

Chapter 3

Design

Policy D1 London's form and characteristics

A Development Plans, area-based strategies and development proposals should ensure the design of places addresses the following requirements:

~~A The form and layout of a place should:~~

~~B Development design should:~~

Form and layout

- 1) use land efficiently by optimising density, connectivity and land use patterns
- ~~A2) facilitate an inclusive environment~~
- ~~B4 2) respond~~ **enhance** local context by delivering buildings and spaces that **positively respond to local distinctiveness through their layout, orientation, are positioned and of a scale, appearance and shape, with due regard to that responds successfully to the identity and character of the locality, including to existing and emerging street hierarchy, building types, forms and proportions**
- ~~A8 3) encourage and facilitate active travel with convenient and inclusive pedestrian and cycling routes, crossing points, cycle parking, and legible entrances to buildings, that are aligned with peoples' movement patterns and desire lines in the area~~
- ~~A3 4) be street-based with clearly defined public and private environments~~
- ~~A10 5) facilitate efficient servicing and maintenance of buildings and the public realm, as well as deliveries, that minimise negative impacts on the environment, public realm and vulnerable road users.~~

Experience

- ~~A5 6) achieve safe and secure~~ **and inclusive** environments
- ~~A6 7) provide active frontages and positive reciprocal relationships between what happens inside the buildings and outside in the public realm to generate liveliness and interest~~
- ~~A4 8) deliver appropriate outlook, privacy and amenity~~
- ~~A7 9) provide conveniently located green and open spaces for social interaction, play, relaxation and physical activity~~
- ~~A9 10) help prevent or mitigate the impacts of noise and poor air quality~~
- ~~B6-11) achieve~~ **indoor and outdoor environments that are comfortable and inviting for people to use environments both inside and outside buildings.**

Quality and character

- ~~B4 12) respond to the existing character of a place by identifying the special and valued features that are unique to the locality and respect, enhance and utilise the heritage assets and architectural features that make up~~ **contribute to the local character**
- ~~B2 13) be of high quality, with architecture that pays attention to detail, and gives thorough consideration to the practicality of use, flexibility, safety and building~~

lifespan through appropriate construction methods and the use of attractive, robust materials which weather and mature well

- B3 14) aim for high sustainability standards (with reference to the policies within London Plan Chapter's 8 and 9)
- B5 15) provide spaces and buildings that maximise opportunities for urban greening to create attractive resilient places that can also help the management of surface water.

3.1.1A This Plan provides a policy framework for delivering good growth through good design. Policies D1 London's form and characteristics and D2 Delivering good design work together to embed good design principles from the outset of the design process and ensure these are carried through to the completion of a development. Policy D1 sets out the key characteristics that should be delivered through the design of London's buildings and spaces in terms of their form and layout, quality and character, and the user experience they provide. Throughout the period of assessment of planning applications, boroughs and applicants should cross reference between policies D1 and D2 to ensure these key design principles are addressed and carried through each stage of the planning and design process.

3.1.1 **Good design** and good planning are intrinsically linked. The form and character of London's buildings and spaces must be appropriate for their location, fit for purpose, respond to changing needs of Londoners, and make the best use the city's finite supply of land. The efficient use of land requires optimisation of density. This means coordinating the layout of the development with the form and scale of the buildings and the location of the different land uses, and facilitating convenient pedestrian connectivity to activities and services (see also Policy D6 Optimising housing density).

3.1.2 Developments that show a clear understanding of, and relationship with, ~~the context of the site~~ **distinctive features of a place** are more likely to be successful. These features include buildings, structures, open spaces, public realm and the underlying landscape. Development should be designed to respond to the special characteristics of these features which can include: predominant architectural styles and/or building materials; architectural rhythm; distribution of building forms and heights; and heritage, architectural or cultural value.

3.1.2A As change is a fundamental characteristic of London, respecting character and accommodating change should not be seen as mutually exclusive. Understanding of the character of a place should not seek to preserve things in a static way but should ensure an appropriate balance is struck between existing fabric and any proposed change. Opportunities for change and transformation, through new building forms and typologies, should be informed by an understanding of a place's distinctive character, recognising that not all elements of a place are special and valued.

3.1.2B Buildings should be of high quality and enhance, activate and appropriately frame the public realm. Their massing, scale and layout should help make public spaces coherent and should complement the existing streetscape and surrounding area. Particular attention should be paid to the design of the parts of a building or public realm that people most frequently see or interact with in terms of its legibility, use, detailing, materials and location of entrances. Creating a comfortable pedestrian

environment with regard to levels of sunlight, shade, wind, and shelter from precipitation is important.

- 3.1.3 Measures to **design out exposure to poor air quality and noise** from both external and internal sources, should be integral to development proposals and be considered early in the design process. Characteristics that increase pollutant or noise levels, such as poorly-located emission sources, street canyons and noise sources should also be designed out wherever possible. Optimising site layout and building design can also reduce the risk of overheating as well as minimise carbon emissions by reducing energy demand.
- 3.1.4 **Maximising urban greening** and creating green open spaces provides attractive places for Londoners to relax and play, and helps make the city more resilient to the effects of climate change. Landscaping and urban greening should be designed to ecologically enhance and, where possible, physically connect, existing parks and open spaces.
- 3.1.5 Measures to **design out crime** should be integral to development proposals and be considered early in the design process. Development should reduce opportunities for anti-social behaviour, criminal activities, and terrorism, and contribute to a sense of safety without being overbearing or intimidating. Developments should ensure good natural surveillance, clear sight lines, appropriate lighting, logical and well-used routes and a lack of potential hiding places.
- 3.1.6 The design and layout of development should reduce the dominance of cars, and provide permeability to **support active travel** (public transport, walking and cycling), community interaction and economic vitality.
- 3.1.7 New developments should be designed and managed so that **deliveries** can be received outside of peak hours and if necessary in the evening or night-time without causing unacceptable nuisance to residents. Appropriate facilities will be required to minimise additional freight trips arising from missed deliveries.
- 3.1.8 Shared and easily accessible **storage space** supporting separate collection of dry recyclables, food waste and other waste should be considered in the early design stages to help improve recycling rates, reduce smell, odour and vehicle movements, and improve street scene and community safety.
- 3.1.9 Buildings and spaces should be designed so that they can **adapt to changing uses** and demands now and in the future. Their lifespan and potential uses or requirements should be carefully considered, creating buildings and spaces that are easy to maintain, and constructed of materials that are safe, robust and remain attractive over time.
- 3.1.10 To minimise the use of new materials, the following circular economy principles (see also Figure 3.1) should be taken into account at the start of the design process:
- building in layers - ensuring that different parts of the building are accessible and can be maintained and replaced where necessary
 - designing out waste - ensuring that waste reduction is planned in from project inception to completion, including consideration of standardised components, modular build and re-use of secondary products and materials
 - designing for adaptability
 - designing for disassembly
 - using materials that can be re-used and recycled.

- 3.1.11 Large-scale developments in particular present opportunities for innovative building design that avoids waste, supports high recycling rates and helps London transition to a circular economy, where materials, products and assets are kept at their highest value for as long as possible. Further guidance on the application of these principles is provided in **London's circular economy route map**²³.
- 3.1.12 Figure 3.1 shows a hierarchy for building approaches which maximises use of existing materials. Diminishing returns are gained by moving through the hierarchy outwards, working through refurbishment and re-use through to the least preferable option of recycling materials produced by the building or demolition process. The best use of the land needs to be taken into consideration when deciding whether to retain existing buildings in a development. Figure 3.1 - Circular economy hierarchy for building approaches

Policy D2 Delivering good design

Initial evaluation

- A To identify an area's capacity for growth and understand how to deliver it in a way which strengthens what is valued in a place, boroughs should undertake an evaluation, in preparing Development Plans and area-based strategies, which covers the following elements:
- 1) **demographic make-up and socio-economic data** (such as Indices of Multiple Deprivation, health and wellbeing indicators, population density, employment data, educational qualifications, crime statistics)
 - 2) housing type and tenure
 - 3) urban form and structure (for example townscape, block pattern, urban grain, extent of frontages, building heights and density)
 - 4) transport networks (particularly walking and cycling networks), and public transport connectivity (existing and planned)
 - 5) air quality and noise levels
 - 6) open space networks, green infrastructure, and water bodies
 - 7) historical evolution and heritage assets (including an assessment of their significance and contribution to local character)
 - 8) topography and hydrology
 - 9) land availability
 - 10) existing and emerging development plan designations
 - 11) existing and future uses and demand for new development, including housing requirements and social infrastructure.

Determining capacity for growth

- B The findings of the above evaluation (part A), taken together with the other policies in this Plan should inform sustainable options for growth and be used to establish the most appropriate forms of development for an area in terms of scale, height, density, layout and land uses. The outcome of this process must ensure the most efficient use of land is made so that development on all sites is optimised.

Design analysis and visualisation

²³ London's circular economy route map, GLA & London Waste and Recycling Board. 2017

- C Where appropriate, visual, environmental and movement modelling/assessments should be undertaken to analyse potential design options for an area, site or development proposal. These models, particularly 3D virtual reality and other interactive digital models, should, where possible, be used to inform **plan-making and decision-taking, and to engage Londoners in the planning process.**

Design quality and development certainty

- D Masterplans and design codes should be used to help bring forward development and ensure it delivers high quality design and place-making based on the characteristic set out in Policy D1 London's form and characteristics.

Design scrutiny

- E Design and access statements submitted with development proposals should provide relevant information to demonstrate the proposal meets the design requirements of the London Plan.
- F **The design of development proposals should be thoroughly scrutinised by borough planning, urban design, and conservation officers, utilising the analytical tools set out in the policy, local evidence, and expert advice where appropriate. In addition, b**Boroughs and applicants should **make use of the design review process** to assess and inform design options early in the planning process. ~~Design review should be in addition to the borough's planning and urban design officers' assessment and pre-application advice.~~ Development proposals referable to the Mayor must have undergone at least one design review early on in their preparation, before a planning application is made, **or demonstrate that it has undergone a local borough process of design scrutiny, based on the principles set out in part G, if they:**
- 1) are above the applicable density indicated in Part C of Policy D6 Optimising housing density; or
 - 2) propose a building defined as a tall building by the borough (see Policy D8 Tall buildings), or that is more than 30m in height where there is no local tall building definition.
- G The format of design reviews for any development should be agreed with the borough and comply with the Mayor's guidance on review principles, process and management, ensuring that:
- 1) design reviews are carried out transparently by independent experts in relevant disciplines
 - 2) design review comments are mindful of the wider policy context and focus on interpreting policy for the specific scheme
 - 3) where a scheme is reviewed more than once, subsequent design reviews reference and build on recommendations of previous design reviews
 - 4) design review recommendations are appropriately recorded and communicated to officers and decision makers
 - 5) schemes show how they have considered and addressed the design review recommendations
 - 6) planning decisions demonstrate how design review been addressed.

