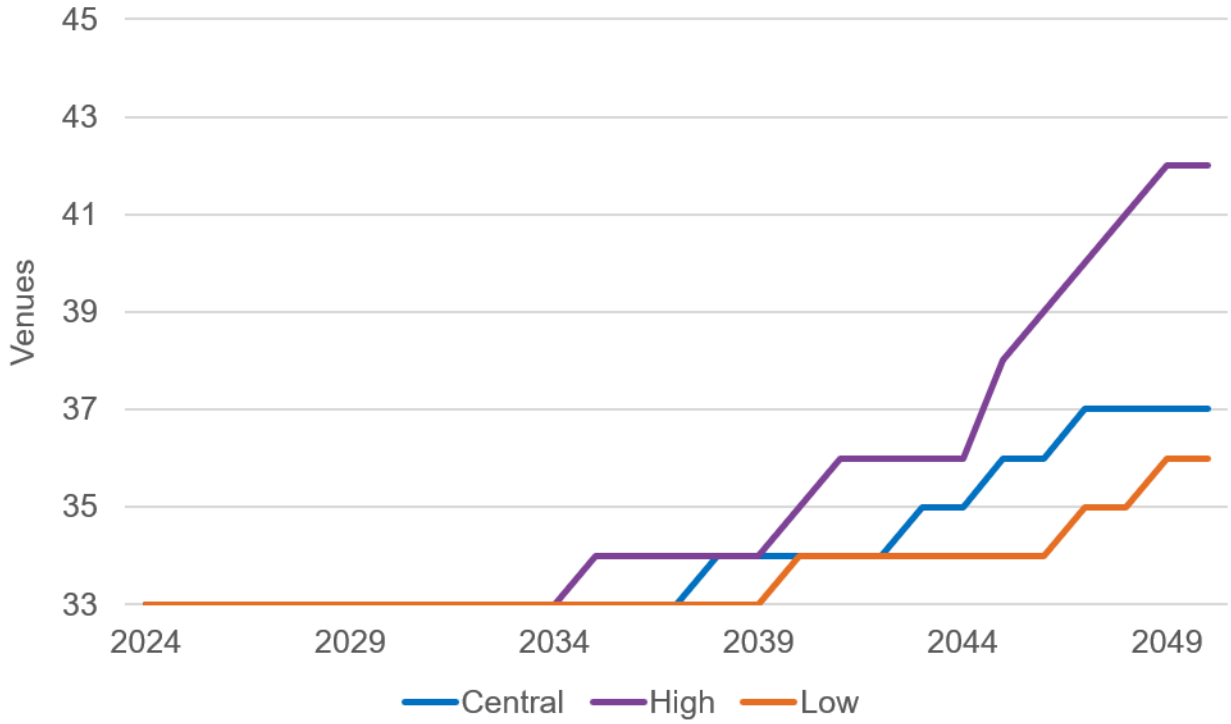
Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

Figure 10-5: Demand for theatres across three population scenarios



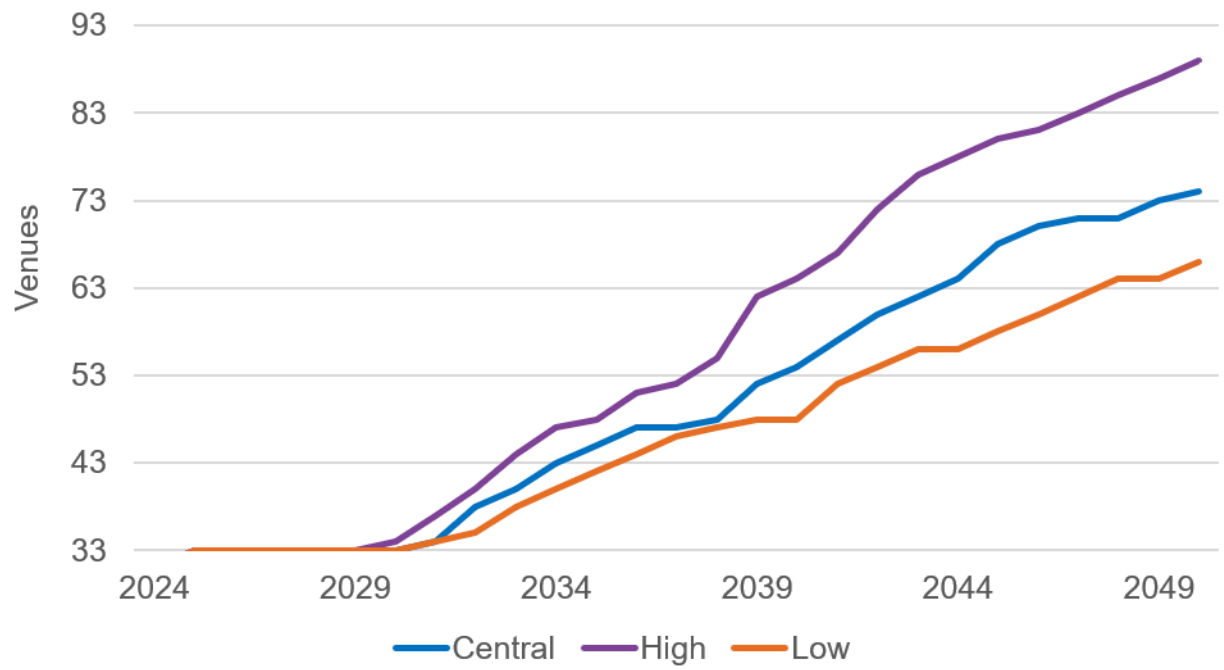
Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

Figure 10-6: Demand for cinemas across three population scenarios



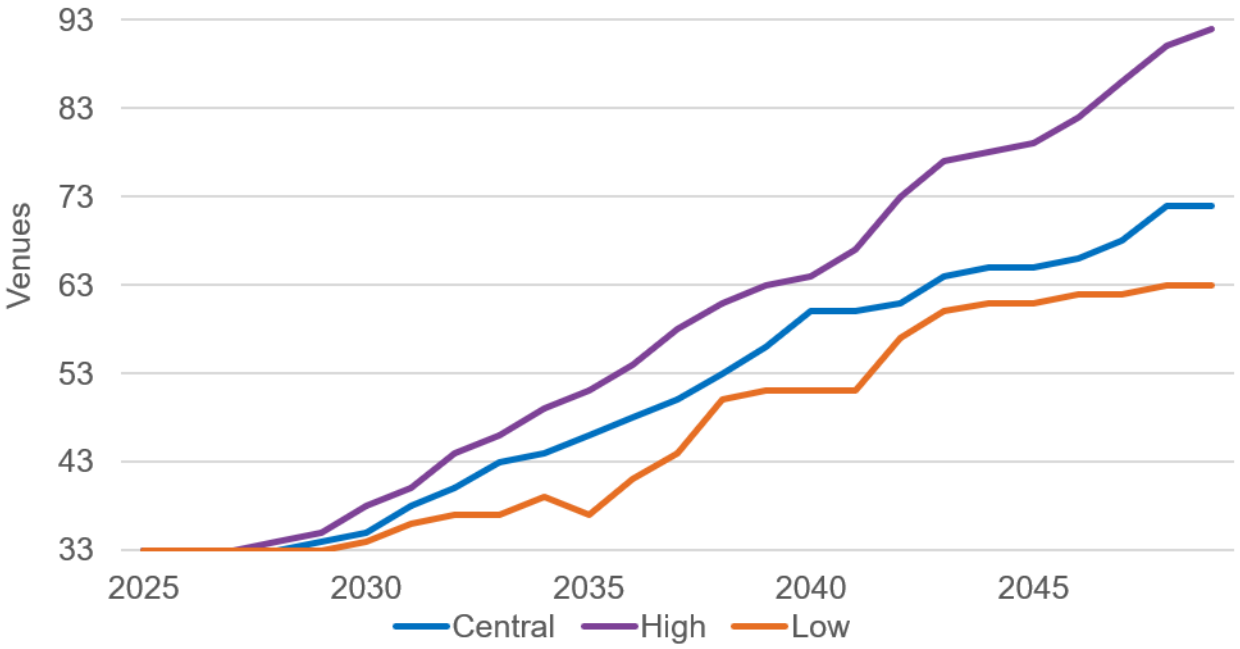
Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

Figure 10-7: Demand for libraries across three population scenarios



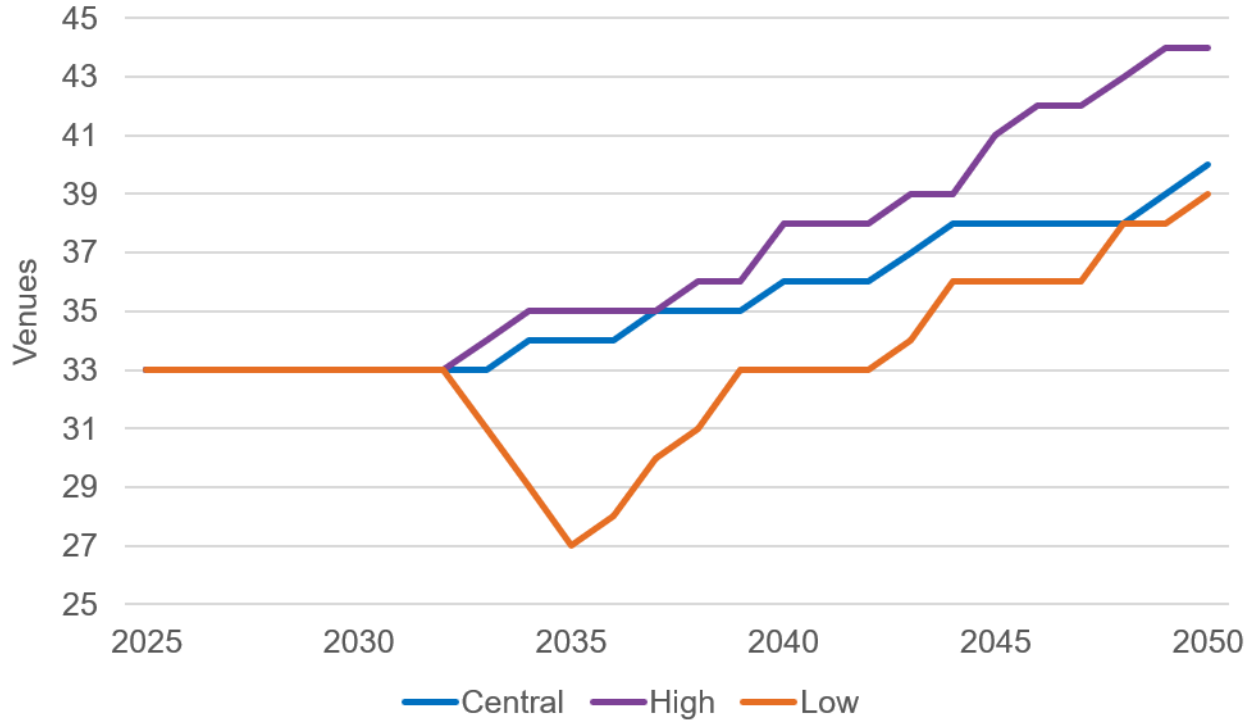
Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

Figure 10-8: Demand for music venues across three population scenarios



Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025)

Figure 10-9: Demand for nightclubs across three population scenarios



Source: Nexus analysis of GLA Cultural Infrastructure Map (2025) and GLA population projections (2025).

11 Infrastructure requirements

11.1 Introduction

This chapter provides a high-level understanding of the scale of the potential land-take required for a range of types of infrastructure, but excluding social infrastructure, across Greater London between 2025 and 2050. It also provides information on the distribution of this requirement, where available.

The information presented below is based on information provided by the GLA and other relevant stakeholders, as well as Arup analysis. Sufficient information is not available to provide a quantitative estimate of the scale and/or distribution of requirements. Where relevant, data gaps and uncertainties are explained.

In the absence of quantitative projections of the need for land for infrastructure, we have assumed that a proportion of vacant industrial land will need to be retained for infrastructure and other uses for which quantitative land needs are not assessed in this report. The proportion assumed is set out in chapter 11.

11.2 Waste

If additional land-take is required to accommodate projected waste arisings between 2025 and 2050 this is highly dependent on local waste management options which should be explored as part of the Local Plans and/or Waste Plan process.

Indicative projection show that waste arisings are expected to grow from circa 18.4 million tonnes in 2024 to around 21 million tonnes in 2050. This is based on an increase in household waste from 2.8 million tonnes to 3.2 million tonnes, commercial, industrial & construction waste arisings increasing from 4.8 million tonnes to 7.1 million tonnes and excavation waste rising from 10.7 million tonnes to nearly 15million.[31]

The land-take required to accommodate growing waste arisings is highly dependent on how this waste will be managed, with the view of working towards net-self-sufficiency which continues to be supported within the emerging London Plan policy. It is possible, as supported by emerging London Plan policy, for existing waste facilities to be optimised to support managing London's waste. Facilities required to process waste to support a circular economy are likely to require a higher number of smaller sites, with potentially greater aggregate land requirements than traditional, more centralised waste processing facilities.

Further to the above, it is not possible to predict the mix of waste facilities that will be brought forward to handle this increased load. Each would provide different waste capacities with differing land requirements.