Maintaining design quality

- H The design quality of development should be retained through to completion by:
- 1) **ensuring maximum detail appropriate for the design stage is provided to avoid the need for later design amendments and to ensure scheme quality is**

not adversely affected by later decisions on construction, materials, landscaping details or minor alterations to layout or form of the development having a sufficient level of design information, including key construction details provided as part of the application to ensure the quality of design can be maintained if the permitted scheme is subject to subsequent minor amendments

- 2) ensuring the wording of the planning permission, and associated conditions and legal agreement, provide clarity regarding the quality of design
- 3) avoiding deferring the assessment of the design quality of large elements of a development to the consideration of a planning condition or referred matter
- 4) local planning authorities **considering conditioning the ongoing involvement of the original design team to monitor the design quality of a development through to completion using architect retention clauses in legal agreements where appropriate.**

3.2.1 **Policy D1 London's form and characteristics and Policy D2 Delivering good design should be read together. It is intended that t**The processes and actions set out in Policy D2 Delivering good design will help ensure development delivers good design as demonstrated by the principles and best practice outcomes set out in Policy D1. The responsibility for undertaking a particular process or action will depend on the nature of the development or plan; however, the outcome of this process must ensure the most efficient use of land is made so that the development on all sites is optimised.

3.2.2 **Understanding the existing character and context** of individual areas is essential in determining how different places may develop in the future. An evaluation of the current characteristics of a place, how its past social, cultural, physical and environmental influences have shaped it and what the potential opportunities are for it to change will help inform an understanding of an area's capacity for growth. **Figure 3.2 illustrates the broad characteristics of London as derived from its historical development, which can be used to inform evidence bases for area-based strategies.**

3.2.3 This **evidence gathering and evaluation** of alternative options, alongside an understanding of the requirements for growth, should form the foundation of Local Plan preparation or work on an area strategy. This process will be fundamental to inform decision making on how places should develop, speeding up the development plan process and bringing about better quality development.

3.2.4 Applicants will primarily be responsible for undertaking design analysis through the use of various **digital modelling techniques** as part of a wide range of design and presentation techniques. These techniques can also be used as part of the plan-making process to assess growth options and forms of development, as described in part B.

3.2.5 To enable the design of a proposed development to be fully assessed, applicants must provide the necessary **technical information** in an agreed format. The detail and nature of this should be commensurate with the scale of the development. All outline applications referred to the Mayor should be accompanied by thorough design codes, ensuring exemplary design standards are carried through the planning process to completion.

3.2.6 The **Mayor's Design Advocates (MDAs)** will play a key role in helping to deliver good design. They will help champion design across the GLA Group and beyond,

through research, design review, capacity building, commissioning and advocacy. MDAs are also panel members of the London Review Panel, which the Mayor has set up to provide design scrutiny. This review panel is primarily focuses on the review of Mayoral investments, but can provide design review sessions for development proposals referred to the Mayor, where they have not previously been subject to review, or for schemes of particular significance.

- 3.2.7 All development proposals should follow this guidance, and be subject to a level of scrutiny appropriate to the scale and/or impact of the project site. This design scrutiny should include work by planning case officers and ongoing and informal review by qualified urban design officers and conservation officers. ~~as well as formal design review.~~ Development proposals required to undergo design review as set out under Part F will form a small portion of overall planning applications in London. The Mayor may require that other referable developments undergo design review. Boroughs are encouraged to use design review to support their scrutiny of development proposals.
- 3.2.7A The Mayor has published a London Quality Review Charter, with accompanying guidance. The Charter promotes a consistent approach across London's design review sector, and promotes transparency of process. The Charter builds on the established guidance (from the Design Council Commission for Architecture and the Built Environment (CABE), Landscape Institute (LI), Royal Town Planning Institute (RTPI) and the Royal Institute of British Architects (RIBA)), which calls for reviews to be independent, expert, multidisciplinary, accountable, transparent, proportionate, timely, advisory, objective and available. The Charter ~~Mayor has produced guidance on design reviews,~~ includes guidance on how panels and processes should be managed and records kept. It also clarifies that the purpose of the design review process is not to dictate the design of a scheme or contradict planning policy, but to guide better design outcomes. More widely, the Mayor's Good Growth by Design Programme, is developing a support offer to London's boroughs and London's review sector, for example, offering advice to boroughs wishing to put in place a design review function.
- 3.2.8 The **scrutiny** of a proposed development's design should cover its layout, scale, height, density, land uses, materials, architectural treatment, detailing and landscaping. The design and access statement should explain the approach taken to these design issues and be used to consider if a scheme meets the requirements of Policy D1 London's form and characteristics (see also requirements of Policy D3 Inclusive design).
- 3.2.9 It is important that **design quality is maintained throughout the development process** from the granting of planning permission to completion of a development. What happens to a design after planning consent can be instrumental to the success of a project and subsequent quality of a place. Changes to designs after the initial planning permission has been granted are often allowable as minor amendments. However, even minor changes can have a substantial effect on design quality, environmental quality and visual impact. The cumulative effect of amendments can often be significant and should be reviewed holistically. Sufficient design detail needs to be provided in approved drawings and other visuals material, as well as in the wording of planning permissions to ensure clarity over what design has been approved, and to avoid future amendments and value engineering resulting in changes that would be detrimental to the design quality. Assessment of the design of large elements of a development, such as landscaping or building

façades, should be undertaken as part of assessing the whole development and not deferred for consideration after planning permission has been granted.

- 3.2.10 It is generally beneficial to the design quality of a completed development if the architectural design team is involved in the development from start to finish²⁴. Consideration should be given to **securing the design team's ongoing involvement** as a condition of planning permission, ~~or as a design reviewer, or through an architect retention clause in a legal agreement. where this is not possible.~~

Figure 7.43.2 - Outline Character Map of London (update to key)

Policy D3 Inclusive design

- A To deliver an inclusive environment and meet the needs of all Londoners, development proposals are required to achieve the highest standards of accessible and inclusive design, ensuring they:
- 1) can be entered, ~~and~~ used **and exited** safely, easily and with dignity by all
 - 2) are convenient and welcoming with no disabling barriers, providing independent access without additional undue effort, separation or special treatment
 - 3) are designed to incorporate safe and dignified emergency evacuation for all building users. In all developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity assessments) should be a **suitably sized** fire evacuation lift suitable to be used to evacuate people who require level access from the building.
- B The Design and Access Statement, submitted as part of planning applications, should include an inclusive design statement.

- 3.3.1 Despite recent progress in building a more accessible city, too many Londoners still experience barriers to living independent and dignified lives, due to the way the built environment has been designed and constructed or how it is managed. An **inclusive design approach** helps to ensure the diverse needs of all Londoners are integrated into development proposals from the outset. This is essential to ensuring that the built environment is safe, accessible and convenient, and enables everyone to access the opportunities London has to offer, regardless of their age, disability, ethnicity, gender, gender expression, faith, economic circumstance or whether they are travelling with children, or are carrying shopping or luggage. Inclusive design is fundamental to improving the quality of life for disabled and older people in particular.

- 3.3.1A It is essential to consider inclusive design at the earliest possible stage in a scheme's development, and inclusive design should be embedded into a project from initial conception through to completion, occupation and in the on-going management and maintenance of the development. Master plans and design codes should therefore embed and document the highest standards of inclusive design, for this approach to be carried forward throughout the development of projects.

- 3.3.2 Inclusive design creates spaces and places where people can lead more interconnected lives, **creating more inclusive communities**. Links to the wider neighbourhood for all pedestrians should be carefully considered, including networks of **legible, logical, safe and navigable** safe-pedestrian routes, dropped kerbs and crossing points with associated tactile paving. ~~Links into the neighbourhood for all pedestrians should be carefully considered, including networks of navigable safe-pedestrian routes, dropped kerbs and crossing points with associated tactile paving.~~
- 3.3.3 Where **security measures** are required in the external environment, the design and positioning of these should not adversely impact access and inclusion.
- 3.3.4 **Entrances** into buildings should be easily identifiable, and should allow everyone to use them independently without additional effort, separation or special treatment. High and low level obstructions in buildings and in the public realm should be eliminated. The **internal environment** of developments should meet the highest standards in terms of access and inclusion, creating buildings which meet the needs of the existing and future population.
- 3.3.5 Buildings should be designed and built to accommodate robust **emergency evacuation** procedures for all building users, including those who require level access. All building users should be able to evacuate from a building with dignity and by as independent means as possible. Emergency carry down or carry up **mechanical devices or similar interventions that rely on manual handling** are not considered to be appropriate, for reasons of user dignity and independence. The installation of lifts which can be used for evacuation purposes (accompanied by a management plan) provide a dignified and more independent solution. ~~Elements of construction forming refuges, evacuation lift enclosures and lobbies should incorporate suitable levels of fire resistance.~~ **The fire evacuation lifts and associated provisions should be appropriately designed, constructed and include the necessary controls suitable for the purposes intended. See also D11 Fire safety.**
- 3.3.6 When dealing with **historic buildings and heritage assets**, careful consideration should be given to inclusive design, in conjunction with their heritage value, at an early stage. This is essential to securing successful schemes which will enable as many people as possible to access and enjoy the assets now and in the future, whilst retaining their heritage value.
- 3.3.7 Inclusive design principles should be discussed with boroughs in advance of an application being submitted, to ensure that these principles are understood and incorporated into the original design concept. To demonstrate this, **and to inform decision making, speed up the process and bring about better-quality development**, an **inclusive design statement** is required as part of the Design and Access Statement. The inclusive design statement should:
- explain the design concept and illustrate how an inclusive design approach has been incorporated into this
 - **detail what best practice standards and design guidance documents have been applied in terms of inclusive design**
 - show that the potential impacts of the proposal on people and communities who share a protected characteristic have been identified and assessed
 - highlight any historical contextual considerations
 - set out how inclusion will be maintained and managed, including fire evacuation procedures

- ~~detail how relevant best practice standards and design guidance have been applied, and highlight~~ how relevant planning policy and legal requirements (including, where relevant, the Public Sector Equality Duty of the Equality Act 2010) have been responded to
- detail engagement with relevant user groups such as disabled or older people's organisations.

3.3.7A The planning of inclusive design elements of development proposals and the drafting of inclusive design statements should be undertaken by or have input from a suitably qualified specialist with relevant experience in inclusive design, such as a member of the National Register of Access Consultants. Local authority access officers or inclusive design advisors should assist in the evaluation of development proposals and inclusive design statements in terms of inclusive design.

3.3.8 The Mayor will assist boroughs and other agencies in implementing an inclusive design approach in all development proposals by providing further guidance where necessary, continuing to contribute to the development of national technical standards and supporting training and professional development programmes. Further guidance on inclusive design standards can be found in the following British Standards documents BS8300 Volumes 1 and 2:

- **BS8300-1:2018 Design of an accessible and inclusive built environment. External environment. Code of practice. January 2018.**
- **BS8300-2:2018 Design of an accessible and inclusive built environment. Buildings. Code of practice. January 2018.**

Policy D4 Housing quality and standards

~~A To optimise the development of housing on sites across London a range of housing typologies will need to be built. To bring forward development on constrained sites, innovative housing designs that meet the requirements of this policy, including minimum space standards, are supported. In ensuring high quality design, housing developments should consider the elements that enable the home to become a comfortable place of retreat and should not differentiate between housing tenures.~~

B Housing development New homes should be of high quality design, and provide have adequately-sized rooms (see Table 3.1), with comfortable and functional convenient and efficient room layouts, which are functional, fit for purpose and meet the changing needs of Londoners, without differentiating between tenures. over their lifetimes. Particular account should be taken of the needs of children, disabled and older people.

C Qualitative aspects of a development are key to ensuring successful sustainable housing and should be fully considered in the design of any housing developments. Table 3.2 sets out key qualitative aspects which should be addressed in the design of housing developments.

D Moved. See below.

E Residential Housing development should maximise the provision of dual aspect dwellings and normally avoid the provision of single aspect dwellings. A single aspect dwelling should only be provided where it is considered a more appropriate design solution to meet the requirements of Policy D1 London's form and characteristics than a dual aspect dwelling and it can be demonstrated that it will have adequate passive ventilation, daylight and privacy, and avoid overheating.

- F The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.
- G ~~Dwellings~~ **Housing** should be designed with adequate and easily accessible storage space that supports the separate collection of dry recyclables (for at least card, paper, mixed plastics, metals, glass) food waste as well as residual waste.
- ~~D-GA~~ Housing developments are required to meet the minimum standards below – **which** ~~These standards~~ apply to all tenures and all residential accommodation that is self-contained.

Private internal space

- 1) Dwellings must provide at least the gross internal floor area and built-in storage area set out in Table 3.1.
- 2) A dwelling with two or more bedspaces must have at least one double (or twin) bedroom that is at least 2.75m wide. Every other additional double (or twin) bedroom must be at least 2.55m wide.
- 3) A one bedspace single bedroom must have a floor area of at least 7.5 sqm and be at least 2.15m wide.
- 4) A two bedspace double (or twin) bedroom must have a floor area of at least 11.5 sqm.
- 5) Any area with a headroom of less than 1.5m is not counted within the Gross Internal Area unless used solely for storage (If the area under the stairs is to be used for storage, assume a general floor area of 1 sqm within the Gross Internal Area).
- 6) Any other area that is used solely for storage and has a headroom of 0.9-1.5m (such as under eaves) can only be counted up to 50 per cent of its floor area, and any area lower than 0.9m is not counted at all.
- 7) A built-in wardrobe counts towards the Gross Internal Area and bedroom floor area requirements, but should not reduce the effective width of the room below the minimum widths set out above. Any built-in area in excess of 0.72 sqm in a double bedroom and 0.36 sqm in a single bedroom counts towards the built-in storage requirement.
- 8) The minimum floor to ceiling height must be 2.5m for at least 75 per cent of the Gross Internal Area of each dwelling.

Private outside space

- 9) ~~A~~ **Where there are no higher local standards in the borough development plan documents**, a minimum of 5 sqm of private outdoor space should be provided for 1-2 person dwellings and an extra 1 sqm should be provided for each additional occupant, **and it must achieve a minimum depth and width of 1.5m.** This does not count towards the minimum Gross Internal Area space standards required in Table 3.1
- ~~10) The minimum depth and width for all balconies and other private external spaces should be 1.5m.~~

The Mayor will produce guidance on the implementation of this policy for all housing tenures.

Table 3.1 - Minimum internal space standards for new dwellings²⁵

Minimum gross internal floor areas and storage (square metres)					
Number of bedrooms (b)	Number of bed spaces (persons) (p)	1 storey dwellings	2 storey dwellings	3 storey dwellings	Built-in storage
1b	1p	39 (37) *			1
	2p	50	58		1.5
2b	3p	61	70		2
	4p	70	79		
3b	4p	74	84	90	2.5
	5p	86	93	99	
	6p	95	102	108	
4b	5p	90	97	103	3
	6p	99	106	112	
	7p	108	115	121	
	8p	117	124	130	
5b	6p	103	110	116	3.5
	7p	112	119	125	
	8p	121	128	134	
6b	7p	116	123	129	4
	8p	125	132	138	

Notes to Table 3.1

Key

b: bedrooms

p: persons

* Where a studio / one **single** bedroom one person ~~one bedspace~~ (i.e. one single bedroom) dwelling has a shower room instead of a bathroom, the floor area may be reduced from 39 sqm to 37 sqm, as shown bracketed.

The Gross Internal Area (GIA) of a dwelling is defined as the total floor space measured between the internal faces of perimeter walls that enclose a dwelling. This includes partitions, structural elements, cupboards, ducts, flights of stairs and voids above stairs. GIA should be measured and denoted in square metres (sqm).

Built-in storage areas are included within the overall GIA and include an allowance of 0.5 sqm for fixed services or equipment such as a hot water cylinder, boiler or heat exchanger.

GIAs for one storey dwellings include enough space for one bathroom and one additional WC (or shower room) in dwellings with five or more bedspaces. GIAs for two and three storey dwellings include enough space for one bathroom and one additional WC (or shower room). Additional sanitary facilities may be included without increasing the GIA, provided that all aspects of the space standard have been met.

- 3.4.1 Housing can be delivered in different physical forms depending on the context and site characteristics. Ensuring homes are of adequate size and fit for purpose is crucial in an increasingly dense city therefore this Plan sets out **minimum space standards** for dwellings of different sizes in Policy D4 Housing quality and standards and Table 3.1. This is based on the minimum gross internal floor area (GIA) relative to the number of occupants and takes into account commonly required furniture and the spaces needed for different activities and moving around. This means applicants should state the number of bedspaces/ occupiers a home is designed to accommodate rather than simply the number of bedrooms. When designing homes for more than eight bedspaces, applicants should allow approximately 10 sqm per extra bedspace.
- 3.4.2 The space standards are minimums which applicants are encouraged to exceed. ~~However, due to the level of housing need and the requirement to make the best use of land, boroughs are encouraged to resist dwellings with floor areas significantly above those set out in Table 3.1 as they do not constitute an efficient use of land.~~ The standards apply to all new self-contained dwellings of any tenure, **and consideration should be given to the elements that enable a home to become a comfortable place of retreat.** The provision of additional services and spaces as part of a housing development, such as building management and communal amenity space, is not a justification for failing to deliver these minimum standards. **Boroughs are, however, encouraged to resist dwellings with floor areas significantly above those set out in Table 3.1 for the number of bedspaces they contain due to the level of housing need and the need to make efficient use of land.**
- 3.4.3 To address the impacts of the urban heat island effect and the fact that the majority of ~~residential housing~~ developments in London are **made up of flats**, a **minimum ceiling height** of 2.5m for at least 75 per cent of the gross internal area is required so that new housing is of adequate quality, especially in terms of daylight penetration, ventilation and cooling, and sense of space. The height of ceilings, doorways and other thresholds should support the creation of an inclusive environment and therefore be sufficiently high to not cause an obstruction. To allow for some essential equipment in the ceilings of kitchens and bathrooms up to 25 per cent of the gross internal area of the dwelling can be lower than 2.5 m. However, any reduction in ceiling height below 2.5 m should be the minimum necessary for this equipment, and not cause an obstruction.

- 3.4.4 **Dual aspect dwellings** with opening windows on at least two sides have many inherent benefits. These include better daylight, a greater chance of direct sunlight for longer periods, natural cross-ventilation, a greater capacity to address overheating, mitigating pollution, a choice of views, access to a quiet side of the building, greater flexibility in the use of rooms, and more potential for future adaptability by altering the use of rooms.
- 3.4.5 **Single aspect dwellings** are more difficult to ventilate naturally and are more likely to overheat, and should normally be avoided. Single aspect dwellings that are north facing, contain three or more bedrooms or are exposed to noise levels above which significant adverse effects on health and quality of life occur should not be permitted. The design of single aspect dwellings must demonstrate that all habitable rooms and the kitchen are provided with adequate passive ventilation, privacy and daylight, and that the orientation enhances amenity, including views. It must also demonstrate how they will avoid overheating without reliance on energy intensive mechanical cooling systems.
- 3.4.5A ~~3.4.10~~ A variety of approaches to housing typologies and **layout of buildings** should be explored to make the best use of land and create high quality, comfortable and attractive homes. For example, increasing ceiling heights and having bay windows can optimise daylight and sunlight and allow buildings to be closer together than can otherwise be achieved.
- 3.4.5B ~~3.4.8~~ Housing developments should be designed to **maximise tenure integration**, and affordable housing units should have the same external appearance as private housing. All entrances will need to be well integrated with the rest of the development and should be indistinguishable from each other.
- 3.4.5C ~~3.4.9~~ Development should help create a more socially inclusive London. **Gated forms of development** that could realistically be provided as a public street are unacceptable and alternative means of security should be achieved through utilising the principles of good urban design **and inclusive design (see D3 Inclusive design)**.
- 3.4.5D ~~3.4.6~~ **Private open outside space** should be practical in terms of its shape and utility, and care should be taken to ensure the space offers good amenity. All dwellings should have level access to one or more of the following forms of private outside spaces: a garden, terrace, roof garden, courtyard garden or balcony. The use of roof areas, including podiums, and courtyards for additional private or shared **outside amenity or garden space** is encouraged.
- 3.4.5E ~~3.4.7~~ **Communal play space** for children and young people should be provided in developments with an estimated occupancy of ten children or more in accordance with the requirement **should meet the requirements of Policy S4 Play and informal recreation**.
- ~~3.4.8 Moved~~
- ~~3.4.9 Moved~~
- ~~3.4.10 Moved~~
- 3.4.11 ~~The following qualitative aspects should be addressed in the design of residential developments:~~
- ~~• the built form, massing and height of the development is appropriate for the surrounding context, and alternative arrangements to accommodate the same number of units or bedspaces with a different relationship to the surrounding context have been explored early in the design process (making use of the~~

measures in D6.E), particularly where a proposal is above the applicable density indicated in part C of Policy D6 Optimising housing density

- ~~the urban layout, including spaces between and around buildings forms a coherent pattern of streets and blocks~~
- ~~public, communal and private open spaces relate well to each other and the wider neighbourhood~~
- ~~the layout of the scheme maximises the extent of active frontages onto public facing sides and, where appropriate, surrounds uses that have inactive frontages with uses that have active frontages to engender street-based activity and provide a sense of safety~~
- ~~the experience of arrival, via footpaths, entrances and shared circulation spaces is comfortable, accessible and fit for purpose~~
- ~~communal open spaces provide sufficient space, are easily accessed from all related dwellings and are designed to support an appropriate balance of informal social activity and play opportunities for various age groups~~
- ~~the private amenity space for each dwelling is usable and has a balance of openness and protection, appropriate for its outlook and orientation~~
- ~~outdoor spaces are located to be appreciated from inside, and internal spaces are able to take advantage of good weather and designed to achieve ease of access to external spaces~~
- ~~blocks and floorplans are orientated to optimise opportunities for visual interest through a range of immediate and longer range views, with the views from individual dwellings considered at an early design stage~~
- ~~the dwellings and outside spaces are fit for purpose and comfortable~~
- ~~the dwellings and outside spaces are able to be easily adapted to meet the changing and diverse needs of different occupiers over their lifetimes~~
- ~~window cleaning and other basic cleaning and maintenance activities can be carried out by residents easily~~
- ~~the site layout, common parts, design of individual units and buildings, and orientation of rooms and windows provide privacy and adequate daylight for all residents, as well as clear and convenient routes with a feeling of safety~~
- ~~the design or the layout and orientation helps reduce noise from common areas to individual dwellings~~
- ~~the design of developments, and orientation and layout of individual dwellings and common spaces helps meet the challenges of a changing climate by ensuring homes are suitable for warmer summers and wetter winters~~
- ~~sufficient level, secure and convenient externally accessible storage is provided for cycles, deliveries, and other bulky items~~
- ~~recycling and waste disposal facilities are convenient in their operation and location, appropriately integrated, and designed to work effectively for residents, management and collection services²⁶.~~