Given the current predominance of London's waste facilities in London Plan 2021 Opportunity Areas (65% of London's waste is managed in facilities within OAs and 100% of incineration plants are within OA boundaries)[32], facility expansion is likely to be

[31] GLA (2026), London Waste Infrastructure Capacity Study

[32] London.gov.uk, Arup (2017), London's strategic infrastructure requirements – an evidence base to help deliver the Mayoral strategies

demanded within these areas and alongside planned new housing where land availability permits.

11.3 Aggregates

There is unlikely to be significant additional land-take required to accommodate aggregates infrastructure between 2025 and 2050.

Greater London is unique among UK regions in being almost entirely dependent on importing aggregates to meet its construction needs, with land-won production representing only approximately 5% of consumption in 2023.[33]

The majority of the projected 15.18 Mt of aggregates needed annually over the next 10 years to meet the latest housing targets[34] will need to be imported via London's existing wharves and railheads. It will be important for London to safeguard these existing wharves and railheads from alternative development to protect import capacity.

In addition, there is often a temporary need for construction-based provision where strategic scale development for housing, economy or infrastructure uses is taking place.

11.4 Transport

Significant land-take is likely to be required to accommodate increased public transport infrastructure, specifically greater bus and rail depot capacity, between 2025 and 2050.

It is difficult to project the land-take required for buses. Bus garages currently occupy an estimated 70-75 hectares of land in London to house the current fleet of around 9,000 vehicles. Around 1,000 additional vehicles are required to accommodate current population projections to 2050 ('2022-based 15-year migration high fertility identified capacity' noting these do not reflect the latest housing targets). Taking into account rates of population growth, bus trip rates amongst London's population, current bus speeds and their effect on service frequency, and the increased garage space needed to accommodate new electric bus fleets and their associated infrastructure, there is estimated to be a 35-50% increase in the land required to facilitate bus garages. [35]

There are bus depot capacity constraints currently across London, with particularly acute capacity challenges for buses already across north and west London. Therefore, immediate land-take needs may be most acutely felt in these areas. Of further spatial consideration is the high proportion of new homes likely to be developed in outer London, including the Green Belt, beyond the main realms of current bus services. To accommodate this growth, significant enhancements to the bus network may be needed, including new sites for bus garages and infrastructure.

It is not possible to suggest a total future land-take requirement for rail services beyond those already committed / planned in sufficient detail. Rail service expansion is dependent on significant public investment decisions and, therefore, does not have a linear relationship with demand. Additionally, increases in frequency of rail service does not translate directly to land requirements.

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[33] GLA (2025), London Local Aggregates Assessment 2024

[34] GLA (2025), London Local Aggregates Assessment 2024

[35] TfL estimates

Land-take required for rail services will be limited to areas immediately adjacent to rail lines and only along rail lines where frequency maximums have not yet been achieved and hence where capacity improvements may be planned. The following lines would require land-take should investment be secured for service expansion[36]: Bakerloo (depots in Queens Park/Stonebridge Park, east of Lewisham and adjacent to the Mid-Kent line between Lewisham and Hayes), Piccadilly, Central (West Ruislip), Northern, Jubilee (Stratford and Neasden), DLR (Poplar and space for double-tracking line from Bow Church to Stratford), Elizabeth line (North Pole east depot area), Overground (Old Oak Common), London Trams (Therapia Lane) and some National Rail lines. Any future land-take related to expansion is most likely to take place at existing depots, however these locations are typically severely constrained.

Additional land take would be required for network extensions, potentially as fully new depots. For the Bakerloo line extension, new depots would be required east of Lewisham and adjacent to the Mid-Kent line between Lewisham and Hayes. For DLR to Thamesmead, this additional capacity would be at the existing depots. West London Orbital would make use of existing depots, however additional capacity would be required at those depots (likely Old Oak Common). Crossrail 2 would require significant new depot capacity along the corridor.

11.5 Energy

Substantial land-take may be required to support new or expanded sites for substations and transmission between 2025 and 2050.

Electricity transmission in London is managed by National Grid. There are significant demands for Grid Supply Point (GSP) upgrades, new GSPs and cables that will require land. They can be up to 3-6 hectares each. Their size partly depends on the insulating technology used (air insulated tend to take double the land compared to gas insulated technologies).

Electricity distribution in London is provided by UK Power Networks (UKPN) and Scottish and Southern Electricity Networks (SSEN). UKPN's Distribution Network Operator (DNO) license covers the majority of London, with the exception of parts of West London which are covered by SSEN, namely areas within the London boroughs of Hillingdon, Hounslow and Ealing.

SSEN have projected that 3.4 hectares will be required for new bulk supply points, primary substations and secondary substations based on capacity driven requirements between 2025 2050.

SSEN have suggested that the greatest projected capacity shortfalls (and therefore where land-take is most likely) are around the west of Hounslow, Hayes, Northolt and Southall.[37]

UKPN are unable to provide such projections. However, UKPN's strategy is to increase capacity at existing supply sites, which may often, but not always, require site expansion and land-take. UKPN have indicated that to respond to capacity shortfalls, planned capacity improvement schemes are required in:

- Acton and West Ham as a priority;

[36] Together with associated depot sites identified for expansion or where under-used depot sites are to be returned to use for active depot use.

[37] Provided through engagement with SSEN

- Hackney, Islington, St. Johns Wood, New Cross and Wimbledon by 2028;
- Barking, Beddington (Croydon) and Redbridge in 2030;
- Brimsdown (Enfield) from 2040; and
- Willesden by 2045.

This does not exempt other areas from potential upgrade works and necessary land-take should additional capacity be required in future years.[38]

A major generator of demand for energy distribution capacity in London in the coming years will be from data centres.

A further, key consideration affecting future land-take for energy distribution in London, beyond the development of DNO networks (above), will be the development of new energy sources and related infrastructure. Key amongst these will be energy generation from hydrogen, the development of heat networks and related energy centres and battery storage.

As noted in the Utilities Impact Assessment, these requirements should not be seen as definitive, given only limited modelling has been undertaken by providers at this stage. This suggests that, overall, a precautionary approach should be taken to avoid loss of land already in infrastructure use, factoring this into development assumptions going forward, with ongoing review as the strategic requirement for an area becomes clearer through (e.g. Local Plan processes).

11.6 Water

Land-take required for water supply and wastewater management between 2025 and 2050 will not be significant within the Greater London area.

The most significant water supply infrastructure to be developed to support London's demand will be outside of London, particularly the South-East Strategic Reservoir Option – a new reservoir in Oxfordshire.

It is not anticipated that any new wastewater management sites will be developed in coming years. Population growth patterns and the need to upgrade facilities may lead to necessary site expansion at the treatment works at Beckton, Crossness, Mogden and Hogsmill.[39] The need for capacity expansion is greatest at Beckton but the site is constrained, and so land-take will not be substantial.

Land-take requirements relating to the Thames Estuary 2100 project[40] (work to address strategic flood defences) could potentially impact East London. While this has not been evaluated in detail, it will be factored into expectations for related individual riverside development, plus need for temporary construction sites.

As noted in the Utilities Impact Assessment, these requirements should not be seen as definitive, given only limited modelling has been undertaken by providers at this stage. This suggests that, overall, a precautionary approach should be taken to avoid loss of land

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[38] UKPN (2025) Network Scenario Headroom Report

[39] London City Halls (2026), London Infrastructure Framework

[40] Department for Environment, Food & Rural Affairs (2023), Thames Estuary 2100 (TE2100)

already in infrastructure use, factoring this into development assumptions going forward, with ongoing review as the strategic requirement for an area becomes clearer through (e.g. Local Plan processes).

11.7 Data Centres

Significant additional land-take may be required to facilitate data centre expansion between 2025 and 2050

Significant additional land-take may be required to facilitate expansion between 2025 and 2050. This is to accommodate an approximate additional 5GW of projected demand between 2031 and 2050, reflecting current connection queue and energy network projections. Capacity up to 2030 is assumed to contribute 20% of future demand. [41]

However, large-scale developments and significant IT and technological upgrades in future years could significantly affect the land-take required for new data centre capacity, both upwardly, and downwardly (e.g. if there was a shift towards more –edge-type data centres (smaller and ancillary to existing buildings) in the future. Significant regulatory reform currently underway, which recognises significant speculation in the electricity connection queue from data centres, is also likely to see any prediction for future land-take to be push downward.

London's data centres are predominantly distributed along a west–east axis, connecting areas such as the Docklands, Park Royal and Hayes with limited current and expected activity south of the River Thames. Although newer data centres are appearing in areas such as Havering and Enfield, most spatial and infrastructural evidence suggests that growth will continue to cluster around current west-east corridors. Inner-city clusters likely to emerge will be composed mainly of smaller, retrofitted facilities suited to dense urban conditions, while outer clusters are likely to be characterised by large-scale, purpose-built campuses. Strategic, hyper-scale data centre projects are increasingly pursuing larger greenfield locations, including within the metropolitan Green Belt to meet space demands. [42]

There is a significant trend of conversion of industrial estates into data centres. Over half of the near-record 5.1 million square feet of industrial type space under construction is being developed for data centre use, particularly in Ealing to the west and Newham to the east. Planning consents for warehouses are increasingly being repurposed for data centres, with Silvertown as a key example.

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[41] London City Hall (2025), London's Data Centre Future Growth Forecasts and Strategic Insights

[42] Ibid.

12 Class E pipeline floorspace supply

For Class E uses, the scale of pipeline floorspace by use class and borough is shown in Table 12-1. Pipeline floorspace includes developments with a planning status of ‘not-started’ (either approved or appeal allowed) or ‘started’ (commenced but not completed). This data was extracted from the Planning London Datahub on the 21 October 2024 and refined through GLA/borough engagement. Pipeline data is presented for all uses for which data is available.

London has a total identified pipeline of 4.2 million sqm across the uses assessed. This is dominated by office floorspace, which accounts for around 2.9 million sqm, approximately 70% of the London total pipeline. This pipeline is also highly concentrated spatially, with the CAZ and NIOD together accounting for around 3.03 million sqm, equivalent to 72% of London’s total pipeline. Aside from office, the most significant use class is R&D, with a pipeline of around 493,000 sqm (12% of the London total), followed by Retail at around 348,000 sqm (8%) despite net losses, from planned demolitions or conversions, in some outer London boroughs.

Table 12-1: Pipeline floorspace supply, by use class and geography (sqm)

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professional services	Total
Barking & Dagenham	-1300	400	300	600	1300	1300	1300
Barnet	-22000	3000	-12700	0	-2300	-100	-34000
Bexley	-1800	400	-8400	100	900	-800	-8800
Brent	9300	900	-4900	900	11800	1200	18000
Bromley	-3600	700	-9200	200	1000	-1000	-10900
Camden	18100	3500	274700	0	-3400	-2600	293000
City of London	20700	-1900	978600	0	0	300	997400
Croydon	2000	2900	53500	0	300	900	58600
Ealing	7500	8300	58400	700	39700	-400	114600
Enfield	-33400	8100	2600	-500	52700	-200	29400
Greenwich	15700	4800	-34500	0	12100	3800	-1900
Hackney	9300	6900	151800	0	20000	4100	187900
Hammersmith & Fulham	3300	5800	164600	376500	2300	2800	552500
Haringey	-6400	-2500	7100	100	11100	-500	9400
Harrow	3500	200	6300	6100	8800	-100	25000
Havering	15700	2300	-7800	0	9100	-1900	19300
Hillingdon	-5600	-500	-22600	400	19000	400	-9300
Hounslow	-900	3000	-14100	1100	8000	-600	-2900
Islington	600	1400	51900	12500	5800	200	72200
Kensington & Chelsea	4900	3600	40900	-100	-1400	-200	47900
Kingston	1500	1800	32200	100	4200	-600	39800
Lambeth	1000	3900	376000	-100	1700	600	382500
Lewisham	-22600	7100	24900	0	23000	800	32400
Merton	15600	2400	-4300	0	6200	100	19900
Newham	17500	7800	70600	1000	2300	6300	99200
Redbridge	-6700	1600	-9700	0	-5500	-100	-20300

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professional services	Total
Richmond	-4200	-1000	1500	200	-3700	-900	-7300
Southwark	236800	3700	242800	2400	20600	-15200	506300
Sutton	-10300	300	-3900	8300	-2100	300	-7600
Tower Hamlets	48400	24200	309700	77000	4100	18700	463300
Waltham Forest	-1000	4900	-2200	500	1800	1500	3900
Wandsworth	10500	6300	84700	0	6500	13300	108000
Westminster	26200	7500	111700	4500	100	-6700	150100
CAZ	191700	23000	2225600	15500	3600	10900	2459400
NIOD	45400	17900	360700	75000	-700	16700	498300
London	**348300**	**121800**	**2910500**	**492500**	**256000**	**24700**	**4128900**

Source: Arup analysis of Planning London Datahub data. Colour scale (from dark red to dark green) indicates the relative scale of the pipeline across each use class by borough (from lowest to highest).

13 Industrial land availability

This chapter answers the following research question:

- What is the supply of floorspace, and where appropriate land or counts, for economic and infrastructure uses in London? What are the significant locations of these land uses?

13.1 Vacant industrial land

Table 13-1 shows the supply of vacant land (vacant cleared sites and derelict industrial buildings) that is available for industrial uses by borough, as defined by London Industrial Land Supply (LILS). Four boroughs accommodate a majority of land supply – Barking and Dagenham (18%), Bexley (21%), Havering (12%) and Newham (15%).