²⁶ See also the London Waste and Recycling Board's Waste Management Planning Advice for New Flatted Properties 2014: <http://www.lwarb.gov.uk/what-we-do/resource-london/successes-to-date/efficiencies-programme-outputs/>

Table 3.2 Qualitative design aspects to be addressed in housing developments

Layout, orientation and form	
i	The built form, massing and height of the development should be appropriate for the surrounding context, and it should be shown that alternative arrangements to accommodate the same number of units or bedspaces with a different relationship to the surrounding context have been explored early in the design process (making use of the measures in D6.E), particularly where a proposal is above the applicable density indicated in part C of <u>Policy D6 Optimising density</u>
ii	<p>The layout of the scheme (including spaces between and around buildings) should:</p> <ul style="list-style-type: none"> - form a coherent, legible and navigable pattern of streets and blocks - engender street based activity and provide a sense of safety - maximise active frontages onto public facing sides of a development, where appropriate wrapping around inactive frontages
iii	<p>The site layout, orientation and design of individual dwellings and where applicable common spaces should:</p> <ul style="list-style-type: none"> - provide privacy and adequate daylight for residents - be orientated to optimise opportunities for visual interest through a range of immediate and longer range views, with the views from individual dwellings considered at an early design stage - provide clear and convenient routes with a feeling of safety - help reduce noise from common areas to individual dwellings - help meet the challenges of a changing climate by ensuring homes are suitable for warmer summers and wetter winters
Outside space	
iv	<p>Communal open spaces should:</p> <ul style="list-style-type: none"> - provide sufficient space to meet the requirements of the number of residents - be designed to be easily accessed from all related dwellings - be located to be appreciated from the inside - be designed to support an appropriate balance of informal social activity and play opportunities for various age groups - meet the changing and diverse needs of different occupiers
v	Private amenity space for each dwelling should be usable and have a balance of openness and protection, appropriate for its outlook and orientation
Usability and ongoing maintenance	
vi	<p>The development should ensure that:</p> <ul style="list-style-type: none"> -the experience of arrival, via footpaths, entrances and shared circulation spaces is comfortable, accessible and fit for purpose - features are designed to allow maintenance activities such as window cleaning, to be undertaken with ease - sufficient levels of secure, covered and conveniently located externally accessible storage is provided for deliveries and other bulky items

- recycling and waste disposal, storage and any on site management facilities are convenient in their operation and location, appropriately integrated, and designed to work effectively for residents, management and collection services.*
--

* See also the London Waste and Recycling Board's Waste Management Planning Advice for New Flatted Properties 2014. <http://www.lwarb.gov.uk/what-we-do/resource-london/successes-to-date/efficiencies-programme-outputs/>

3.4.12 Other components of housing design are also important to improving the attractiveness of new homes as well as the Mayor's wider objectives to improve the quality of Londoners' environment. The Mayor intends to produce a single guidance document which clearly sets out the standards which need to be met in order to implement Policy D4 Housing quality and standards for all housing tenures, as well as wider qualitative aspects of housing developments. This will build on the guidance set out in the 2016 Housing SPG and the previous London Housing Design Guide

Policy D5 Accessible housing

- A To provide suitable housing and genuine choice for London's diverse population, including disabled people, older people and families with young children, residential development must ensure that:
- 1) at least 10 per cent of ~~new-build dwellings (which are created via works to which Part M volume 1 of the Building Regulations applies)~~ meet Building Regulation requirement M4(3) 'wheelchair user dwellings', ~~i.e. designed to be wheelchair accessible, or easily adaptable for residents who are wheelchair users~~
 - 2) all other ~~new-build dwellings (which are created via works to which Part M volume 1 of the Building Regulations applies)~~ meet Building Regulation requirement M4(2) 'accessible and adaptable dwellings'.
- 3.5.1 Many households in London ~~already~~ require **accessible or adapted housing** to lead dignified and independent lives²⁷. ~~In addition~~, More Londoners are living longer and with the incidence of disability increasing with age, older people should have the choice of remaining in their own homes rather than moving due to inaccessible accommodation. To address these and future needs, Policy D5 Accessible housing should apply to all ~~new-build dwellings which are created via works to which Part M volume 1 of the Building Regulations applies~~^{27A}, which, at the time of publication of this Plan generally limits the application of this policy to new build dwellings.
- 3.5.2 Where any part of an **approach route** including the vertical circulation in the common parts of a block of flats is shared between dwellings of different categories (i.e. M4(2) and M4(3)), the design provisions of the highest numbered category of dwelling served should be applied, to ensure that people can visit their neighbours

²⁷ ~~Source – English Housing Survey~~

27A This is governed by the statutory instruments; No. 2214 Building and Buildings, England and Wales, and The Building Regulations 2010, http://www.legislation.gov.uk/uksi/2010/2214/pdfs/ukxi_20102214_en.pdf and No. 767 Building and Buildings, England and Wales The Building Regulations &c. (Amendment) Regulations 2015 http://www.legislation.gov.uk/uksi/2015/767/pdfs/ukxi_20150767_en.pdf.

with ease and are not limited by the design of communal areas. **For residential disabled persons parking requirements- see Policy T6.1 Residential parking.**

- 3.5.3 To ensure that all potential residents have **choice within a development**, the requirement for M4(3) wheelchair user dwellings applies to all tenures. Wheelchair user dwellings should be distributed throughout a development to provide a range of aspects, floor level locations, views and unit sizes.
- 3.5.4 Standard M4(3) wheelchair user dwellings distinguishes between '**wheelchair accessible**' (a home readily usable by a wheelchair user at the point of completion) and '**wheelchair adaptable**' (a home that can be easily adapted to meet the needs of a wheelchair user). Planning Practice Guidance²⁸ states that Local Plan policies for wheelchair accessible homes should only be applied to those dwellings where the local authority is responsible for allocating or nominating a person to live in that dwelling, otherwise M4(3) dwellings should be wheelchair adaptable. 3.5.5 As set out in Approved Document M of the Building Regulations, Volume 1: Dwellings, to comply with requirements M4(2) or M4(3), **step-free access** into the dwelling must be provided.
- 3.5.6 In exceptional circumstances, the provision of a lift to dwelling entrances may not be achievable. In the following circumstances and **only** in blocks of four storeys or less, it may be necessary to apply some flexibility in the application of this policy:
- Specific small-scale infill developments (see [Policy H2 Small sites](#))
 - Flats above existing shops or garages ~~stacked maisonettes where the potential for decked access to the lift is restricted~~
 - **Stacked maisonettes where the potential for decked access to lifts is restricted**
 - ~~Blocks where the implications of ongoing maintenance costs on the affordability of service charges for residents will be prohibitive.~~
- 3.5.7 If it is agreed at planning stage (for one of the reasons listed above) that a specific development warrants flexibility in the application of the accessible housing standards M4(2) and M4(3), affected dwellings above or below ground floor would be required to satisfy the mandatory building regulations requirements of M4(1) via the Building Control process. M4(2) and M4(3) dwellings should still be required for ground floor units.
- 3.5.8 M4(2) and M4(3) dwellings should be **secured via planning condition** to allow the Building Control body to check compliance of a development against the optional Building Regulations standards. Planning conditions should specify:
- Number of dwellings per size typology (i.e. x no. of y bed units) which ~~required to meet M4(2)~~ **must comply with Part M4(2)**
 - Number of dwellings per size typology (i.e. x no. of y bed units) which are ~~required to meet M4(3) wheelchair accessible standards~~ **must comply with Part M4(3)(2)(a) wheelchair adaptable standards.**
 - Number of dwellings per size typology (i.e. x no. of y bed units) which are ~~required to meet M4(3) wheelchair adaptable standards~~ **must comply with Part M4(3)(2) wheelchair accessible standards.**

Policy D6 Optimising housing density

- A Development proposals must make the most efficient use of land and be developed designed at the optimum density. The optimum density processes required by parts A and B of a development should result from Policy D2 Delivering good design set out how a design-led approach to determine will inform the evaluation of a site's context and help to identify its capacity of the site for growth. Particular consideration should be given to the following evaluation criteria to determine optimal development density:

- 1) the site context, including surrounding built form, uses and character;
- 2) its the site's connectivity and accessibility by walking, and cycling, and existing and planned public transport to jobs and services (including both PTAL and access to local services^{28A});
- 3) the capacity of surrounding infrastructure (see Part B)

~~Proposed residential development that does not demonstrably optimise the housing density of the site in accordance with this policy should be refused.~~

- B In preparing Development Plans and area based strategies, boroughs should follow the approach set out in part A to determine the capacity of allocated sites. The capacity of existing and planned physical, environmental and social infrastructure to support new development proposed by Development Plans should be assessed and, where necessary, improvements to infrastructure capacity should be planned in infrastructure delivery plans or programmes to support growth.

- 1) The density of development proposals should be based on, and linked to, the provision of future planned levels of infrastructure rather than existing levels.
- 2) The ability to support proposed higher densities through encouraging increased levels of active travel should be taken into account.
- 3) Where there is currently insufficient capacity of existing infrastructure to support proposed densities (including the impact of cumulative development), boroughs should work with applicants and infrastructure providers to ensure that sufficient capacity will exist at the appropriate time. This may mean, in exceptional circumstances, that if the development is contingent on the provision of the necessary new infrastructure, and including public transport services, and it will be appropriate that the development is phased accordingly.

3A) When a proposed development exceeds the capacity identified in a local site allocation or the site is not allocated, and the planned infrastructure capacity will be exceeded, additional infrastructure proportionate to the development should be delivered through the development. This will be identified through an infrastructure assessment during the planning application process, which will have regard to the local infrastructure delivery plan or programme, and CIL contribution that the development will make.

28A

Time Mapping (TIM) catchment analysis is available on TfL's WebCAT webpage and provides data showing access to employment, town centres, health services, and educational establishments as well as displaying the population catchment for a given point in London (see PTAL in glossary for more information on WebCAT and Time Mapping).

- C The higher the density of a development, the greater the level of scrutiny that is required of its design. **For residential development it is particularly important to scrutinise** the qualitative aspects of the development design described in Policy D4 Housing quality and standards, and ~~the~~ **its** proposed ongoing management. Development proposals ~~with a residential component~~ that are referable to the Mayor must be subject to the particular design scrutiny requirements set out in part F of Policy D2 Delivering good design and **those with a residential component must** submit a management plan if the proposed density is above:
- 1) 110 units per hectare in areas of PTAL 0 to 1; or
 - 2) 240 units per hectare in areas of PTAL 2 to 3; or
 - 3) 405 units per hectare in areas of PTAL 4 to 6.
- D The following measurements of density should be provided for all planning applications that include new residential units:
- 1) number of units per hectare
 - 2) number of habitable rooms per hectare
 - 3) number of bedrooms per hectare
 - 4) number of bedspaces per hectare.
- E The following additional measurements should be provided for all major planning applications:
- 1) the Floor Area Ratio (total Gross External Area of all floors / site area)
 - 2) the Site Coverage Ratio (Gross External Area of ground floors /site area)
 - 3) the maximum height in metres above ground level of each building and at Above Ordinance Datum (above sea level).
- ~~These built form and massing measures should be considered in relation to the surrounding context to help inform the optimum density of a development.~~
- EA **Proposed development that does not demonstrably optimise the density of the site in accordance with this policy should be refused.**

3.6.1 For London to accommodate **the growth identified in this Plan** in an inclusive and responsible way every new development needs to make the most efficient use of land. This will mean developing at densities above those of the surrounding area on most sites. The design of the development must **optimise housing density**.