Table 13-1: Vacant industrial land by geography, 2025

Geography	Vacant industrial land (ha)	Vacant industrial land (% of London total)
Barking and Dagenham	42.26	18%
Barnet	0.04	0%
Bexley	50.58	21%
Brent	4.75	2%
Bromley	6.59	3%
Camden	0	0%
City of London	0	0%
Croydon	0	0%
Ealing	13.76	6%
Enfield	10.13	4%
Greenwich	14.56	6%
Hackney	0.42	0%
Hammersmith and Fulham	1.92	1%
Haringey	6.86	3%
Harrow	0	0%
Havering	29.41	12%
Hillingdon	1.71	1%
Hounslow	3.54	1%
Islington	0.03	0%
Kensington and Chelsea	0.91	0%
Kingston upon Thames	0.51	0%
Lambeth	0.35	0%
Lewisham	3.24	1%
Merton	1.61	1%

Geography	Vacant industrial land (ha)	Vacant industrial land (% of London total)
Newham	34.91	15%
Redbridge	0.18	0%
Richmond upon Thames	0.52	0%
Southwark	3.22	1%
Sutton	5.08	2%
Tower Hamlets	2.71	1%
Waltham Forest	0.21	0%
Westminster	0	0%
Central services circle	**10.88**	**5%**
Thames Gateway	**178.49**	**74%**
Lea Valley	**17.2**	**7%**
Park Royal / A40 / Heathrow	**26.24**	**11%**
Wandle Valley	**7.2**	**3%**
London	**240.01**	**100%**

Source: GLA, London Industrial Land Supply (LILS), 2020.

13.2 Land required for other uses

This quantitative Supply and Demand Assessment only considers a subset of industrial uses, including general industrial, light industrial, R&D and storage and distribution. However, the latter excludes open storage and self-storage. For other uses that depend on industrial land, including infrastructure uses such as utilities, rail land and waste management and recycling, there is also no quantitative assessment, and but they need to be accounted for when estimating the amount of vacant industrial land that could be used for the uses analysed quantitatively in this study.

A breakdown of all uses not covered in the quantitative industrial land need assessment is presented in Table 13-2 with the percentages showing the proportion of both other land uses and total industrial land respectively. Overall, these ‘Other’ uses comprise 43% of total industrial land in London. Utilities, land for rail and waste management and recycling together account for 60% of all land for ‘Other’ uses, equivalent to around 25% of total industrial land in London.

Table 13-2: Land by 'Other' uses, which are not covered in the industrial land requirement assessment

'Other' use	Existing land (ha)	% of 'Other' uses	% of total industrial land
Utilities	1,071	35%	15%
Land for rail	387	13%	5%
Waste management and recycling	378	12%	5%
Open storage	306	10%	4%
Airport related land and freight	169	6%	2%
Retail	133	4%	2%
Office	101	3%	1%
Land for buses	80	3%	1%
Self Storage	62	2%	1%
Wholesale Markets	43	1%	1%
Other non industrial	40	1%	1%
Residential	39	1%	1%
Film and TV Studios	37	1%	1%
Data Centre	33	1%	0%
Mixed-use (non-industrial only)	31	1%	0%
Mixed-use (including industrial)	29	1%	0%
Recreation and leisure	24	1%	0%
Docks	23	1%	0%
Community services	18	1%	0%
Land with vacant buildings	18	1%	0%
Other industrial	7	0%	0%
Dark Kitchens	4	0%	0%
Total	**3,041**	**100%**	**43%**

Source: GLA, London Industrial Land Supply (LILS), 2020, and PLD 2025.

13.3 Adjusted vacant industrial land

This assessment assumes that the current proportion of industrial land occupied by 'Other' uses remains broadly constant over the assessment period. As a result, only the remaining share of vacant industrial land is assumed to be available to meet the industrial land demand set out within this study. For example, at a London-wide level, 43% of industrial land is accommodated for 'Other' uses, therefore only 57% of the vacant industrial land is assumed to be available for industrial uses captured within this assessment. This

approach is applied at a borough level, using each borough's current proportion of industrial land in 'other uses' to adjust the amount of vacant industrial land considered available.

Table 13-3 presents the resulting adjustment to vacant industrial land across London geographies. The adjustment reduces the amount of land assumed to be available to accommodate industrial demand to 147ha, reflecting the significant role that 'other uses' play within London's industrial land stock.

Table 13-3: Adjustment to vacant industrial land across London geographies to account for 'Other' uses

Geography	Total land accommodating 'Other' uses (ha)	Total industrial land (ha)	Other uses as a % of total industrial land	Vacant industrial land (ha)	Adjusted vacant industrial land, accounting for other uses (ha)
Barking and Dagenham	114.60	542.99	21%	42.26	33.34
Barnet	51.20	98.33	52%	0.04	0.02
Bexley	169.30	528.65	32%	50.58	34.38
Brent	171.80	448.31	38%	4.75	2.93
Bromley	56.50	135.76	42%	6.59	3.85
Camden	10.80	36.82	29%	0	0
City of London	2.30	2.31	100%	0	0
Croydon	82.90	188.09	44%	0	0
Ealing	141.40	518.41	27%	13.76	10.01
Enfield	169.20	476.03	36%	10.13	6.53
Greenwich	77.20	202.34	38%	14.56	9
Hackney	18.80	53.64	35%	0.42	0.27
Hammersmith and Fulham	83.70	120.28	70%	1.92	0.58
Haringey	57.80	169.41	34%	6.86	4.52
Harrow	16.40	53.13	31%	0	0
Havering	222.30	439.28	51%	29.41	14.53
Hillingdon	340.70	602.47	57%	1.71	0.74
Hounslow	202.80	481.23	42%	3.54	2.05
Islington	16.10	34.04	47%	0.03	0.02
Kensington and Chelsea	16.30	25.85	63%	0.91	0.34
Kingston upon Thames	63.30	122.67	52%	0.51	0.25
Lambeth	26.90	74.51	36%	0.35	0.22

Geography	Total land accommodating 'Other' uses (ha)	Total industrial land (ha)	Other uses as a % of total industrial land	Vacant industrial land (ha)	Adjusted vacant industrial land, accounting for other uses (ha)
Lewisham	43.00	96.76	44%	3.24	1.8
Merton	56.30	183.97	31%	1.61	1.12
Newham	274.20	459.87	60%	34.91	14.1
Redbridge	35.50	78.67	45%	0.18	0.1
Richmond upon Thames	42.60	83.63	51%	0.52	0.25
Southwark	44.60	123.96	36%	3.22	2.06
Sutton	210.20	329.71	64%	5.08	1.84
Tower Hamlets	35.40	98.76	36%	2.71	1.74
Waltham Forest	100.90	194.74	52%	0.21	0.1
Wandsworth	65.10	122.37	53%	0	0
Westminster	10.80	13.84	78%	0	0
Central services circle	**290.00**	**682.86**		**10.88**	**6.45**
Thames Gateway	**949.50**	**2387.56**		**178.49**	**109.3**
Lea Valley	**327.80**	**840.18**		**17.2**	**11.15**
Park Royal / A40 / Heathrow	**1050.70**	**2405.79**		**26.24**	**16.58**
Wandle Valley	**412.60**	**824.44**		**7.2**	**3.21**
London	**3031.00**	**7140.83**		**240.01**	**146.69**

Source: GLA, London Industrial Land Supply (LILS), 2020. Note percentages are not presented for PMAs or the London total, as the adjusted vacant industrial land figures are derived by aggregating borough-level figures rather than applying a single London-wide or PMA-wide percentage.

14 Characteristics and quality of floorspace demand

14.1 Introduction

This chapter explores the evolving locational and building design preferences of occupiers and the impact of market trends on different property types. This chapter has been informed by the sources provided, engagement with developers, occupiers and agents and professional experience.

This chapter answers the following research questions:

- What are the spatial preferences / locations of the sectors and land uses considered?
- What building typologies will these require?
- What affordable workspace provision is required to retain sectors that find it difficult to compete for floorspace?

14.2 Office

14.2.1 Continued flight to quality entrenching a two-tier market

Occupiers are increasingly seeking high quality, newly built / re-developed or best-in-class refurbished offices[43], particularly in prime locations (including the City and West End where grade A space accounted for around 80% of take-up in the last year[44]). Such offices lease quickly and at premium rents. Whilst, some older (particularly 80s/90s) and out of town stock faces obsolescence and conversion or demolition, some of this stock will continue to have a useful life as evidenced by lower vacancy rates and relatively high rents for lower quality stock, and the need for (more) affordable office space across the capital (analysis of affordable office needs can be found at the end of this chapter). The secondary office market is focused on more peripheral locations including 'city fringe' locations such as Whitechapel (where early-stage, smaller and creative businesses tend to operate), Stratford and non-CAZ town centres (where more smaller local businesses tend to operate).

The preference for high quality space is related to two key factors – sustainability and amenity. Desirable sustainability features include: decarbonised mechanical, electrical and plumbing systems (MEP) and uplifted EPC ratings. Amenity requirements include: floors with shared facilities (e.g. bar and lounge space), wellness facilities, high-quality changing rooms and cycle parking facilities, outdoor spaces. Data-led post-occupation tuning is also highly desirable (e.g. temperature, lighting and air quality and layout optimisation). Cost certainty and speed are also important to occupiers, with fitted/managed floors helping occupiers overcome capex and fit-out barriers.

Recent market evidence indicates that retrofit and refurbishment can in some cases offers a viable alternative to meeting demands for high quality office space (whilst not meeting the significant projected need for new stock). Policy interventions such as targeted rates relief and planning performance agreements are also playing a crucial

[43] CoStar London Office Market Report

[44] Cushman & Wakefield (2026), Marketbeat Template - Local Markets

role in unlocking heritage refurbishments. Sustainable and high-quality refurbishment should continue to be supported by planning policy to help meet demand for high quality stock whilst new development and re-development should also be supported to meet projected need for additional stock.

14.2.2 Locational needs

As well as the flight to quality, there is also a 'flight to centrality' with occupiers primarily seeking space in hyper-connected locations such as the CAZ and NIOD. Offices situated near key transport infrastructure, such as the Elizabeth Line, are particularly attractive - the highest rents for prime space are currently being achieved in the City (£150 per square foot in new tower developments) and Mayfair (£200 per square foot)[45]. Amenities such as food, cultural opportunities and active travel options support talent recruitment and retention leading to higher occupancy rates.

As set out in Chapter 6 of this report, around 55% of London's demand for new offices falls within the CAZ. This finding is supported by evidence of strong recent take-up and low vacancy rates supporting rental price growth from agents[46].

The needs assessment suggests that around 5% of office demand falls within the NIOD. Whilst short-term demand signals suggest weak-moderate demand (e.g. high vacancy rates reaching up to 20% in 2025[47]), the NIOD remains a strategically important location.

Around 40% of office needs are projected to come from outside of the CAZ and NIOD. Strongest demand will come from major town centres with strong accessibility and established office markets. In other town centres demand will be focussed on small serviced offices, flexible workspaces and mixed use developments with small office components. Key occupiers in non-central areas will include smaller businesses and the public sector, local professional services firms and medical and educational organisations.

14.3 Industrial and storage and distribution

14.3.1 Building type and quality demands

The types of industrial and storage and distribution space currently in demand in London reflect a shifting landscape, driven by changes in occupier requirements and broader market trends.

Traditional warehouses and industrial estates remain in demand, particularly for food suppliers, packaging firms and logistics companies. Demand for units within multi-let industrial estates has become increasingly varied, with service-sector businesses now joining traditional manufacturing, trade-counter and storage firms in seeking smaller premises. Smaller units, typically under 7,000 square feet, are highly sought after, especially by service-sector businesses and in prime locations like Fulham and west London, where vacancy rates are notably low[48].

Urban logistics and last-mile storage and distribution are particularly fast-growing markets. Given land constraints, demand is being met in a number of innovative ways. For example,

[45] CoStar London Office Market Report

[46] Savills UK (2026), Central London Office Market Watch Q4 2025

[47] CoStar database

[48] CoStar London Industrial Market Report

an application has been submitted for an underground urban logistics facility at Paddington Central and plans are being made for multi-storey warehouse redevelopment in Enfield.

Industrial and storage and distribution space is also being built as part of mixed-use schemes. This includes space within residential-led developments. For example, Old Kent Road Opportunity Area has emerged as a co-location (including stacking of residential on top of industrial uses in new developments) hotspot with the support of the local council. However, there are also significant concerns around co-location, as it can lead to sub-optimal solutions for both industrial occupiers and for residential quality and amenity. There can also be issues with viability, given the necessary mitigation. In general, co-location can undermine the effective operation of industrial areas, in particular for heavier industrial uses, through the introduction of residential.

There are also examples of industrial and storage and distribution space being repurposed to provide leisure facilities. For example, there was recently a plus 50,000 square foot leasing by a padel and pickle ball provider in Park Royal.

Demand from film producers has somewhat waned recently, as companies like Netflix have offloaded buildings acquired during the pandemic.

14.3.2 Spatial and locational preferences

The areas with the strongest demand for industrial and storage and distribution space in London are concentrated in the west, particularly around Heathrow and Ealing. These locations consistently report lower vacancy rates and have seen several large deals in the last 1-2 years. Smaller, last-mile units in prime areas like Fulham are also highly sought after. Additionally, emerging hotspots such as Greenwich, Waltham Forest, and Southwark are experiencing outsized rent growth and a number of large deals indicating robust demand[49].