3.6.1A A design-led approach to optimising density should be based on an evaluation of the site's attributes, its surrounding context and **its** capacity for growth and ~~the most appropriate development form, which are determined by following the process set out in Policy D2 Delivering good design, Policy H1 Increasing housing supply, Policy H2 Small sites and Policy H3 Monitoring housing targets set out requirements for increasing housing supply across London and identify locations where increased housing capacity can be achieved.~~ **Policy D1 London's form and characteristic and Policy D2 Delivering good design support the application of the design-led approach to optimising density. Policy D1 sets out design principles and physical characteristics that new development should deliver. Policy D2 parts A and B require the evaluation of the current characteristics of an area, including its infrastructure, and using this evaluation of evidence to establish what the most appropriate form of development is for an area in terms of scale, height, density, layout and land use, to create places which meet the requirements of Policy D1. The Mayor will provide further guidance on assessing site capacity and optimising density through a design led approach.**

- 3.6.2 **Infrastructure assessments** provision should be proportionate to the scale of the development. **The locations and scale of growth will be identified through boroughs' Development Plans, particularly through site allocations. Infrastructure capacity, having regard to the growth identified in the Development Plan, should be identified in boroughs' infrastructure delivery plans or programmes.**
- 3.6.2A If developments come forward with capacities in excess of those allocated in the relevant Development Plan, and therefore in excess of future planned infrastructure, a site-specific infrastructure assessment will be required. This assessment should establish what additional impact the proposed development will have on current and planned infrastructure, and how this can be appropriately mitigated either on the site, or through an off-site mechanism, having regard to the amount of CIL generated.
- 3.6.3 ~~The surrounding infrastructure of all types is a key element in determining the optimum density of a site.~~ **The capacity of existing and future public transport services**, and the connections they provide, should be taken into consideration, as should the potential to increase this capacity through financial contributions and by joint working with Transport for London. Boroughs and infrastructure providers should also consider the cumulative impact of multiple development proposals in an area. In general, the higher the public transport access and connectivity of the site, and the closer it is to a town centre or station, the higher the density and the lower the car parking provision should be.
- 3.6.3A ~~3.6.2~~ Minor developments will typically have incremental impacts on local infrastructure capacity. **The cumulative demands on infrastructure of minor development** ~~which~~ should be addressed in boroughs' infrastructure delivery plans or programme. Therefore, it will not normally be necessary for minor developments to undertake infrastructure assessments or for boroughs to refuse permission to these schemes on the grounds of infrastructure capacity.
- 3.6.4 In certain circumstances, development will be contingent on the future provision of public transport, walking and cycling infrastructure. In many areas of London higher densities could be supported by maximising the potential of active travel. Those ~~exceptional~~ **limited** circumstances for which part B3 of the policy could apply include development being brought forward in areas where planned public transport schemes will significantly improve accessibility and capacity of an area, such as Crossrail 2, DLR extensions, extension of the Elizabeth Line, and the Bakerloo Line Extension. It may be necessary to require the **phasing of development proposals** to maximise the benefits from major infrastructure and services investment whilst avoiding any unacceptable impacts on existing infrastructure prior to the new capacity being available.
- 3.6.5 In order to support the Healthy Streets Approach, development proposals should take account of the existing and planned **connectivity of a site via public transport and active modes** to town centres, social infrastructure and other services and places of employment. Opportunities to improve these connections to support higher density development should be identified.
- 3.6.6 **Masterplans and strategic frameworks** should be used when planning large-scale development to create welcoming and inclusive neighbourhoods, promote active travel, enable the successful integration of the built form within its surrounding area, and deliver wider benefits to residents, such as access to shared amenity space and high-quality public realm.

- 3.6.7 The proposed design and management of the developments should be thoroughly scrutinised during the planning process. **Residential portions should be scrutinised** in line with part C of Policy D6 Optimising housing density. The higher the density of a development the greater this **scrutiny** should be of the proposed built form, massing, site layout, external spaces, internal design and ongoing management. This is important because these elements of the development come under more pressure as the density increases. The housing minimum space standards set out in Policy D4 Housing quality and standards help ensure that as densities increase, the quality of internal residential units is maintained.
- 3.6.8 **To ensure servicing and day to day management of residential developments have been considered in designing higher density development the Mmanagement plans** required to be submitted with higher density development proposal **by part C of this policy**, must include details of day-to-day servicing and deliveries, and longer-term maintenance implications. Management plans should provide details on the affordability of running costs and service charges (by different types of occupiers). Costed plans should set out how management arrangements will work in mixed-tenure schemes and the way in which residents' views will be taken into account in delivering affordable services.
- 3.6.9 **Housing density** has been measured and monitored in London over recent years in units per hectare (u/ha). Average density across London of new housing approvals in the monitoring year 2015/16 was 154 u/ha with the highest average density being recorded in Tower Hamlets at 488 u/ha. However, comparing density between schemes using a single measure can be misleading as it is heavily dependent on the area included in the planning application site boundary as well as the size of residential units. Planning application boundaries are determined by the applicant. These boundaries may be drawn very close to the proposed buildings, missing out adjacent areas of open space, which results in a density which belies the real character of a scheme. Alternatively, the application boundary may include a large site area so that a tall building appears to be a relatively low-density scheme while its physical form is more akin to schemes with a much higher density.
- 3.6.10 To help assess, monitor and compare development proposals several **measures of density** are required to be provided by the applicant. Density measures related to the residential population (part D of Policy D6 Optimising housing density) will be relevant for infrastructure provision, while measures of density related to the built form and massing (part E of Policy D6 Optimising housing density) will inform its integration with the surrounding context. Measures relating to height should be the maximum height of each building or major component in the development. Boroughs should report each of the required density measures provided by the applicant when they submit details of the development to the London Development Database.

Policy D7 Public realm

Development Plans and development proposals should:

- A ~~E~~nsure the public realm is **well-designed**, safe, accessible, inclusive, attractive, well-connected, **related to the local and historic context**, and easy to understand, **service** and maintain. **Landscape treatment**, ~~and that it relates to the local and historic context, and incorporates the highest quality design, landscaping, planting,~~ street furniture and surfaces **materials should be of good quality, fit-for-purpose, durable and sustainable.**

- B ~~M~~maximise the contribution that the public realm makes to encourage active travel and ensure its design discourages travel by car and excessive on-street parking, which can obstruct people's safe enjoyment of the space. This includes design that reduces the impact of traffic noise and encourages appropriate vehicle speeds.
- C ~~B~~be based on an understanding of how the public realm in an area functions and creates a sense of place, during different times of the day and night, days of the week and times of the year. In particular, they should demonstrate an understanding of **how people use the public realm**, and the types, location and relationship between public spaces in an area, identifying where there are deficits for certain activities, or barriers to movement that create severance for pedestrians and cyclists.
- D ~~E~~ensure both the movement function of the public realm and its function as a place are provided for and that the balance of space and time given to each reflects the individual characteristics of the area. The priority modes of travel for the area should be identified and catered for, as appropriate. Desire lines for people walking and cycling should be a particular focus, including the placement of street crossings, **which should be regular, convenient and accessible**.
- E ~~E~~ensure there is a mutually supportive relationship between the space, surrounding buildings and their uses, so that the public realm enhances the amenity and function of buildings and the design of buildings contributes to a vibrant public realm.
- F ~~E~~ensure buildings are of a design that activates and defines the public realm, and provides natural surveillance. Consideration should also be given to the local microclimate created by buildings, and the impact of service entrances and facades on the public realm.
- G ~~E~~ensure appropriate management and maintenance arrangements are in place for the public realm, which maximise public access and minimise rules governing the space to those required for its safe management in accordance with the Public London Charter.
- H ~~I~~ncorporate green infrastructure into the public realm to support rainwater management through sustainable drainage, reduce exposure to air pollution, **moderate surface and air temperature** ~~manage heat~~ and increase biodiversity.
- I ~~E~~ensure that **appropriate** shade, and shelter and seating are provided with ~~appropriate types and amounts of seating~~ to encourage people to spend time in a place, ~~where appropriate~~. This should be done in conjunction with the removal of any ~~unnecessary or dysfunctional~~ clutter, **including** ~~or~~ street furniture **that is poorly located, unsightly, in poor condition or without a clear function**, to ensure ~~that the function of the space and pedestrian amenity is improved~~. **Consideration should be given to the use, design and location of street furniture so that it complements the use and function of the space**. Applications which seek to introduce unnecessary street furniture should ~~normally~~ be refused.
- J ~~E~~explore opportunities for innovative approaches to improving the public realm such as open street events **and Play Streets**.
- K ~~C~~create an engaging public realm for people of all ages, with opportunities for **social activities**, formal and informal play and social **interaction** ~~activities~~ during the daytime, evening and at night. This should include identifying opportunities for the meanwhile use of sites in early phases of development to create temporary public realm.
- L ~~E~~ensure that **any** on-street parking is designed so that it is not dominant or continuous, and that there is space for green infrastructure as well as cycle parking

in the carriageway. **Parking should not obstruct pedestrian lines** ~~Pedestrian crossings should be regular, convenient and accessible.~~

M ~~E~~nsure the provision and future management of free drinking water at appropriate locations in the new or redeveloped public realm.

3.7.1 The **public realm** includes all the publicly-accessible space between buildings, whether public or privately owned, from alleyways and streets to squares and open spaces, including the Thames and London's waterways. Some internal or elevated spaces can also be considered as part of the public realm, such as **markets**, shopping malls, sky gardens, viewing platforms, museums or station concourses. Such forms of public realm are particularly relevant in areas of higher density.

3.7.2 The quality of the public realm has a significant influence on quality of life because it affects people's sense of place, security and belonging, as well as having an influence on a range of health and social factors. For this reason, the public realm, and the buildings that frame those spaces, should be **designed for people** ~~multi-functional~~, attractive, accessible and contribute to the highest possible standards of comfort, good acoustic design, security and ease of movement. As London's population grows the demands on London's public realm to accommodate a greater **variety and intensity of uses** will increase. It is particularly important to recognise these demands in higher density development.

3.7.3 The public realm should be seen as a series of **connected routes and spaces** that help to define the character of a place. Around eighty per cent of public realm in London is in the form of streets and roads. A small proportion (less than eight per cent) of these have the primary purpose of moving large numbers of vehicles through them, while most are intended to be quiet residential streets used for play, recreation and local access. The remaining streets are places which function as key centres for leisure, shopping, **culture, social interaction** and accessing services and employment, such as high streets or public squares.

3.7.4 The specific balance between the different functions of any one space, such as its place-based activities, ~~and its function to facilitate movement~~ **and its ability to accommodate different uses of the kerbside**, should be at the heart of how the space is designed and managed. The Mayor's **Healthy Streets Approach**, explains how the design and management of streets can support a wide range of activities in the public realm as well as encourage and facilitate a shift to active travel.

3.7.5 **Pedestrian crossings** should be accessible and provide tactile paving and associated dropped kerbs or level access in accordance with national guidance.

3.7.6 Places should be distinctive, attractive and of the highest quality, allowing people to meet, congregate and socialise, as well as providing opportunity for quiet enjoyment. Public realm is **valuable for London's cultural activity**, providing a stage for informal and everyday culture and for organised cultural activity. The opportunity to incorporate these uses should be identified and facilitated through **community engagement**, careful design and good acoustic design.

3.7.7 **Legibility and signposting** make an important contribution to whether people feel comfortable in a place, and are able to understand it and navigate their way around. Transport for London's Streets Toolkit provides detailed design guidance for creating high quality streets and public spaces.

3.7.8 Even when a development does not include the creation of new public realm it will have an **impact on neighbouring public realm**. Therefore, any impact or change

to the conditions, use or nature of existing public space brought about by a development should meet the requirements of this policy.

- 3.7.9 The effective **management and ongoing maintenance** of public realm should be a key consideration in the design of places and secured through the planning system where appropriate. Whether publicly or privately owned, public realm should be open, free to use and offer the highest level of public access. These spaces should only have rules restricting the behaviour of the public that are considered essential for safe management of the space. The Mayor will develop a 'Public London Charter' which will set out the rights and responsibilities for the users, owners and managers of public spaces irrespective of land ownership. The rules and restrictions on public access and behaviour covering all new or redeveloped public space and its management should be in accordance with the Public London Charter, and this requirement should be secured through legal agreement or planning condition.
- 3.7.10 The **lighting** of the public realm needs careful consideration to ensure it is appropriate to address safety and security issues, and make night-time activity areas and access routes welcoming and safe, while also minimising light pollution.
- 3.7.11 The provision of **accessible free drinking water** fountains helps improve public health, reduces waste from single-use plastic bottles and supports the circular economy through the use of reusable water bottles. Free drinking water fountains that can refill water bottles as well as be drunk from should be provided in appropriate locations in new or redeveloped public realm. Appropriate locations for these water fountains should be identified by boroughs during the planning process. These locations include areas with high levels of pedestrian activity, such as in town centres and inside shopping malls, as well as areas of the public realm used for play, exercise and relaxing, such as parks and squares. The ongoing management and maintenance of facilities should be secured and agreed at planning stage to ensure long-term provision is achievable.
- 3.7.12 Opportunities should be identified by boroughs and applicants for the **meanwhile (temporary) use** of phased development sites to create attractive public realm. Parameters for any meanwhile use, particularly its longevity and associated obligations, should be established from the outset and agreed by all parties. Whilst the creation of temporary public realm makes the best use of land and provides visual, environmental and health benefits to the local community, planning permission for more permanent uses is still required.

Policy D8 Tall buildings

~~Tall buildings have a role to play in helping London accommodate its expected growth as well as supporting legibility across the city to enable people to navigate to key destinations. To ensure tall buildings are sustainably developed in appropriate locations, and are of the required design quality, Development Plans and development proposals must undertake the following:~~

Definition

- A Based on local context, Development Plans should define what is considered a tall building **for specific localities**, the height of which **will may vary between and within** different parts of London.

Tall building Locations

- B** Tall buildings should **only** be developed in sustainable locations that are identified in Development Plans ~~part of a plan-led approach to changing or developing an area. By following the processes required in parts A, B and C of Policy D2 Delivering good design~~ **Boroughs should determine if there are locations where tall buildings may be an appropriate form of development, subject to meeting the other requirements of the Plan. Boroughs should identify any such locations on maps in Development Plans the locations where tall buildings will be an appropriate form of development in principle, and should indicate the general building heights that would be appropriate in these locations, taking account of:**

- 1) the visual, functional, environmental and cumulative impacts of tall buildings (set out in part C below)
- 2) their potential contribution to new homes, economic growth and regeneration
- 3) the public transport connectivity of different locations.

This process should include engagement with neighbouring boroughs that may be affected by tall building developments in identified locations.

Impacts

- C** The impacts of a tall building can be visual, functional or environmental. All the following impacts ~~three elements should be considered~~ **addressed** within plan-making and in ~~deciding~~ development proposals:

- 1) ~~V~~**visual impacts**
 - a) ~~T~~**the views of buildings from different distances: need to be considered, including**
 - i) ~~L~~**Long-range views – these require attention to be paid to the design of the top of the building. It should make a positive contribution to the existing and emerging skyline and not adversely affect local or strategic views**
 - ii) ~~M~~**Mid-range views from the surrounding neighbourhood – particular attention should be paid to the form and proportions of the building. It should make a positive contribution to the local townscape in terms of legibility, proportions and materiality**
 - iii) ~~I~~**Immediate views from the surrounding streets – attention should be paid to the base of the building. It should have a direct relationship with the street, maintaining the pedestrian scale, character and vitality of the street. Where the edges of the site are adjacent to buildings of significantly lower height or parks and other open spaces there should be an appropriate transition in scale between the tall building and its surrounding context to protect amenity or privacy.**
 - b) ~~W~~**Whether part of a group or stand-alone, tall buildings should reinforce the spatial hierarchy of the local and wider context and aid legibility and wayfinding**
 - c) ~~A~~**Architectural quality and materials should be of an exemplary standard to ensure the appearance and architectural integrity of the building is maintained through its lifespan**
 - d) ~~P~~**Proposals should take account of, and avoid harm to, the significance of London's heritage assets and their settings. Proposals resulting in harm will**

require clear and convincing justification, demonstrating that alternatives have been explored and there are clear public benefits that outweigh that harm. The buildings should positively contribute to the character of the area

- e) Buildings in the setting of a World Heritage Site must preserve, **and not harm**, the Outstanding Universal Value of the World Heritage Site, and the ability to appreciate it
 - f) Buildings near the River Thames, particularly in the Thames Policy Area, should **protect and enhance the open quality of the river and the riverside public realm, including views**, and not contribute to a canyon effect along the river ~~which encloses the open aspect of the river and the riverside public realm, or adversely affect strategic or local views along the river~~
 - g) Buildings should not cause adverse reflected glare.
- 2) Functional impact
- a) The internal and external design, including construction detailing, the building's materials and its emergency exit routes must ensure the safety of all occupants
 - b) Buildings should be serviced, maintained and managed in a manner that will preserve their safety and quality, and not cause disturbance or inconvenience to surrounding public realm. Servicing, maintenance and building management arrangements should be considered at the start of the design process
 - c) Entrances, access routes, and ground floor uses should be designed and placed to allow for peak time use and to ensure there is no unacceptable overcrowding or isolation in the surrounding areas
 - d) It must be demonstrated that the capacity of the area and its transport network is capable of accommodating the quantum of development in terms of access to facilities, services, walking and cycling networks, and public transport for people living or working in the building
 - e) Infrastructure improvements required as a result of the development should be delivered and phased appropriately (**see also Policy D6 Optimising density**)
 - f) Jobs, services, facilities and economic activity that will be provided by the development and the regeneration potential this might provide should inform the design so it maximises the benefits these could bring to the area, and maximises the role of the development as a catalyst for further change in the area
 - g) Buildings, including their construction, should not interfere with aviation, navigation or telecommunication, and should avoid a significant detrimental effect on solar energy generation on adjoining buildings.
- 3) Environmental impact
- a) Wind, daylight, sunlight penetration and temperature conditions around the building(s) and neighbourhood must be carefully considered and not compromise comfort and the enjoyment of open spaces, including water spaces, around the building
 - b) Air movement affected by the building(s) should support the effective dispersion of pollutants, but not adversely affect street-level conditions
 - c) Noise created by air movements around the building(s), servicing machinery, or building uses, should not detract from the comfort and enjoyment of open spaces around the building.

4) Cumulative impacts

- a) The cumulative visual, functional and environmental impacts of proposed, consented and planned tall buildings in an area must be considered when assessing tall building proposals and when developing plans for an area. Mitigation measures should be identified and designed into the building as integral features from the outset to avoid retro-fitting.

Public access

- D **Free to enter** Publicly-accessible areas should be incorporated into tall buildings where appropriate, particularly more prominent tall buildings where **they should normally be located at the top of the building to afford wider views across London.**

3.8.1 Whilst high density does not need to imply high rise, **tall buildings** can form part of a ~~strategic plan-led~~ approach to **facilitating regeneration opportunities and meeting managing future growth**, ~~regeneration and economic development goals~~, particularly in order to make optimal use of the capacity of sites which are well-connected by public transport and have good access to services and amenities. Tall buildings can help people navigate through the city by providing reference points and emphasising the hierarchy of a place such as main centres of activity, and important street junctions and transport interchanges. Tall buildings that are of exemplary architectural quality, **in the right place**, can make a positive contribution to London's cityscape, and many tall buildings have become a valued part of London's identity. However, they can also have detrimental visual, functional and environmental impacts if in inappropriate locations and/or of poor quality design. The processes set out in Policy D2 Delivering good design will enable boroughs to identify ~~locations~~ areas where tall buildings can play a positive role in shaping the character of an area.

3.8.2 Tall buildings are generally those that are substantially taller than their surroundings and cause a significant change to the skyline. **Boroughs should define what is a 'tall building' for specific localities.** In large areas of extensive change, such as Opportunity Areas, **the threshold for what constitutes a definitions of tall buildings** should relate to the evolving **(not just the existing)** context. **This policy applies to tall buildings as defined by the borough. Where there is no local definition, the policy applies to buildings over 25m in height in the Thames Policy Area, and over 30m in height elsewhere in London.** ~~For the purpose of assessing applications referable to the Mayor, a tall building is a development that meets one or more of the following descriptions:~~

- ~~▪ it falls within the Thames Policy Area and is more than 25m in height~~
- ~~▪ it falls anywhere else within the City of London and is more than 150m in height~~
- ~~▪ it is more than 30m in height elsewhere in London.~~

3.8.2A **The higher the building the greater the level of scrutiny that is required of its design. In addition, tall buildings that are referable to the Mayor, must be subject to the particular design scrutiny requirements set out in part F of Policy D2 Delivering good design**

3.8.3 The Mayor will work with boroughs to provide a **strategic overview of tall building locations** across London and will seek to utilise 3D virtual reality digital modelling to help identify these areas, assess tall building proposals and aid public consultation and engagement. 3D virtual reality modelling can also help assess

cumulative impacts of developments, particularly those permitted but not yet completed.

- 3.8.4 A tall building can be considered as being made up of three main parts: a top, middle and base. The top includes the upper floors, and roof-top mechanical or telecommunications equipment and amenity space. The **top** should be designed to make a positive contribution to the quality and character of the skyline, and mechanical and telecommunications equipment must be integrated in the total building design. Not all tall buildings need to be iconic landmarks and the design of the top of the building (i.e. the form, profile and materiality) should relate to the building's role within the existing context of London's skyline. Where publicly-accessible areas, including viewing areas on upper floors, are provided as a public benefit of the development, they should be freely accessible and in accordance with part G of Policy D7 Public realm. Well-designed safety measures should be integrated into the design of tall buildings and must ensure personal safety at height.
- 3.8.5 The **middle** of a tall building has an important effect on how much sky is visible from surrounding streets and buildings, as well as on wind flow, privacy and the amount of sunlight and shadowing there is in the public realm and by surrounding properties.
- 3.8.6 The **base** of the tall building is its lower storeys. The function of the base should be to frame the public realm and streetscape, articulate entrances, and help create an attractive and lively public realm which provides a safe, inclusive, interesting, and comfortable pedestrian experience. The base should integrate with the street frontage of adjacent buildings, and where appropriate enable the building to transition down in height.
- 3.8.7 Any **external lighting** for tall buildings should be energy efficient, and designed to minimise glare, light trespass, and sky glow, and ensure it does not negatively impact on **protected views** or the amenity of nearby residents.
- 3.8.8 The list of impacts of tall buildings in Policy D8 Tall buildings is not exhaustive and **other impacts** may need to be taken into consideration. For example, the impact of new tall buildings in proximity to waterbodies supporting notable bird species upon the birds' flight lines may need to be considered.
- 3.8.9 **Safety** considerations must be central to the design and operation of tall buildings. Policy D10 Safety, security and resilience to emergency provides information on how to ensure the design of buildings follows best practice to minimise the threats from fire, flood, terrorism, and other hazards and Policy D11 Fire safety sets out specific requirements to address fire risk.