In contrast, some eastern parts of London, including Barking & Dagenham and Newham, have high vacancy rates due to subdued demand and a rise in new completions. Southern areas like Croydon and Sutton also report vacancy rates well above the market average, suggesting weaker demand for industrial space. While eastern submarkets have seen rent increases in recent years, the availability of industrial land and higher vacancies point towards slower growth in future demand.

Whilst, there is strong demand for storage and distribution space in the capital, some factory and warehouse occupiers are looking for cheaper space meaning some of London's storage and distribution needs may need to be met outside of London's built-up area. To adapt to rising rents, some businesses are taking up less floorspace with more frequent deliveries to replenish stock. Both scenarios have the potential result in increased freight miles.

14.4 Retail

14.4.1 Convenience goods / grocery retail

Over the past two decades grocery retail formats have evolved in order to fulfil two distinct functions: main/bulk-food shopping and top-up food shopping needs. This has been a general theme across the country and particularly in cities, but the most distinct examples can be found in London. These have informed spatial preferences for the main national

[49] CoStar London Industrial Market Report

multiple grocery operators, with particular themes becoming apparent in the inner and outer London Boroughs.

The general themes are:

- Historically, demand for larger format grocery retail space has been met outside of town centres (in edge and out of centre locations).
- This has been driven by the content and limitations of national planning policy and also the obvious physical constraints presented by a number of historic 'town centres'.
- This has been most prevalent in the outer London Boroughs, a trend which continues at the present time, as grocers continue to look to redevelop former industrial and commercial sites.
- This has led to town centre locations becoming more top-up food shopping destinations, with unit sizes of sub-1,000sq m gross required.

Due to the maturity of the grocery retail market, current demand is focused around two particular areas: (a) the continuation of the convenience style store trend for units, mainly in high street locations, of under 1,000sq m; and (b) demand for medium-sized foodstores from an element of the grocery sector (discounters such as ALDI[50] and Lidl[51], plus Iceland's Food Warehouse format and an expansion in the M&S Food Hall format[52]). The demand for the latter is being met via both new-build floorspace (particularly the discounters) and also re-purposing existing large format units (many of which have been vacated by comparison goods retailers). In relation to future demand, this is likely to be driven primarily by population growth (as there will be little expenditure growth per head). As a consequence, areas of high housebuilding will be a particular source of future demand.

Further qualitative issues, which are currently influencing and informing grocery typologies, are as follows:

- **A focus on modernising and redevelopment of traditional single storey supermarkets.** In order to make better use of existing supermarket sites, many of which contain single story retail units and surface level car parks, mixed use development projects are being advanced which provide the dual benefit of: (a) value being realised from inefficient existing sites/stores; and (b) store modernisation to meet current demand/requirements.
- **Additional flexibility from discount grocers in the inner London Boroughs.** In order to penetrate geographic areas where traditional retail formats cannot be accommodated, discount grocers are adapting their formats via the re-purposing of former retail stores in order to allow them to provide a high street presence without car parking. In the outer London Boroughs, discounter formats have also evolved in the past decade to provide standard-sized stores as part of a multi-level mixed use development (including customer parking). In addition, examples are now coming

[50] https://www.aldipresscentre.co.uk/uncategorized/aldi-announces-over-370-million-investment-in-opening-new-stores/

[51] https://corporate.lidl.co.uk/media-centre/pressreleases/2026/lidl-gb-announces-store-expansion

[52] https://corporate.marksandspencer.com/newsroom/press-releases/ms-steps-store-rotation-programme-ps300m-investment-financial-year

forward of mixed-use grocery retail and storage and distribution (last-mile) developments across London.

14.4.2 Comparison Goods / Non-Food Retail

Given the structural changes in the non-food retail sector over the past decade, high street comparison goods units are the most likely units (along with Class E(c) financial services units) in the Class E sector to become vacant[53].

The reasons for this are widespread, ranging from non-location specific sectoral issues through to the retreat of national multiple retailers from lower order centres (as the demand for multiple locations reduces). Former comparison/non-food units are the most likely to switch use classes, being re-purposed to food/beverage and leisure uses. Therefore, it is likely that falling demand for net additional retail space will be driven primarily by the comparison goods sector and offer the most opportunities to recycle existing Class E floorspace to meet demand for other Class E and main town centre uses.

In spatial terms, there has, for many years, been a traditional split between non-bulky stores in 'town centre' locations and bulky goods in large format retail warehouse units in out of centre locations. The relaxation of national policy controls in the past over out of centre provision (including the removal of the 'need' test) has, in part, been a cause of the shrinkage of retail floorspace in town centres. However, the failure of a number of high profile national multiple comparison goods retailers over the past decade has led to vacancies in existing out of centre retail parks and stand-alone retail units which has enabled demand to be met without the need to plan for net additional retail floorspace. Surplus former comparison goods stores are being re-purposed for a combination of: (a) meeting demand from other comparison goods retailers (including the rise of value-orientated mixed goods retailers); (b) meeting demand from grocery retailers (particular the discounters such as ALDI and Lidl); and (c) offering opportunities for leisure operators.

Within high streets / traditional town centre areas, a key area of vacancy over the past decade has been department store units. The failed department store businesses such as Debenhams and House of Fraser has led to a number of high profile vacancies across large town and city centres across the UK. Whilst a number are being repurposed for alternative similar retail use (Frasers, Marks & Spencer[54]) many former department stores have fallen out retail use. A number have been repurposed for short term leisure uses, whilst some former store buildings lend themselves well to alternative uses (see the conversion of the former Debenhams in Gloucester city centre to a University campus building for the University of Gloucestershire). As such, it is likely that the falling demand for retail space, particularly in relation to the comparison goods sector[55], will offer many opportunities for other Class E, main town centre land use and residential land use requirements to be met.

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[53] Nexus analysis of Experian GOAD national town centre land use data between 2018 and 2025

[54] See re-occupation of former Debenhams in Bath and House of Fraser in Bristol by Marks & Spencer.

55 See, for example, the 2025-2030 demand forecasts within Table 13b of the Nexus 'Demand Assessment Methodology' note.

14.5 Need for affordable workspace

Evidence[56] suggests that the following types of business have a particularly significant need for affordable workspace:

- Micro and small businesses;
- Social enterprises, charities and community organisations;
- Start-ups and early-stage businesses; and
- Many creative and urban production businesses (which require studios, workshops and production space – offices, light industrial and general industrial).

As set out in Appendix 3 of this report:

- 85-90% of business units in broadly office, retail and general/light industrial-based sectors in London are ran by micro-enterprises (0-9 in employment) with a further 8% ran by sole-proprietors;
- In broadly office and retail based sectors, 2% of business units are ran by non-profit bodies or mutual associations;
- Approximately a third of London businesses are likely to be less than 5 years old;
- London's Creative Industries – Sector deep dive[57] suggests that 12% of GVA and 15% of employment in London is generated by the creative industries.

The analysis above suggests that there is a large pool of businesses who may need affordable workspace. However, analysis of London rents in Chapter 4 of this report suggests that only 1-3% of general and light industrial, 6% of retail and 12% of office floorspace is available at less than 80% of the average asking market rent. This supports the case for continuation of the GLAs affordable workspace policies.

[56] Business London (2022), Delivering Affordable Workspace in London

[57] GLA (2023), London's Creative Industries – Sector deep dive

15 Balancing supply and demand

This chapter presents information on two 'supply-demand balance' considerations:

- Industrial land requirements against available industrial land supply (where land refers to land which is available for development) to provide an estimate of land supply shortfall / surplus.
- Gross Class E floorspace demand against Pipeline Class E floorspace supply to provide an estimate of net Class E floorspace demand.

15.1 Industrial Land supply shortfall/surplus

Table 15-1 shows the calculation of the industrial land supply-demand balance. Two approaches are presented to reflect the uncertainty over whether land associated with projected contractions in general industrial and light industrial demand could be repurposed to meet growth in other uses.

The 'no repurposing' scenario assumes that these contractions cannot be used to offset growth in storage and distribution and R&D demand. The 'full repurposing' scenario assumes that land currently occupied by contracting uses (general and light industrial) is able to accommodate growing uses (including light industrial in some boroughs). In practice it is recommended that this can only be done within the same PMA (i.e. freed up land from contracting uses in one PMA do not offset needs from growing uses in another PMA).

In practice, the appropriate planning requirement is likely to sit between these two positions (which should be determined at PMA level). Some land associated with declining general industrial or light industrial demand may be suitable for repurposing, but other sites will need to be retained for strategic industrial functions or may lack the accessibility, servicing or locational characteristics required by growing uses. This is particularly relevant for storage and distribution, which typically requires strong road access, servicing capacity and appropriate plot configurations. However, the R&D component should also be interpreted with caution, as some demand may be accommodated outside industrial land in town centres, innovation districts (and Strategic Economic Clusters) and other highly connected locations. This reflects London's existing R&D geography, which is concentrated in central life sciences and innovation clusters, including Euston/King's Cross and Canary Wharf, where occupiers are likely to require high-quality office, lab or hybrid workspace (including to attract talent). However, some R&D needs will still need to be met through the provision of general and light industrial space for testing and manufacturing.

'Adjusted vacant industrial land' represents vacant industrial land minus an allowance for 'Other uses' (such as utilities, waste management, open storage) by assuming that the current proportion of industrial land occupied by 'Other uses' remains constant over the assessment period (see the Industrial land availability chapter for further details).

Across London, the supply-demand balance points to a substantial industrial land shortfall to 2050. Under the assumption of full repurposing of contracting general industrial and light industrial land, the shortfall is around 270 ha, with an identified requirement of 416 ha compared with 147 ha of available land supply. If no land could be repurposed between uses, the shortfall increases to around 428 ha, based on a requirement of 574 ha. This range is driven primarily by strong demand for storage and distribution land (512 ha),

alongside additional R&D demand (47 ha), while projected contractions in general industrial (-132 ha) and light industrial (-10 ha) demand reduce the requirement where full repurposing is assumed.

All five strategic Property Market Areas are in deficit under both approaches. The Central services area shows the largest shortfall (117-172 ha) reflecting strong storage and distribution and R&D demand alongside very limited available land. Park Royal / A40 / Heathrow also records a substantial shortfall (81-135 ha). The remaining PMAs are also in deficit, with shortfalls ranging from 10-26 ha in the Lea Valley, 12-36 ha in the Thames Gateway and 49-60 ha in the Wandle Valley. At borough level, the largest shortfalls are concentrated in areas with strong storage and distribution demand and limited available supply, including Hillingdon and Havering under both approaches, with Enfield, Barnet and Southwark also showing notable deficits depending on the repurposing assumption used.

It should be noted that if some R&D need is met on non-industrial sites (e.g. in the CAZ, town centres and in innovation clusters such as those highlighted in the London Growth Plan) there will be a slightly lower need for new industrial land than suggested.

Table 15-1: Industrial land supply shortfall (+) /surplus (-) calculation, 2024-2050

Geography	General industrial land requirement (ha)	Storage and distribution land requirement (ha)	Light industrial land requirement (ha)	R&D land requirment (ha)	Total land requirement assuming 'full repurposing' [A]	Total land requirement assuming 'no repurposing' [B]	Available land supply (adjusted to take account of provision for 'other' uses) [C]	Land supply shortfall (surplus) assuming 'full repurposing' [A-C]	Land supply shortfall (surplus) assuming 'no repurposing' [B-C]
Barking and Dagenham	-1	14	3	0	16	17	33	-18	-16
Barnet	-4	30	-1	0	25	30	0	25	30
Bexley	-4	30	-1	0	25	30	34	-9	-4
Brent	-13	10	-2	1	-3	11	3	-6	8
Bromley	-4	25	-2	0	19	25	4	16	21
City of London	-2	13	-2	8	16	21	0	16	21
Camden	-4	1	2	5	4	8	0	4	8
Croydon	-1	24	0	0	23	24	0	23	24
Ealing	-15	15	1	0	1	15	10	-9	5
Enfield	-7	11	-1	0	3	11	7	-3	5
Greenwich	-2	14	-1	0	12	15	9	3	6
Hackney	-2	11	0	2	10	12	0	10	12
Hammersmith and Fulham	-1	13	0	6	18	19	1	17	19
Haringey	-2	16	-1	0	12	16	5	8	11
Harrow	-3	15	-1	0	11	15	0	11	15
Havering	-3	39	-1	0	35	39	15	21	25
Hillingdon	-8	33	0	1	26	34	1	25	33
Hounslow	-4	13	1	2	11	15	2	9	13
Islington	-3	11	1	4	12	15	0	12	15
Kensington and Chelsea	-2	11	-1	1	9	11	0	8	11
Kingston upon Thames	-3	13	-1	0	8	13	0	8	13
Lambeth	-2	16	2	3	19	21	0	19	21
Lewisham	-2	12	0	0	11	13	2	9	11

Geography	General industrial land requirement (ha)	Storage and distribution land requirement (ha)	Light industrial land requirement (ha)	R&D land requirment (ha)	Total land requirement assuming 'full repurposing' [A]	Total land requirement assuming 'no repurposing' [B]	Available land supply (adjusted to take account of provision for 'other' uses) [C]	Land supply shortfall (surplus) assuming 'full repurposing' [A-C]	Land supply shortfall (surplus) assuming 'no repurposing' [B-C]
Merton	-3	11	0	0	8	11	1	7	10
Newham	-3	2	2	0	0	4	14	-14	-10
Redbridge	-2	15	0	0	13	15	0	13	15
Richmond upon Thames	-1	9	0	2	10	11	0	9	11
Southwark	-3	19	1	3	21	24	2	19	22
Sutton	-1	13	0	2	13	15	2	12	13
Tower Hamlets	-2	13	2	3	15	18	2	13	16
Waltham Forest	-3	10	0	0	6	10	0	6	10
Wandsworth	-2	16	0	0	14	16	0	14	16
Westminster	-17	16	-10	3	-7	19	0	-7	19
Central services area	**-42**	**139**	**-3**	**31**	**124**	**178**	**6**	**117**	**172**
Thames Gateway	**-20**	**139**	**1**	**1**	**121**	**145**	**109**	**12**	**36**
Lea Valley	**-13**	**37**	**-3**	**0**	**21**	**37**	**11**	**10**	**26**
Park Royal / A40 / Heathrow	**-49**	**137**	**-3**	**13**	**98**	**152**	**17**	**81**	**135**
Wandle Valley	**-9**	**60**	**-2**	**2**	**52**	**63**	**3**	**49**	**60**
London	**-132**	**512**	**-10**	**47**	**416**	**574**	**147**	**270**	**428**

15.2 Balancing across Class E uses

Table 15-2 summarises gross demand for new floorspace between 2024 and 2050 for all Class E uses.