Policy D9 Basement development

- A ~~Boroughs, particularly in inner London,~~ should establish policies to address the negative impacts of large-scale basement development beneath existing buildings.

- 3.9.1 High residential land values and development constraints have led to **increasing levels of basement development** beneath existing buildings, particularly within central and inner London boroughs.

~~3.9.2 Moved to end of section~~

~~3.9.3 Moved to end of section~~

- 3.9.4 The construction of basements can, ~~however,~~ cause significant disturbance and disruption if not managed effectively, especially where there are cumulative impacts from a concentration of subterranean developments. **Large-scale basements** (i.e. those that are multi-storey and/or those that extend significantly beyond the existing building footprint) can cause particular issues, especially when located in residential or higher density mixed-use areas. Such basement development can impact on land and structural stability as well as causing localised flooding or drainage issues. The extent and duration of construction of large-scale basements can also lead to a large number of HGV trips, as well as noise and vibration issues, causing disturbance to local residents. Measures such as requiring Construction Method and Management Plans can help protect neighbours during construction. Other consents and regulatory regimes may also be involved, such as Environmental Health in regard to noise and contamination, and Highways in relation to licences for skips and temporary structures.
- 3.9.5 The Mayor supports boroughs in **restricting large-scale basement excavations** under existing properties where this type of development is likely to cause unacceptable harm. Local authorities are advised to consider the following issues, **including any cumulative impacts**, alongside other relevant local circumstances when developing their own policies for basement developments: local ground conditions; flood risk and drainage impacts; land and structural stability; protection of trees, landscape, and biodiversity; archaeology and heritage assets; neighbour amenity; air and light pollution; and the impacts of noise, vibration, dust and site waste. Where there is a known risk of flooding, boroughs may consider restricting the use of basements for non-habitable uses. The Agent of Change Principle (Policy D12 Agent of Change) should be applied to basement development to limit the impact of ground-borne noise and vibration from existing uses and infrastructure. Further guidance will be provided in Supplementary Planning Guidance.
- ~~3.9.5A- 3.9.2~~ Most proposals for the construction of a basement will require planning permission. These proposals need to be managed sensitively through the planning application process to ensure that their potential impact on the local environment and residential amenity is acceptable. ~~Where basement developments cause particular harm, boroughs can consider introducing Article 4 Directions to require smaller-scale proposals to obtain planning permission.~~
- ~~3.9.5B 3.9.3~~ The Mayor considers that **smaller-scale basement excavations**, where they are appropriately designed and constructed, can contribute to the efficient use of land, and ~~They can provide an affordable option for families to provide extra living space without the costs of moving house, although these developments rarely result in the provision of additional residential units to help meet London's housing need.~~ **In areas w**Where basement developments could cause particular harm, boroughs can consider introducing **Article 4 Directions** to require smaller-scale proposals to obtain planning permission.

Policy D10 Safety, security and resilience to emergency

The Mayor uses his convening power to work with relevant partners and stakeholders to ensure and maintain a safe and secure environment in London that is resilient against emergencies including fire, flood, weather, terrorism and related hazards as set out in the London Risk Register.

- A Boroughs should work with their local Metropolitan Police Service 'Design Out Crime' officers and planning teams, whilst also working with other agencies such as the London Fire and Emergency Planning Authority, the City of London Police and the British Transport Police to identify the community safety needs, policies and sites required for their area and to support provision of necessary infrastructure to maintain a safe and secure environment **and reduce the fear of crime**.
 - B Development proposals should maximise building resilience and minimise potential physical risks, including those arising as a result of fire, flood and related hazards. Development should include measures to design out crime that – in proportion to the risk – deter terrorism, assist in the detection of terrorist activity and help mitigate its effects. These measures should be considered at the start of the design process to ensure they are inclusive and aesthetically integrated into the development and the wider area.
- 3.10.1 Londoners look to the Mayor as a civic leader for support, advice and reassurance in the event of a major incident taking place. The role of the Mayor in an attack is an interconnected one and is clarified via his attendance at COBR²⁹ meetings about incidents affecting, or potentially affecting, London. The London Resilience Partnership maintains the London Risk Register³⁰. The **London Risk Register** provides a summary of the main risks affecting London and identifies the existing risk management arrangements for the risks.
- 3.10.2 New developments, including building refurbishments, should be constructed with resilience at the heart of their design. In particular they should incorporate appropriate **fire safety** solutions and represent best practice in fire safety planning in both design and management. The ~~London Fire and Emergency Planning Authority (LFEPA)~~ **London Fire Commissioner** should be consulted early in the design process to ensure major developments have fire safety solutions built-in. Flooding issues and designing out the effects of flooding are addressed in Chapter 9.
- 3.10.3 Measures to **design out crime**, including counter terrorism measures, should be integral to development proposals and considered early in the design process, **taking into account the principles contained in guidance such as the Secured by Design Scheme^{30A} published by the Police. Further guidance is provided by Government on security design³¹**. This will ensure **development proposals** they provide adequate protection, do not compromise good design, do not shift vulnerabilities elsewhere, and are cost-effective. Development proposals should incorporate measures that are proportionate to the threat of the risk of an attack and the likely consequences of one.

²⁹ COBR (often referred to as COBRA) stands for Cabinet Office Briefing Rooms, these are the locations the Government's emergency response committee set up to respond to major events and emergencies.

³⁰ For further details see <http://www.london.gov.uk/mayor-assembly/mayor/london-resilience>

^{30A} For further details see <http://www.securedbydesign.com/>

³¹ Crowded Places: 2017 National Counter-Terrorism Security Office
<https://www.gov.uk/government/publications/crowded-places-guidance> ; Crowded places - the planning system and counter-terrorism: 2012, Home Office and DCLG; and Protecting crowded places: design and technical issues: 2014, Home Office, Centre for the Protection of National Infrastructure and the National Counter-Terrorism Security Office
<https://www.gov.uk/government/collections/crowded-places>

- 3.10.4 **By drawing upon current Counter Terrorism principles**, New development, including streetscapes and public spaces, should incorporate elements that deter terrorists, maximise the probability of **their detection** ~~detecting intrusion~~, and **delay/disrupt their activity until an appropriate response can be deployed** ~~any attempts at disruption until a response can be activated~~. Consideration should be given to **physical, personnel and electronic security** (including detailed questions of design and choice of materials, vehicular stand off and access, air intakes and telecommunications infrastructure). The Metropolitan Police (Designing Out Crime Officers and Counter Terrorism Security Advisors) should be consulted to ensure major developments contain appropriate design solutions, which **mitigate** ~~respond to~~ the potential level of risk whilst ensuring the quality of places is maximised.

Policy D11 Fire safety

- A In the interests of fire safety and to ensure the safety of all building users, development proposals must achieve the highest standards of fire safety and ensure that they:
- 1A) **identify suitably positioned unobstructed outside space:**
- a) **for fire appliances to be positioned on**
 - b) **appropriate for use as an evacuation assembly point**
- 1) are designed to incorporate appropriate features which reduce the risk to life **and of serious injury** in the event of a fire; **including appropriate fire alarm systems, passive and active fire safety measures**
 - 2) are constructed in an appropriate way to minimise the risk of fire spread
 - 3) provide suitable and convenient means of escape, **and associated evacuation strategy** for all building users
 - 4) ~~adopt~~ **develop** a robust strategy for evacuation which **can be periodically updated and published, and which** all building users can have confidence in
 - 5) provide suitable access and equipment for firefighting which is appropriate for the size and use of the development.
- B All major development proposals should be submitted with a Fire Statement, which is an independent fire strategy, produced by a third party suitably qualified assessor. The statement should detail how the development proposal will function in terms of:
- 1) the building's construction: methods, products and materials used, **including manufacturers details**
 - 2) the means of escape for all building users: **suitably designed** stair cores, escape for building users who are disabled or require level access, ~~and the associated management plan approach~~ **and associated evacuation strategy approach**
 - 2A) **features which reduce the risk to life: fire alarm systems, passive and active fire safety measures and associated management and maintenance plans**
 - 3) access for fire service personnel and equipment: how this will be achieved in an evacuation situation, water supplies, provision and positioning of equipment, firefighting lifts, stairs and lobbies, any fire suppression and smoke ventilation systems proposed, and the ongoing maintenance and monitoring of these
 - 4) how provision will be made within the **curtilage of the site** to enable fire appliances to gain access to the building

4A) ensuring that any potential future modifications to the building will take into account and not compromise the base build fire safety/protection measures.

- 3.11.1** The **fire safety of developments** should be considered from the outset. Development agreements, development briefs and procurement processes should be explicit about incorporating and requiring the highest standards of fire safety. How a building will function in terms of fire, emergency evacuation, and the safety of all users should be considered at the earliest possible stage to ensure the most successful outcomes are achieved, creating developments that are safe and that Londoners can have confidence living in and using.
- 3.11.2** The ~~subject matter of~~ **fire safety compliance** is covered by Part B of the Building Regulations. However to ensure that development proposals achieve the **highest standards of fire safety**, reducing risk to life, minimising the risk of fire spread, and providing suitable and convenient means of escape which all building users can have confidence in, applicants should consider issues of fire safety before building control application stage, taking into account the diversity of and likely behaviour of the population as a whole. ~~Developments, their floor layouts and cores need to be planned around issues of fire safety and a robust strategy for evacuation from the outset, embedding and integrating a suitable strategy and relevant design features at the earliest possible stage, rather than features or products being applied to pre-determined developments which could result in less successful schemes which fail to achieve the highest standards of fire safety.~~
- 3.11.2A** Applicants should demonstrate on a site plan that space has been identified for the appropriate positioning of fire appliances. These spaces should be kept clear of obstructions and conflicting uses which could result in the space not being available for its intended use in the future.
- 3.11.2B** Applicants should also show on a site plan appropriate evacuation assembly points. These spaces should be positioned to ensure the safety of people using them in an evacuation situation.
- 3.11.2C** ~~Developments, their floor layouts and cores need to be planned around issues of fire safety and a robust strategy for evacuation from the outset, embedding and integrating a suitable strategy and relevant design features at the earliest possible stage, rather than features or products being applied to pre-~~ **determined developments which could result in less successful schemes which fail to achieve the highest standards of fire safety. This is of particular importance in blocks of flats, as building users and residents may be less familiar with evacuation procedures.**
- 3.11.3** Suitable suppression systems (such as sprinklers) installed in buildings can reduce the risk to life and significantly reduce the degree of damage caused by fire, and should be explored at an early stage of building design.
- 3.11.3A** **The provision of stair cores which are suitably sized, provided in sufficient numbers and designed with appropriate features to allow simultaneous evacuation should also be explored at an early stage and provided wherever possible.**
- 3.11.4** Policy D3 Inclusive design requires development to incorporate safe and dignified emergency evacuation for all building users, by as independent means as possible. ~~Where~~ **In all developments where lifts are installed, Policy D3 Inclusive design requires as a minimum of at least one lift per core (or more subject to capacity**

assessments) to be a suitably sized fire evacuation lift suitable to be used to evacuate people who require level access from the building. ~~which incorporate suitable levels of fire resistance to elements of construction forming refuges, evacuation lift enclosures, and lobbies.~~ Fire evacuation lifts and associated provisions should be appropriately designed, constructed and should include the necessary controls suitable for the purposes intended.