Table 15-3 provides an indicative estimate of net demand for new Class E floorspace between 2024 and 2050, based on 60% of pipeline floorspace supply being subtracted from gross demand. A 40% reduction to pipeline floorspace supply has been applied as evidence from MHCLG planning application statistics which suggests that around 60% of commercial planning permissions get built. Indoor sport and fitness, Creches and nurseries and health facilities are not included in this table as pipeline data is not available for these uses. There is demand for 7.5 million sqm of Class E floorspace across London, the majority of which (around 5 million sqm) is driven by office demand.

After allowing for assumed pipeline delivery, London has a substantial shortfall of around 5 million sqm of Class E and sui generis food and beverage floorspace between 2024 and 2050. This shortfall is primarily driven by office floorspace, with a net requirement of around 3.2 million sqm, equivalent to roughly two thirds of the London total. There are also notable shortfalls in Food and beverage uses (2 million sqm, 25%), retail (800,00 sqm, 15%), and R&D (200,000 sqm, 4%). By contrast, light industrial shows a surplus of around 250,000 sqm due to the projected contraction in demand of this use class.

The largest net shortfalls are concentrated in central and inner London boroughs, particularly the City of London (1 million sqm), Islington (500,000 sqm) and Westminster (550,000 sqm), reflecting the continued concentration of office demand in established employment locations. The main outlier is Hammersmith & Fulham, which shows a net surplus of around 70,000 sqm, driven by a large R&D pipeline.

Table 15-2: Gross demand (before subtracting pipeline) for new Class E floorspace, 2024-2050 (sqm. GIA)

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professio -nal services	Indoor sport and fitness	Creches and nurseries	Total
Barking & Dagenham	19100	3800	41800	2200	32600	-3600	2200	800	**98800**
Barnet	68600	28400	76100	1300	-13200	-11500	7300	1900	**158900**
Bexley	-3700	10300	29800	200	-7100	-6700	1600	-100	**24300**
Brent	27900	19000	41600	9100	-20100	-8100	3200	700	**73200**
Bromley	25600	24800	34800	800	-20300	-10200	4400	800	**60600**
Camden	16600	108600	220000	79100	-18900	-10200	3600	400	**399200**
City of London	17700	82300	1393300	50500	20400	-5500	3300	100	**1562100**
Croydon	53000	20000	94100	900	-2600	-11100	5300	1200	**160800**
Ealing	28300	27000	92500	2700	6600	-9800	4200	800	**152300**
Enfield	12700	10900	57000	500	-14000	-9600	2900	400	**60800**
Greenwich	34900	34900	44400	1100	-6300	-6500	3900	1200	**107600**
Hackney	5800	11400	254200	17600	-100	-7100	2200	400	**284400**
Hammersmith & Fulham	53900	45400	97700	65800	3500	-10200	4500	1200	**261900**
Haringey	27500	14700	78500	600	-12900	-8000	3800	1000	**105200**
Harrow	21200	8800	60000	1700	-11100	-6300	2600	400	**77300**
Havering	155000	29600	40100	300	-5800	-8300	7900	3000	**221800**
Hillingdon	71500	47500	106300	8400	1900	-8500	6100	1800	**234900**
Hounslow	18300	13600	127300	24300	5500	-6000	4800	500	**188300**
Islington	10200	28600	454400	40600	6800	-8200	3000	400	**535800**
Kensington & Chelsea	26500	68100	98000	8400	-6200	-8800	1700	200	**187900**
Kingston	3800	18000	12400	1700	-14400	-5400	2000	400	**18500**
Lambeth	7900	47700	149100	27300	23400	-8600	3500	900	**251200**

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professio-nal services	Indoor sport and fitness	Creches and nurseries	Total
Lewisham	9100	9200	57300	1800	1400	-7200	2400	600	**74600**
Merton	4600	20200	30300	1300	-3800	-5400	3200	300	**50700**
Newham	62500	45300	29000	1600	21900	-10100	4700	1400	**156300**
Redbridge	25200	15400	33800	600	-4700	-8300	3000	500	**65500**
Richmond	-10100	28700	26200	25800	-5100	-6900	1600	200	**60400**
Southwark	40900	86200	373700	33400	14800	-8700	5700	2000	**548000**
Sutton	3000	7700	25400	16300	4900	-5900	1900	100	**53400**
Tower Hamlets	32700	58000	373700	27900	22100	-8300	6000	1300	**513400**
Waltham Forest	12300	4400	22400	400	-4500	-8700	2400	200	**29000**
Wandsworth	12000	33100	47000	1900	2300	-10300	5400	1100	**92500**
Westminster	83500	294400	348500	34700	-100200	-19400	4300	200	**646100**
CAZ	**152700**	**625600**	**2433000**	**125500**	**-18500**	**Data not available**	**Data not available**	**Data not available**	**Data not available**
NIOD	**9800**	**32000**	**212900**	**11600**	**7400**	**Data not available**	**Data not available**	**Data not available**	**Data not available**
London	**977900**	**1306200**	**4970400**	**490800**	**-103200**	**-277400**	**124800**	**26400**	**7515900**

Note: Arup and Nexus analysis of various datasets. This table excludes Health facilities as demand data is not available for this Class E use.

Table 15-3: Indicative net demand (after subtracting 60% of pipeline) for new Class E*, 2024-2050 (sqm. GIA)

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professional services	Total
Barking & Dagenham	19900	3500	41600	1800	31800	-4400	98,100
Barnet	81800	26600	83700	1300	-11800	-11400	179,300
Bexley	-2600	10100	34800	200	-7600	-6200	29,600
Brent	22300	18500	44500	8500	-27200	-8800	62,500
Bromley	27700	24400	40300	700	-20900	-9600	67,200
Camden	5700	106500	55200	79100	-16900	-8700	223,400
City of London	5300	83400	806100	50500	20400	-5700	963,600
Croydon	51800	18200	62000	900	-2800	-11600	125,600
Ealing	23800	22000	57400	2300	-17200	-9600	83,500
Enfield	32700	6000	55400	800	-45600	-9500	43,100
Greenwich	25500	32000	65100	1100	-13600	-8800	108,700
Hackney	200	7300	163100	17600	-12100	-9500	171,600
Hammersmith & Fulham	52000	41900	-1100	-160100	2100	-11900	-69,700
Haringey	31400	16200	74200	500	-19600	-7700	99,500
Harrow	19100	8700	56200	-2000	-16400	-6300	62,300
Havering	145600	28200	44800	300	-11300	-7100	210,200
Hillingdon	74800	47800	119800	8100	-9500	-8800	240,500
Hounslow	18800	11800	135800	23600	700	-5600	190,000
Islington	9800	27800	423300	33100	3300	-8300	492,400
Kensington & Chelsea	23600	65900	73500	8400	-5400	-8700	159,100
Kingston	2900	17000	-6900	1700	-16900	-5000	-5,400
Lambeth	7300	45300	-76500	27400	22400	-9000	21,700
Lewisham	22600	4900	42400	1800	-12400	-7700	55,200

Geography	Retail	Food and beverage (Class E(b))	Office	R&D	Light industrial	Financial and professional services	Total
Merton	-4800	18800	32900	1300	-7500	-5500	38,800
Newham	52000	40600	-13300	1000	20500	-13900	96,800
Redbridge	29200	14500	39600	600	-1400	-8300	77,700
Richmond	-7600	29300	25300	25700	-2900	-6300	64,800
Southwark	-101200	84000	228000	32000	2400	400	244,300
Sutton	9100	7500	27700	11300	6100	-6100	58,000
Tower Hamlets	3600	43500	187900	-18300	19700	-19500	235,400
Waltham Forest	12900	1500	23700	100	-5600	-9600	26,600
Wandsworth	5800	29300	-3800	1900	-1600	-18300	27,700
Westminster	67800	289900	281500	32000	-100300	-15400	556,000
CAZ	**37700**	**611800**	**1097600**	**116200**	**-20700**	Data not available	Data not available
NIOD	**-17400**	**21300**	**-3500**	**-33400**	**7800**	Data not available	Data not available
London	**768900**	**1233100**	**3224000**	**195300**	**-256800**	**-292300**	**5038300**

Source: Arup and Nexus analysis of ONS, CoStar, GLA and Planning London Datahub (2026) data. Note: This table excludes Indoor sport and fitness, Health facilities and Creches and nurseries as pipeline data is not available for these Class E uses.

16 Site selection and policy recommendations

This chapter assesses the equalities, diversity and inclusion implications of London's employment prospects and economic floorspace supply and demand up to 2050 and proposes potential mitigations to negative implications. It then provides a series of site selection and policy recommendations which have been constructed based on the findings of this study.

16.1 Equalities, diversity and inclusion – impacts and mitigations

Equality, diversity and inclusion considerations are an important cross-cutting consideration related to site selection and mitigation measures.

Table 16-1 below sets out the key impacts on equality, diversity and inclusion related to London's employment prospects and economic floorspace supply and demand up to 2050 which may occur without appropriate policy intervention. A number of potential mitigations have been suggested. Table 16-2 identifies and provides relevant baseline information on protected characteristic groups / boroughs / businesses which are likely to be impacted, and the drivers of these impacts (which are identified in in Table 16-1).

Table 16-1: Equality, diversity and inclusion impacts and mitigation strategies

Driver	Potential impacts	Potential mitigation
Employment change by sector	Decreased employment in manufacturing (and negative demand for general industrial and light industrial floorspace) may lead to an unequal negative impact for groups with employment over-represented in this sector.	To balance the needs of existing industrial occupiers including for creative and cultural production, whilst managing the transfer of surplus general and light industrial space to meet other important land use demand where viable or there are local employment strategies (which will have an above average effect in areas with over-representation).
Employment change by sector	Decreased employment in retail and wholesale may lead to an unequal negative impact for groups with employment over-represented in this sector.	Support training/retraining to enter other sectors including the hospitality sector.
Employment change by sector	Decreased employment in transport and storage may lead to an unequal negative impact for groups with employment over-represented in this sector. However, given the high level of demand for storage and distribution floorspace, the projected decline in transport and storage employment may not materialise.	Support appropriate provision of storage and distribution floorspace within the GLA boundary and local employment and skills policies (which will have an above average effect in areas with over-representation).
Employment change by sector	Growth in employment in office-based sectors (particularly higher paid office-based sectors) may disproportionately benefit people in groups with employment over-represented in these sectors.	Support office development in a range of well-connected locations including non-central locations (which will have an above average effect in areas with over-representation) and local employment and skills policies.
Office ‘flight to quality’	Potential for loss of office floorspace in sub-prime locations	Targeted protection of office floorspace where there is evidence of need in sub-prime locations including through affordable workspace policies.

Driver	Potential impacts	Potential mitigation
Industrial land supply shortfall/surplus	May be difficult to locate employment where it is needed - boroughs with high unemployment / employment deprivation but an industrial land under-supply may not benefit from growth proportionately.	Ensure new industrial developments are appropriate to the surrounding environment (i.e. general industrial and storage and distribution not in proximity to residential unless mitigations are in place), and buildings meet all relevant environmental standards. Also improve their connectivity by continuing to minimise car parking and promoting best practice and innovation e.g. regarding last mile logistics and the use of electric vehicles.
Industrial land supply shortfall/surplus	May be disproportionate levels of congestion and environmental impacts (compared to benefits) in boroughs with a large available industrial land supply. This is a particular issue in boroughs with the highest levels of 'outdoor living environment' deprivation'.	Ensure new industrial developments are appropriate to the surrounding environment (i.e. general industrial and storage and distribution not in proximity to residential unless mitigations are in place), and buildings meet all relevant environmental standards. Also improve their connectivity by continuing to minimise car parking and promoting best practice and innovation e.g. regarding last mile logistics and the use of electric vehicles.
Availability of affordable workspace	Constrained land supply may lead to increased rents and worsened business viability. This is particularly likely to impact sole proprietors, non-profit bodies and mutual associations and micro-enterprises.	Ensure an appropriate balance between workspace of different types, quality and price points to provide choice for occupiers. Strong and appropriate policy guidance regarding the provision of affordable workspace. Access to grants and no/low interest finance for businesses facing affordability constraints.