3.11.5 **Fire statements** should be submitted with all major development proposals. These should be produced by a third-party independent suitably-qualified assessor. This should be a qualified engineer with relevant experience in fire safety, such as a chartered engineer registered with the Engineering Council by the Institution of Fire Engineers **or suitably qualified and competent with the demonstrable experience to address the complexity of the design being proposed / built, which should be evidenced in the fire statement.** Planning departments ~~should~~ could work with and be assisted by suitably qualified and experienced officers within borough building control departments-and/or the London Fire Brigade, in the evaluation of these statements.

3.11.5A **Security measures should not adversely impact on the means of escape nor prevent entry of the fire and rescue service.**

Policy D12 Agent of Change

- A The Agent of Change principle places the responsibility for mitigating impacts from existing noise **and other nuisance**-generating activities or uses on the proposed new noise-sensitive development.
- B Boroughs should ensure that **Development Plans** and planning decisions reflect the Agent of Change principle and take account of existing noise **and other nuisance**-generating uses in a sensitive manner when new development, ~~particularly residential,~~ is proposed nearby.

C Moved. See below

- D Development should be designed to ensure that established noise **and other nuisance**-generating ~~venues~~ **uses** remain viable and can continue or grow without unreasonable restrictions being placed on them.
- E New noise **and other nuisance**-generating development, ~~such as industrial uses, music venues, pubs, rail infrastructure, schools and sporting venues~~ proposed close to residential and other noise-sensitive development **uses** should put in place measures ~~such as soundproofing~~ to mitigate and manage any noise impacts for neighbouring residents and businesses.
- EA Development proposals should manage noise and other potential nuisances by:
 - 1) ensuring good ~~acoustic~~ design to ~~mitigates~~ and minimises existing and potential **nuisances** ~~impacts of noise generated by existing uses and activities~~ located in the area
 - 2) exploring mitigation measures early in the design stage, with necessary and appropriate provisions **including ongoing and future management of mitigation measures** secured through planning obligations
 - 3) separating new noise-sensitive development where possible from existing noise-generating businesses **and uses** through distance, screening, internal layout, sound-proofing, ~~and~~ insulation and other acoustic design measures.

- F Boroughs should refuse development proposals that have not clearly demonstrated how noise **and other nuisances** will be mitigated and managed.
- 3.12.1 For a long time, the responsibility for managing and **mitigating the impact of noise and other nuisances** on neighbouring residents and businesses has been placed on the business or activity making the noise **or other nuisance**, regardless of how long the ~~noise-generating~~ business or activity has been operating in the area. In many cases, this has led to newly-arrived residents complaining about noise **and other nuisances** from existing businesses **or activities**, sometimes forcing the businesses **or other activities** to close-down.
- 3.12.2 The **Agent of Change principle** places the responsibility for mitigating the impact of noise **and other nuisances** firmly on the new development. This means that where new developments are proposed close to existing noise-generating uses, **for example**, applicants will need to design them in a more sensitive way to protect the new occupiers, such as new residents, businesses, schools and religious institutions, from noise **and other** impacts. This could include paying for soundproofing for the existing ~~noise-generating uses~~, such as ~~an existing~~ music venue. The Agent of Change principle works both ways. **For example**, ~~if~~ a new noise-generating use is proposed close to existing noise-sensitive uses, such as residential development or businesses, the onus is on the new use to ensure its building or activity is designed to protect existing users or residents from noise impacts.
- 3.12.3 The Agent of Change principle is included in the National Planning Policy Framework at ~~paragraph 123~~ and Planning Practice Guidance provides further information on how to mitigate the adverse impacts of noise **and other impacts such as air and light pollution**³².
- 3.12.4 Noise-generating **cultural venues** such as theatres, concert halls, pubs, **night-clubs** and ~~live music~~ **other venues that host live or electronic music** should be protected (see Policy HC5 Supporting London's culture and creative industries). This requires a sensitive approach to managing change in the surrounding area. Adjacent development and land uses should be brought forward and designed in ways which ensure established cultural venues remain viable and can continue in their present form without the prospect of licensing restrictions or the threat of closure due to noise complaints from neighbours.
- 3.12.4A As well as cultural venues, the Agent of Change principle should be applied to all noise-generating uses and activities including schools, places of worship, sporting venues, offices, shops, industrial sites, waste sites, safeguarded wharves, rail and other transport infrastructure.
- 3.12.5 Housing and other **noise-sensitive development** proposed near to an existing noise-generating use should include necessary acoustic design measures **for example, site layout, building orientation, uses and materials**. This will ensure new development has effective ~~sound insulation~~ **measures in place** to mitigate and minimise potential noise impacts or neighbour amenity issues. Mitigation measures should be explored at an early stage in the design process, with necessary and appropriate provisions secured through planning obligations.

³² NPPG, <https://www.gov.uk/guidance/noise-2#contents> <https://www.gov.uk/topic/planning-development/planning-officer-guidance>

- 3.12.5A Ongoing and longer-term management of mitigation measures should be considered, for example through a noise management plan. Policy T7 Deliveries, servicing and construction provides guidance on managing the impacts of freight, servicing and deliveries.**
- 3.12.6 Some permitted development, including change of use from office to residential, requires noise impacts to be taken into consideration by the Local Planning Authority as part of the prior approval process. Boroughs must take account of national planning policy and guidance on noise, and therefore the Agent of Change principle would apply to these applications.
- 3.12.6A The Agent of Change principle predominantly concerns the impacts of noise-generating uses and activities but other nuisances should be considered under this policy. Other nuisances include dust, odour, light and vibrations (see Policy SI1 Improving air quality and T7 Freight and servicing). This is particularly important for development proposed for co-location with industrial uses and the intensification of industrial estates (see Policy E7 Industrial intensification, co-location and substitution, part E (4)). When considering co-location and intensification of industrial areas, boroughs should ensure that existing businesses and uses do not have unreasonable restrictions placed on them because of the new development.**
- 3.12.7 **Noise and other impact assessments** accompanying planning applications should be carefully tailored to local circumstances and be fit for purpose. That way, the ~~noise particular~~ characteristics of existing uses can be properly captured and assessed. For example, ~~cultural venues~~ **some businesses and activities** can have peaks of noise at different times of the day and night and on different days of the week, and boroughs should require a noise impact assessment to take this into consideration. Boroughs should pay close attention to the assumptions made and methods used in noise impact assessments to ensure a full and accurate assessment.
- 3.12.8 Reference should be made to Policy D13 Noise which considers the impacts of noise-generating activities on a wider scale **and Policy SI1 Improving air quality which considers the impacts of existing air pollution. Further guidance on managing and mitigating noise in mixed-use development and town-centre development** is also provided in the Mayor's London Environment Strategy.

Policy D13 Noise

- A In order to reduce, manage and mitigate noise to improve health and quality of life, residential and other non-aviation development proposals should manage noise by:
- 1) avoiding significant adverse noise impacts on health and quality of life
 - 2) reflecting the Agent of Change principle **as set out in Policy D12.** ~~to ensure measures do not add unduly to the costs and administrative burdens on existing noise-generating uses~~
 - 3) mitigating and minimising the existing and potential adverse impacts of noise on, from, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on **existing noise-generating uses** ~~development~~
 - 4) improving and enhancing the acoustic environment and promoting appropriate soundscapes (including Quiet Areas and spaces of relative tranquillity)
 - 5) separating new noise-sensitive development from major noise sources (such as road, rail, air transport and some types of industrial use) through the use of

- distance, screening, ~~or internal~~ layout, **orientation, uses and materials** – in preference to sole reliance on sound insulation
 - 6) where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any potential adverse effects should be controlled and mitigated through applying good acoustic design principles
 - 7) promoting new technologies and improved practices to reduce noise at source, and on the transmission path from source to receiver.
- B Boroughs, and others with relevant responsibilities, should identify and nominate new Quiet Areas and protect existing Quiet Areas in line with the procedure in Defra's Noise Action Plan for Agglomerations.

- 3.13.1 The **management of noise** is about encouraging the right acoustic environment in the right place at the right time. This is important to promote good health and a good quality of life within the wider context of achieving sustainable development. The management of noise should be an integral part of development proposals and considered as early as possible. Managing noise includes improving and enhancing the acoustic environment and promoting appropriate soundscapes. This can mean allowing some places or certain times to become noisier within reason, whilst others become quieter. Consideration of existing noise sensitivity within an area is important to minimise potential conflicts of uses or activities, for example in relation to internationally important nature conservation sites which contain noise-sensitive species. **Boroughs, developers, businesses and other stakeholders should work collaboratively to identify the existing noise climate and other noise issues to ensure effective management and mitigation measures are achieved in new development proposals.**
- 3.13.2 The **Agent of Change Principle** places the responsibility for mitigating impacts from existing noise-generating activities or uses on the new development. Through the application of this principle existing land uses should not be unduly impacted ~~affected~~ by the introduction of new noise-sensitive uses. **For noise-generating uses regard should be had to not prejudicing their potential for intensification or expansion.**
- 3.13.3 The management of noise also includes promoting **good acoustic design of the inside of buildings**. Section 5 of BS 8223:2014 provides guidance on how best to achieve this. **The Institute of Acoustics has produced advice Pro:PG Planning and Noise (May 2017) that may assist with the implementation of residential developments. BS4214 provides guidance on monitoring noise issues in mixed residential/industrial areas.**
- 3.13.4 Deliberately **introducing sounds** can help mitigate the adverse impact of existing sources of noise, enhance the enjoyment of the public realm, and help protect the relative tranquillity and quietness of places where such features are valued. For example, playing low-level music outside the entrance to nightclubs has been found to reduce noise from queueing patrons, leading to an overall reduction in noise levels. Water features can be used to reduce the traffic noise, replacing it with the sound of falling water, generally found to be more pleasant by most people³³.

³³ For more information on approaches to minimise noise related to road and rail traffic, aircraft, water transport and industry see the Mayor's Environment Strategy.

- 3.13.5 Heathrow and London City Airport Operators have responsibility for noise action plans for airports. Policy T8 Aviation sets out the Mayor's approach to **aviation-related development**.
- 3.13.6 The definition of **Tranquil Areas, Quiet Areas and spaces of relative tranquillity** are matters for London boroughs. These are likely to reflect the specific context of individual boroughs, such that Quiet Areas in central London boroughs may reasonably be expected not to be as quiet as Quiet Areas in more residential boroughs. Defra has identified parts of Metropolitan Open Land and local green spaces as potential Quiet Areas that boroughs may wish to designate³⁴.