Table 16-2: Equality, diversity and inclusion impacts and mitigation strategies

Relevant protected characteristic groups / boroughs / businesses and baseline position *(Source: Arup analysis of ONS/GLA equalities, diversity and inclusion data)*	**Related driver(s)**
Older people (over 50) – employment over-represented in transport and storage and some office-based sectors but under-represented in higher-wage office-based sectors. Young people (16-24) – employment over-represented in retail, wholesale and hospitality sectors but under-represented in transport and storage, manufacturing and a number of (including higher-wage) office-based sectors Disabled people – employment under-represented in transport and storage, manufacturing and a number of (including higher-wage) office-based sectors. Gender identity different to at birth – employment over-represented in retail wholesale and hospitality sectors but under-represented in a number of (including higher-wage) office-based sectors Unmarried or not in civil partnership – employment under-represented in transport and storage Widowed/surviving partner, separated or divorced/dissolved – employment over-represented in transport and storage and some office-based sectors but under-represented in higher-wage office-based sectors Black and minority ethnic people – employment over-represented in retail, wholesale and hospitality sectors and transport and communication but marginally under-represented in a number of office-based sectors (including some higher wage sectors) and in manufacturing. Christian people – employment under-represented in some higher wage office-based sectors. Muslim people – employment over-represented in transport and storage, wholesale, retail and vehicle repair, and accommodation and food services but under-represented in some higher-wage office-based sectors. Hindu people - employment over-represented in transport and storage, wholesale, retail and vehicle repair, and information and communication Sikh people - employment over-represented in transport and storage, wholesale, retail and vehicle repair, and manufacturing but are under-represented in a number of higher-wage office-based sectors. Jewish people – employment over-represented in a number of higher-wage office-based sectors but under-represented in transport and storage and accommodation and food services.	Employment change by sector

Relevant protected characteristic groups / boroughs / businesses and baseline position *(Source: Arup analysis of ONS/GLA equalities, diversity and inclusion data)*	**Related driver(s)**
Buddhist people – employment over-represented in accommodation and food services and marginally under-represented across office-based sectors. Females – over-represented in public admin, education and health (a generally office-based sector) but under-represented in transport and communication and to a lesser extent in manufacturing. LGBTQ+ people – over-represented in but marginally under-represented in the manufacturing sector.	
Based on ONS Q2 2026 data, the following boroughs have an unemployment rate above the London average (5.5%): • Newham (8.7%) • Barking and Dagenham (8.2%) • Brent (8.2%) • Haringey (6.9%) • Southwark (6.5%) • Lambeth (6.4%) • Greenwich (6.4%) • Tower Hamlets (5.9%) • Enfield (5.9%) • Lewisham (5.8%) • Redbridge (5.8%) • Kensington and Chelsea (5.7%) • Waltham Forest (5.7%)	Office 'flight to quality' Industrial land supply shortfall/surplus

Relevant protected characteristic groups / boroughs / businesses and baseline position *(Source: Arup analysis of ONS/GLA equalities, diversity and inclusion data)*	**Related driver(s)**
Enfield, Haringey, Barking and Dagenham, Newham, Tower Hamlets, Brent and Hackney are the most 'employment deprived' boroughs according to the 2025 English Indices of Deprivation. Haringey, Tower Hamlets, Brent and Hackney have an under-supply of industrial land.	
Barking and Dagenham and Bexley have a particularly large supply of available industrial land. Of these, Barking and Dagenham, Ealing, Enfield and Havering are all within the top 20% of English local authorities in terms of living environment deprivation.	Industrial land supply shortfall/surplus
Retail: • 8% of retail units in London are ran by sole proprietors and 2% are ran by non-profit bodies or mutual associations. • 85% of retail units in London are ran by micro-enterprises (0-9 in employment) and 69% have less than 5 in employment. Offices: • 8% of units of businesses in broadly office-based sectors in London are ran by sole proprietors and 2% are ran by non-profit bodies or mutual associations. • 90% of units of businesses in broadly office-based sectors in London are ran by micro-enterprises (0-9 in employment) and 81% have less than 5 in employment. General/light industrial: • 8% of units of manufacturing businesses in London are ran by sole proprietors.	Availability of affordable workspace

Relevant protected characteristic groups / boroughs / businesses and baseline position *(Source: Arup analysis of ONS/GLA equalities, diversity and inclusion data)*	**Related driver(s)**
• 88% of units of manufacturing businesses in London are ran by micro-enterprises (0-9 in employment) and 75% have less than 5 in employment. • 20% of units of arts, entertainment and recreation businesses in London are ran by sole proprietors and 6% are ran by non-profit bodies or mutual associations. • 91% of units of arts, entertainment and recreation businesses in London are ran by micro-enterprises (0-9 in employment) and 80% have less than 5 in employment. Arup analysis of ONS Business Demography data (business births and survival rates) suggests that around a third of London businesses are likely to be less than 5 years old. London's Creative Industries – Sector deep dive[58] suggests that 12% of GVA and 15% of employment in London is generated by the creative industries (Evidence[59] suggests that creative enterprises have a particularly significant need for affordable workspace)	

[58] GLA (2023), London's Creative Industries – Sector deep dive

[59] Business London (2022), Delivering Affordable Workspace in London

16.2 Industrial land site selection and protection recommendations

There is a significant need for additional industrial land supply to meet demand for storage and distribution floorspace. To meet this need, all possible supply options will need to be considered including:

- Intensification of existing industrial land
- Re-purposing of suitable industrial and non-industrial sites (particularly brownfield sites)
- Land outside of London's built-up area

Storage and distribution needs should continue to be reviewed in relation to housing delivery targets and plans given their dependency (as if housing delivery targets and plans change, storage and distribution needs will change).

Intensification, changes of use and development should be supported by necessary investment in transport infrastructure – work should be undertaken to identify the investments required as soon as possible with funding sources identified. Where possible, more sustainable freight movements should be prioritised (e.g. rail).

The following sections set out more detailed guidance regarding the above supply options.

16.2.1 Storage and distribution site selection

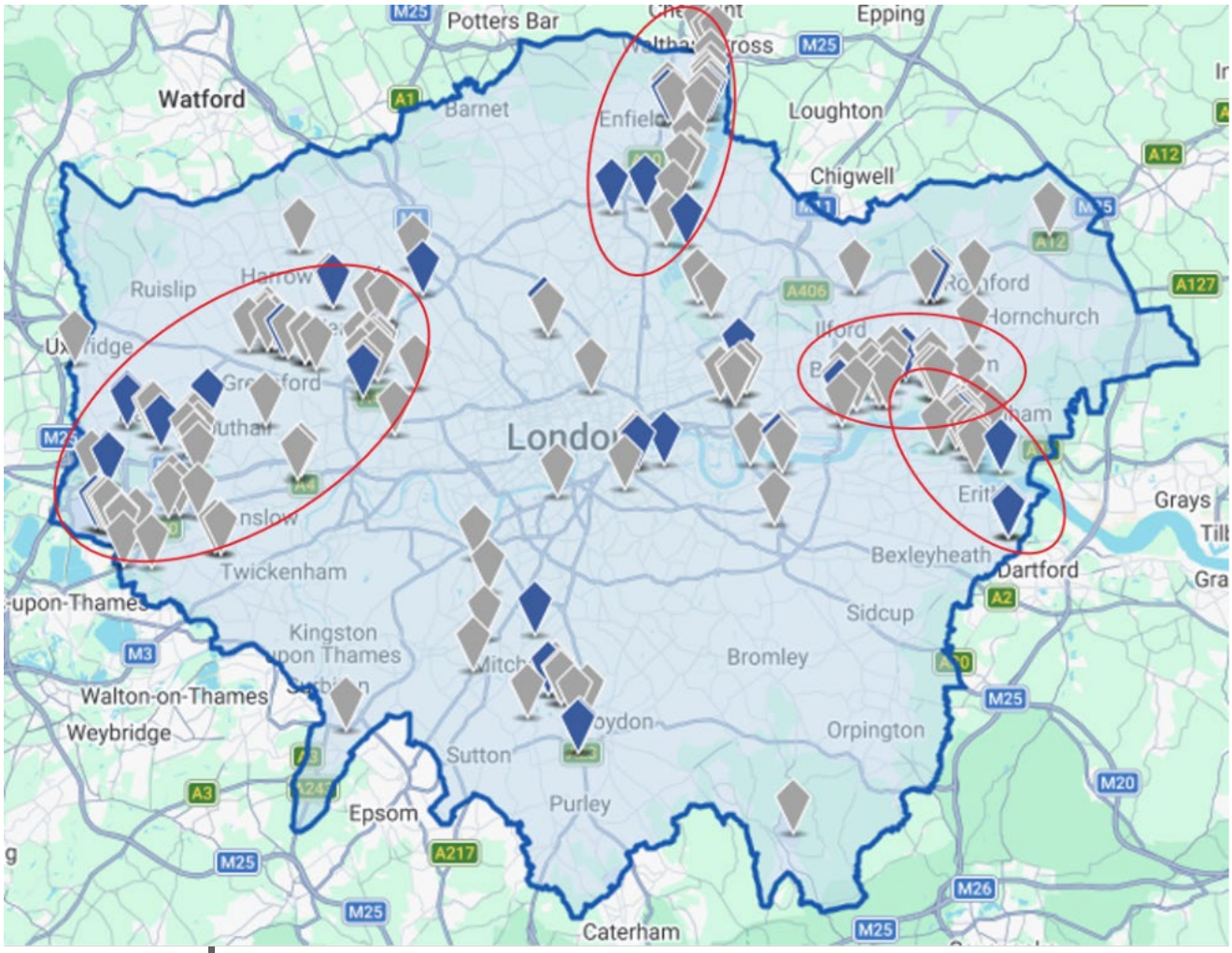
There is a need for a mix of types of storage and distribution floorspace to serve London. High-level site selection recommendations for two broad types of space are set out in Table 16-4 below:

Table 16-3 Storage and distribution site requirements, selection criteria and search locations

	Strategic logistics (regional distribution centres and last mile facilities)	Urban logistics
Floorspace and land requirements	10,000 sqm plus with plot ratios of 0.4-0.6	Plot ratios ranging from 0.25 for high-throughput cross-docking facilities to 2 (multi-storey) for more traditional warehousing which requires lower throughout
Indicative proportion of floorspace requirement	20%	80%
Key site selection criteria	• Direct motorway / strategic road network access • Good access to ports airports or rail freight terminals • At least 5 hectares in size • Limited residential amenity constraints	• Mix of site sizes – maximum of 5 ha required for a single building with development viable on sites of less than 1 ha • Mix of site shapes (e.g. cross-docking facilities require many loading bays relative to their size and hence can be accommodated on long-narrow sites) • Avoid highly congested areas of the road network • Limited planning constraints / distance from residential areas (particularly for multi-storey development) • Good public transport accessibility / Access to labour • Access to key town centres / central London • Grid capacity to support EV charging

	Strategic logistics (regional distribution centres and last mile facilities)	Urban logistics
Broad search locations within London	Initial search locations / areas with existing concentrations of strategic stock (see Figure 16-1 for map): • Thames Gateway / A13 corridor (East London to the north of the River) • South East London Logistics Cluster (to the south of the river, provides strong access to English Channel ports) • Lea Valley / A10 corridor (North London) • West London Logistics Corridor (Heathrow to Park Royal, West London) If necessary, search locations could extend to other key transport corridors in less established locations such as: • South of the South East London Logistics corridor along the A2/A10 corridors (benefiting from access to channel ports and river crossings) • M25 junctions around GLA boundary (benefitting from direct motorway access, land availability and less conflict with residential uses) • A1 corridor (benefitting from connectivity to the North of England and North London)	London wide but need/viability increases with population density

Figure 16-1: Map of strategic storage and distribution (10,000 sqm plus) with key search locations / existing concentrations



Source: CoStar

Opportunity Areas (OAs) which are identified as having a continued industrial role could play an important role in meeting storage and distribution needs. Such OAs could potentially include: London Riverside; Lee Valley; Old Oak and Park Royal; Royal Docks and Beckton Riverside; Bexley Riverside; Brent Cross-Cricklewood; Old Kent Road; Greenwich Peninsula and Charlton Riverside. This may present a sustainable and viable option to serve relevant customers and markets.

16.2.2 Re-purposing industrial sites

Given the forecast negative net demand for general industrial and light industrial floorspace, there is potential to repurpose some of this space for storage and distribution use. However, applications for changes of use from general light industrial to storage and distribution should all be considered on their merits – there are a number of reasons for retaining industrial and light industrial floorspace including:

- The London Growth Plan identifies 'creative industries including creative technologies' as a 'global city sector'. The Growth Plan also identifies that many businesses in this sector need studios and makerspaces and that smaller-scale affordable spaces are limited. Whilst, some TV and film production facilities are being offloaded by production companies (and could be repurposed for storage

and distribution use), the Growth Plan highlights this sub-sector as being a key part of the creative sector in London.

- The London Growth Plan also identifies 'frontier innovation' as a growth sector. This innovation in health sciences, deep tech such as robotics and climate tech. The Growth Plan states that, as well as offices, this sector needs R&D space (which could be re-purposed industrial space), workshops and small factories.
- London's manufacturing business contribute are a significant part of London's supply chain, particularly in food and drink, clothes, printing and construction materials, according to the London Growth Plan. The Growth Plan argues that by investing in innovation, these sectors can become more productive.
- Loss of employment in manufacturing (and creative sectors) will have EDI implications - protecting the diversity of London's economy will help protect and support London's diverse population.

It is important to balance the needs of existing general-industrial and light-industrial floorspace occupiers including for creative and cultural production, whilst managing the transfer of surplus space to meet other important land use demand where viable. This is in particular needed in 'internationally significant creative clusters', 'sub-regional creative industries clusters', 'innovation districts', 'life science clusters', 'green innovation clusters', 'industrial innovation corridors' and 'key industrial innovation sites' (see London Growth Plan for definition of these geographies). Such space should also be offered protections in areas of high unemployment and/or employment related deprivation and in areas with concentrations of protected groups which are over-represented in the manufacturing and related sectors.

16.2.3 Identifying land outside of London's built up area

The GLA should engage specifically with outer London Boroughs and also with non-London Boroughs regarding the potential need to meet some of London's storage and distribution needs outside London's current built up area, where appropriate and feasible, at the earliest possible opportunity. This could be supported by a storage and distribution study for the Wider South-East.

16.3 R&D policy recommendations

Even after considering pipeline supply, there is likely to be significant demand for high quality and specialist R&D space (e.g. labs for life sciences). Such development is supported by the London Growth Plan. The GLA should support the development of R&D clusters, including the extension of existing clusters, such as the Camden Knowledge Quarter. Some R&D floorspace can potentially be accommodated outside industrial land, in particular in town centres and in life sciences and innovation clusters, such as those identified in the London Growth Plan.

16.4 Office policy recommendations

There is significant demand for new office space across the London Plan period. This demand is primarily for high quality space in prime locations (including the CAZ/NIOD and town centres in boroughs with identified demand). The GLA should support office development in such locations.

There is also a need to maintain a supply of more affordable secondary office space to:

- Meet significant levels of demand from growing businesses which cannot yet afford prime space.

- Ensure that office space isn't over-concentrated in the CAZ/NIOD and prime town centres across London by supporting office use where it is viable across town centres, maintaining a sufficient supply of prime and secondary offices to meet occupier demand and repurposing surplus office space to alternative uses.

Article 4 Directions to remove Class E to residential permitted development rights should be encouraged where there is a risk that occupied office space and associated employment is vulnerable to loss via such rights and to support town centre vitality and viability.

Some existing office space (particularly in sub-prime locations) is likely to become unviable to maintain, redevelop for offices and/or upgrade (particularly due to MEES – approximately 80% of existing office space is not likely to meet proposed MEES of B or above by 2030). In this context, re-development for housing and other commercial uses should be supported where appropriate, with re-provision elsewhere in order to meet forecast demand.

16.5 Class E Town Centre uses policy recommendations

Demand for 'town centre' uses should be accommodated across existing 'town centres', high streets, the CAZ and NIOD, as well as new 'town centres' to service fast growing population centres / address deficiencies in the town centre network.

As there is likely to be an over-supply of retail floorspace after considering pipeline supply, some existing and pipeline retail space could be repurposed to meet demand for other Class E uses and other town centre uses including leisure, experience economy uses, cultural consumption and cultural production infrastructure, night-time economic uses and social infrastructure. Repurposing surplus retail to housing is particularly appropriate in out-of-centre locations, and in town centre locations where this does not negatively impact the vitality of the town centre or result in the fragmentation of active high street frontages. Given the significant need for new food and beverage floorspace and the physical similarities with retail space, it is likely that significant amounts of existing and pipeline retail space will be repurposed for this use. Class E allows for this market adjustment with limited need for public sector intervention, however, the GLA could show support for such re-purposing in planning policy.

Article 4 Directions to remove Class E to residential permitted development rights should be encouraged to support the vitality and viability of town centres and high streets and to safeguard active frontages for town centre uses.

Appendices

A1 EPC data by borough

A1.1.1 Office and light industrial

EPC data combines Office and light industrial use classes so the analysis cannot distinguish between them at a granular level. Table 16-5 shows that, across London, 45% of properties are compliant with the proposed C standard for 2028 and 21% are compliant with the proposed B standard for 2030. The City of London has the highest proportion of B+ EPC ratings, with 34% of properties compliant, with other central geographies such as Islington Westminster and the CAZ similarly performing well.

Table A-1: Proportion of Office and light industrial properties by borough and Energy Performance Certificates (EPC) bands

Borough	A+	A	B	C	D	E	F	G
Barking and Dagenham	3%	9%	13%	20%	26%	19%	4%	5%
Barnet	0%	2%	14%	29%	28%	17%	5%	5%
Bexley	0%	6%	9%	26%	31%	19%	5%	6%
Brent	0%	3%	12%	31%	28%	18%	4%	5%
Bromley	0%	2%	9%	27%	34%	17%	3%	7%
Camden	0%	4%	20%	26%	26%	15%	3%	6%
City of London	0%	4%	30%	25%	20%	15%	3%	2%
Croydon	0%	2%	12%	22%	31%	21%	5%	7%
Ealing	0%	4%	9%	24%	34%	18%	4%	6%
Enfield	0%	4%	8%	18%	32%	21%	6%	10%
Greenwich	0%	6%	13%	23%	25%	22%	3%	8%
Hackney	0%	4%	22%	29%	24%	16%	2%	4%
Hammersmith and Fulham	0%	3%	15%	26%	29%	17%	4%	6%
Haringey	0%	2%	11%	24%	31%	21%	4%	5%
Harrow	0%	1%	10%	25%	36%	18%	4%	5%
Havering	0%	1%	10%	27%	33%	19%	4%	6%
Hillingdon	0%	3%	11%	25%	30%	21%	5%	5%
Hounslow	0%	3%	16%	26%	32%	15%	3%	5%
Islington	0%	4%	26%	26%	25%	12%	3%	4%
Kensington and Chelsea	0%	3%	16%	24%	26%	19%	4%	7%
Kingston upon Thames	0%	3%	9%	24%	36%	18%	5%	6%
Lambeth	0%	7%	18%	20%	32%	15%	2%	4%

Borough	A+	A	B	C	D	E	F	G
Lewisham	0%	5%	9%	19%	32%	22%	4%	9%
Merton	0%	2%	11%	25%	32%	20%	3%	7%
Newham	0%	9%	12%	22%	29%	16%	3%	7%
Redbridge	0%	2%	8%	29%	29%	20%	6%	6%
Richmond upon Thames	0%	5%	14%	28%	27%	18%	4%	4%
Southwark	0%	7%	21%	22%	25%	17%	3%	4%
Sutton	0%	1%	8%	22%	37%	18%	6%	8%
Tower Hamlets	0%	5%	16%	27%	28%	16%	3%	5%
Waltham Forest	0%	5%	8%	18%	39%	22%	2%	6%
Wandsworth	0%	4%	13%	23%	31%	15%	5%	7%
Westminster	0%	3%	24%	24%	25%	15%	4%	5%
CAZ	**0%**	**4%**	**26%**	**25%**	**24%**	**15%**	**3%**	**4%**
NIOD	**0%**	**2%**	**19%**	**24%**	**23%**	**12%**	**11%**	**9%**
London	**0%**	**4%**	**17%**	**25%**	**28%**	**17%**	**4%**	**5%**

Source: Arup analysis of DLUHC data. Colour scale (light green to dark green) indicates the relative EPC shares by borough (from lowest to highest).

A1.1.2 General industrial

Table 16-6 shows that 43% of London's general industrial properties are compliant with the proposed EPC C standard for 2028 and 15% are compliant with the EPC B standard for 2030. At the borough level, Bromley has the highest share of eligible stock for 2028 at 53%, while Hillingdon leads for 2030 with 26% B+ compliant.

Table A-2: Proportion of general industrial properties by borough and Energy Performance Certificates (EPC) bands

Borough	A+	A	B	C	D	E	F	G
Barking and Dagenham	0%	6%	6%	29%	34%	17%	2%	6%
Barnet	0%	4%	10%	26%	25%	27%	4%	3%
Bexley	0%	4%	9%	34%	26%	20%	4%	4%
Brent	1%	1%	11%	32%	33%	19%	1%	2%
Bromley	0%	19%	11%	23%	28%	12%	2%	6%
Camden	0%	7%	3%	11%	33%	33%	6%	7%
City of London	0%	1%	6%	22%	44%	17%	5%	6%
Croydon	1%	4%	11%	27%	34%	17%	3%	3%
Ealing	3%	7%	14%	24%	31%	16%	2%	2%

Borough	A+	A	B	C	D	E	F	G
Enfield	0%	1%	8%	32%	33%	16%	5%	6%
Greenwich	0%	9%	7%	17%	33%	17%	11%	7%
Hackney	0%	0%	4%	23%	40%	26%	3%	4%
Hammersmith and Fulham	1%	3%	8%	21%	33%	24%	4%	8%
Haringey	0%	0%	14%	28%	26%	25%	2%	6%
Harrow	2%	18%	5%	27%	26%	14%	4%	3%
Havering	0%	3%	18%	31%	26%	17%	4%	2%
Hillingdon	1%	4%	21%	33%	25%	10%	1%	4%
Hounslow	0%	0%	5%	30%	26%	25%	10%	5%
Islington	0%	0%	3%	3%	21%	50%	6%	18%
Kensington and Chelsea	0%	8%	8%	38%	28%	15%	1%	3%
Kingston upon Thames	0%	0%	8%	28%	34%	23%	2%	4%
Lambeth	5%	0%	5%	25%	32%	23%	4%	5%
Lewisham	0%	1%	8%	26%	40%	18%	3%	5%
Merton	0%	7%	8%	26%	40%	11%	4%	4%
Newham	0%	0%	3%	30%	33%	18%	5%	11%
Redbridge	0%	0%	10%	21%	42%	19%	2%	6%
Richmond upon Thames	1%	7%	10%	28%	23%	21%	7%	3%
Southwark	2%	5%	10%	38%	27%	14%	3%	2%
Sutton	0%	1%	16%	16%	38%	17%	5%	7%
Tower Hamlets	0%	0%	11%	36%	27%	18%	4%	4%
Waltham Forest	0%	3%	6%	28%	42%	17%	1%	4%
Wandsworth	0%	0%	15%	35%	15%	12%	12%	12%
Westminster	0%	8%	5%	40%	30%	15%	3%	0%
CAZ	**0%**	**2%**	**19%**	**32%**	**11%**	**15%**	**13%**	**9%**
NIOD*	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**	**0%**
London	**1%**	**4%**	**10%**	**28%**	**31%**	**18%**	**3%**	**4%**

Source: Arup analysis of DLUHC data. Colour scale (light green to dark green) indicates the relative EPC shares by borough (from lowest to highest). Note that there is only one general industrial property counted in the NIOD, which is EPC F standard.

A1.1.3 Storage and distribution

Table 16-7 shows that for storage and distribution properties, half of London's stock is compliant with the EPC C standard for 2028 and 19% is compliant with the EPC B standard for 2030 (B+). At borough level, the City of London stands out with 54% of stock already at B or better, the highest share of 2030 compliant properties.

Table A-3: Proportion of storage and distribution properties by borough and Energy Performance Certificates (EPC) bands

Borough	A+	A	B	C	D	E	F	G
Barking and Dagenham	5%	3%	13%	33%	26%	13%	3%	3%
Barnet	0%	3%	9%	24%	37%	22%	1%	5%
Bexley	1%	3%	14%	37%	30%	12%	2%	2%
Brent	1%	3%	15%	34%	29%	14%	2%	2%
Bromley	1%	15%	14%	32%	24%	8%	3%	3%
Camden	0%	1%	13%	38%	28%	10%	1%	9%
City of London	0%	9%	45%	0%	18%	18%	0%	9%
Croydon	1%	4%	12%	31%	29%	16%	4%	3%
Ealing	1%	3%	15%	34%	29%	12%	2%	4%
Enfield	3%	4%	14%	29%	28%	14%	4%	3%
Greenwich	0%	3%	10%	36%	29%	15%	4%	4%
Hackney	1%	2%	5%	33%	27%	18%	7%	6%
Hammersmith and Fulham	0%	0%	5%	26%	24%	30%	8%	8%
Haringey	5%	3%	9%	23%	34%	19%	3%	4%
Harrow	0%	8%	9%	29%	30%	17%	2%	5%
Havering	1%	7%	14%	31%	28%	12%	3%	2%
Hillingdon	2%	9%	14%	31%	25%	14%	3%	2%
Hounslow	3%	5%	15%	33%	28%	12%	2%	2%
Islington	0%	3%	15%	31%	27%	16%	1%	7%
Kensington and Chelsea	0%	0%	13%	19%	19%	29%	6%	13%
Kingston upon Thames	4%	3%	12%	36%	30%	9%	3%	3%
Lambeth	0%	6%	11%	38%	18%	14%	10%	3%
Lewisham	0%	1%	19%	22%	22%	14%	7%	16%
Merton	0%	2%	11%	35%	31%	14%	3%	3%

Borough	A+	A	B	C	D	E	F	G
Newham	1%	3%	6%	39%	27%	15%	5%	4%
Redbridge	3%	6%	8%	25%	36%	12%	3%	7%
Richmond upon Thames	0%	2%	8%	30%	36%	22%	2%	1%
Southwark	0%	0%	7%	29%	38%	16%	3%	6%
Sutton	3%	6%	22%	29%	28%	8%	3%	2%
Tower Hamlets	0%	4%	14%	18%	36%	19%	4%	4%
Waltham Forest	0%	3%	13%	27%	33%	19%	2%	4%
Wandsworth	1%	3%	13%	27%	32%	13%	3%	6%
Westminster	0%	9%	9%	15%	38%	20%	9%	0%
CAZ	**0%**	**4%**	**11%**	**22%**	**34%**	**15%**	**6%**	**9%**
NIOD	**0%**	**0%**	**62%**	**0%**	**38%**	**0%**	**0%**	**0%**
London	**2%**	**4%**	**13%**	**31%**	**29%**	**15%**	**3%**	**4%**

Source: Arup analysis of DLUHC data. Colour scale (light green to dark green) indicates the relative EPC shares by borough (from lowest to highest).

A1.1.4 Retail, financial and professional services

Table 16-8 shows that 59% of London's Retail, financial and professional services stock is compliant with the EPC C standard for 2028 and 21% is compliant with the EPC B standard for 2030. Newham has the highest share of eligible stock for 2030 with 33% rated B+.

Table A-4: Proportion of Retail, financial and professional services properties by borough and Energy Performance Certificates (EPC) bands

Borough	A+	A	B	C	D	E	F	G
Barking and Dagenham	0%	2%	14%	42%	29%	8%	2%	3%
Barnet	0%	2%	17%	40%	25%	9%	3%	4%
Bexley	0%	2%	16%	41%	26%	11%	2%	3%
Brent	0%	6%	21%	37%	23%	8%	2%	3%
Bromley	0%	1%	15%	39%	27%	11%	4%	4%
Camden	0%	2%	20%	39%	22%	9%	3%	5%
City of London	0%	2%	19%	34%	25%	12%	2%	6%
Croydon	0%	2%	17%	38%	28%	10%	2%	3%
Ealing	0%	3%	17%	41%	25%	8%	3%	3%
Enfield	0%	1%	17%	39%	27%	9%	3%	3%
Greenwich	0%	3%	21%	35%	25%	11%	2%	3%

Borough	A+	A	B	C	D	E	F	G
Hackney	0%	2%	20%	40%	24%	9%	3%	3%
Hammersmith and Fulham	0%	2%	28%	30%	21%	10%	3%	5%
Haringey	0%	1%	20%	39%	26%	9%	3%	3%
Harrow	0%	1%	17%	41%	25%	11%	2%	3%
Havering	0%	1%	14%	41%	28%	10%	3%	3%
Hillingdon	0%	1%	18%	41%	26%	9%	2%	2%
Hounslow	0%	3%	18%	38%	26%	10%	2%	3%
Islington	0%	3%	19%	37%	25%	10%	3%	4%
Kensington and Chelsea	0%	1%	19%	34%	23%	11%	4%	8%
Kingston upon Thames	0%	1%	19%	37%	23%	11%	3%	5%
Lambeth	0%	2%	17%	38%	25%	10%	4%	4%
Lewisham	0%	3%	15%	38%	27%	11%	3%	3%
Merton	0%	2%	20%	39%	23%	9%	2%	4%
Newham	0%	4%	29%	35%	21%	7%	2%	2%
Redbridge	0%	1%	15%	39%	29%	11%	2%	3%
Richmond upon Thames	0%	1%	15%	37%	26%	11%	4%	6%
Southwark	0%	5%	21%	37%	22%	9%	3%	4%
Sutton	0%	1%	13%	40%	30%	12%	2%	3%
Tower Hamlets	0%	3%	21%	39%	24%	8%	2%	3%
Waltham Forest	0%	3%	16%	39%	28%	8%	3%	3%
Wandsworth	0%	4%	21%	35%	24%	9%	3%	4%
Westminster	0%	2%	23%	34%	22%	9%	3%	7%
CAZ	**0%**	**3%**	**24%**	**34%**	**22%**	**9%**	**3%**	**6%**
NIOD	**0%**	**3%**	**27%**	**39%**	**25%**	**3%**	**1%**	**1%**
London	**0%**	**2%**	**19%**	**38%**	**25%**	**9%**	**3%**	**4%**

Source: Arup analysis of DLUHC data. Colour scale (light green to dark green) indicates the relative EPC shares by borough (from lowest to highest).

A1.1.5 Restaurants, cafes, drinking and takeaways

For restaurants, cafes, drinking and takeaway properties, 55% of London's stock is compliant with the EPC C standard for 2028 and 23% is compliant with the EPC B standard for 2030 (Table 16-9). This represents the highest proportion of compliant properties compared to other use classes analysed in this study, with the NIOD geography having the highest share for 2030 at 36% rated B+. No A+ ratings are provided for this use class.

Table A-5: Proportion of Restaurants, cafes, drinking and takeaway properties by borough and Energy Performance Certificates (EPC) bands

Borough	A	B	C	D	E	F	G
Barking and Dagenham	1%	15%	37%	34%	11%	2%	1%
Barnet	1%	19%	32%	31%	13%	3%	2%
Bexley	1%	17%	36%	28%	14%	3%	1%
Brent	2%	25%	31%	26%	11%	2%	2%
Bromley	1%	21%	35%	27%	13%	3%	1%
Camden	1%	23%	28%	26%	15%	4%	2%
City of London	4%	26%	26%	23%	13%	5%	3%
Croydon	2%	16%	34%	30%	14%	3%	2%
Ealing	2%	23%	32%	27%	13%	3%	1%
Enfield	1%	18%	35%	27%	13%	2%	3%
Greenwich	2%	23%	36%	24%	11%	2%	2%
Hackney	1%	24%	31%	25%	14%	4%	2%
Hammersmith and Fulham	0%	20%	34%	25%	16%	3%	2%
Haringey	1%	20%	38%	25%	10%	3%	3%
Harrow	1%	18%	39%	29%	8%	3%	2%
Havering	1%	16%	38%	29%	13%	2%	1%
Hillingdon	0%	22%	34%	27%	15%	2%	1%
Hounslow	1%	18%	34%	28%	13%	4%	1%
Islington	0%	20%	30%	28%	16%	3%	3%
Kensington and Chelsea	1%	22%	27%	28%	16%	4%	3%
Kingston upon Thames	1%	21%	32%	28%	15%	2%	3%
Lambeth	2%	18%	32%	29%	14%	3%	1%
Lewisham	0%	17%	35%	30%	13%	3%	2%
Merton	1%	18%	36%	29%	12%	2%	2%
Newham	2%	21%	35%	28%	10%	3%	2%
Redbridge	0%	16%	37%	27%	14%	3%	2%
Richmond upon Thames	1%	16%	33%	30%	16%	2%	2%
Southwark	2%	25%	32%	26%	11%	3%	1%
Sutton	1%	16%	36%	30%	13%	3%	2%

Borough	A	B	C	D	E	F	G
Tower Hamlets	2%	23%	29%	30%	11%	3%	1%
Waltham Forest	1%	21%	37%	25%	11%	3%	2%
Wandsworth	2%	21%	31%	26%	16%	3%	2%
Westminster	2%	30%	24%	24%	14%	4%	3%
CAZ	**2%**	**29%**	**25%**	**24%**	**14%**	**4%**	**3%**
NIOD	**4%**	**32%**	**18%**	**33%**	**9%**	**3%**	**1%**
London	**1%**	**22%**	**32%**	**27%**	**13%**	**3%**	**2%**

Source: Arup analysis of DLUHC data. Colour scale (light green to dark green) indicates the relative EPC shares by borough (from lowest to highest).

A2 Industrial PMAs

Borough	PMA
City of London	Central services area
Lambeth	Central services area
Westminster	Central services area
Islington	Central services area
Camden	Central services area
Kensington and Chelsea	Central services area
Southwark	Central services area
Lewisham	Central services area
Tower Hamlets	Central services area
Hackney	Central services area
Wandsworth	Central services area
Bexley	Thames Gateway
Havering	Thames Gateway
Redbridge	Thames Gateway
Barking and Dagenham	Thames Gateway
Greenwich	Thames Gateway
Bromley	Thames Gateway
Newham	Thames Gateway
Haringey	Lea Valley
Enfield	Lea Valley
Waltham Forest	Lea Valley
Barnet	Park Royal / A40 / Heathrow
Hammersmith and Fulham	Park Royal / A40 / Heathrow
Brent	Park Royal / A40 / Heathrow
Richmond upon Thames	Park Royal / A40 / Heathrow
Ealing	Park Royal / A40 / Heathrow
Harrow	Park Royal / A40 / Heathrow
Hillingdon	Park Royal / A40 / Heathrow
Hounslow	Park Royal / A40 / Heathrow
Croydon	Wandle Valley
Kingston upon Thames	Wandle Valley
Merton	Wandle Valley
Sutton	Wandle Valley

A3 Technical Annex: Retail, Food and Beverage Demand Assessment Methodology – by Nexus Analytics and Research

Link: London Plan Evidence | London City Hall

A4 Industrial floorspace and land demand, 2024-2036

Geography	General industrial floorspace (sqm)	General industrial land (ha)	Light industrial floorspace (sqm)	Light industrial land (ha)	R&D floorspace (sqm)	R&D land (ha)	Storage and distribution floorspace (sqm)	Storage and distribution land (ha)
Barking and Dagenham	12000	2.0	30000	3.5	1000	0.2	35000	7.6
Barnet	-14000	-2.3	-6000	-0.7	1000	0.1	79000	17.2
Bexley	-8000	-1.3	-6000	-0.6	0	0.0	79000	17.2
Brent	-42000	-6.9	-11000	-1.3	4000	0.5	31000	6.8
Bromley	-15000	-2.5	-15000	-1.7	0	0.0	44000	9.6
City of London	-8000	-2.9	-8000	-0.9	33000	4.4	30000	6.6
Camden	-17000	-1.3	9000	1.0	20000	2.7	3000	0.6
Croydon	0	0.0	3000	0.4	0	0.1	55000	12.0
Ealing	-48000	-8.0	5000	0.6	1000	0.1	41000	8.9
Enfield	-22000	-3.7	-5000	-0.6	0	0.0	31000	6.8
Greenwich	-2000	-0.4	0	0.0	0	0.1	43000	9.4
Hackney	-5000	-0.8	7000	0.8	9000	1.1	19000	4.1
Hammersmith and Fulham	1000	0.2	5000	0.6	35000	4.7	27000	6.0
Haringey	-3000	-0.4	-5000	-0.6	0	0.0	47000	10.2
Harrow	-9000	-1.6	-6000	-0.7	1000	0.1	40000	8.8
Havering	-10000	-1.7	-8000	-0.9	0	0.0	82000	17.8
Hillingdon	-27000	-4.5	-3000	-0.3	3000	0.4	78000	16.9
Hounslow	-10000	-1.7	6000	0.7	12000	1.5	34000	7.4
Islington	-9000	-1.5	6000	0.7	17000	2.3	21000	4.6
Kensington and Chelsea	-7000	-1.1	-2000	-0.3	4000	0.5	23000	5.1

Geography	General industrial floorspace (sqm)	General industrial land (ha)	Light industrial floorspace (sqm)	Light industrial land (ha)	R&D floorspace (sqm)	R&D land (ha)	Storage and distribution floorspace (sqm)	Storage and distribution land (ha)
Kingston upon Thames	-10000	-1.7	-8000	-0.9	1000	0.1	36000	7.9
Lambeth	-4000	-0.6	25000	2.9	16000	2.1	38000	8.3
Lewisham	-5000	-0.8	-1000	-0.1	1000	0.1	24000	5.3
Merton	-7000	-1.2	0	0.0	1000	0.1	26000	5.6
Newham	-7000	-1.2	16000	1.8	1000	0.1	6000	1.4
Redbridge	-5000	-0.8	-4000	-0.5	0	0.0	36000	7.9
Richmond upon Thames	-2000	-0.3	-1000	-0.2	11000	1.4	18000	3.9
Southwark	-7000	-1.1	22000	2.6	20000	2.6	53000	11.6
Sutton	-2000	-0.3	2000	0.3	7000	0.9	31000	6.7
Tower Hamlets	-8000	-1.3	23000	2.6	15000	2.0	38000	8.2
Waltham Forest	-12000	-2.0	-3000	-0.4	0	0.0	27000	6.0
Wandsworth	-7000	-1.2	6000	0.7	1000	0.1	35000	7.7
Westminster	-62000	-10.4	-55000	-6.5	13000	1.7	39000	8.6
Central services area	**-138000**	**-22.9**	**32000**	**3.7**	**148000**	**19.7**	**324000**	**70.6**
Thames Gateway	**-35000**	**-5.9**	**13000**	**1.6**	**3000**	**0.4**	**326000**	**71.0**
Lea Valley	**-36000**	**-6.1**	**-13000**	**-1.5**	**1000**	**0.1**	**105000**	**22.9**
Park Royal / A40 / Heathrow	**-150000**	**-25.0**	**-10000**	**-1.2**	**66000**	**8.8**	**349000**	**75.9**

Geography	General industrial floorspace (sqm)	General industrial land (ha)	Light industrial floorspace (sqm)	Light industrial land (ha)	R&D floorspace (sqm)	R&D land (ha)	Storage and distribution floorspace (sqm)	Storage and distribution land (ha)
Wandle Valley	-20000	-3.3	-3000	-0.3	8000	1.1	148000	32.3
London	-379000	-63.2	19000	2.2	226000	30.1	1253000	272.7

[i] Please note that VOA data may not include floorspace that is under construction or vacant.

[ii] CoStar (2023), Building Rating System