

Chapter 3

Design



Policy D1 London's form and characteristics

Development Plans, area-based strategies and development proposals should address the following:

- A The form and layout of a place should:
- 1) use land efficiently by optimising density, connectivity and land use patterns
 - 2) facilitate an inclusive environment
 - 3) be street-based with clearly defined public and private environments
 - 4) deliver appropriate outlook, privacy and amenity
 - 5) achieve safe and secure environments
 - 6) provide active frontages and positive reciprocal relationships between what happens inside the buildings and outside in the public realm to generate liveliness and interest
 - 7) provide conveniently located green and open spaces for social interaction, play, relaxation and physical activity
 - 8) 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
 - 9) help prevent or mitigate the impacts of noise and poor air quality
 - 10) 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.
- B Development design should:
- 1) respond to local context by delivering buildings and spaces that are positioned and of a scale, appearance and shape that responds successfully to the identity and character of the locality, including to existing and emerging street hierarchy, building types, forms and proportions
 - 2) 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

- 3) aim for high sustainability standards
- 4) respect, enhance and utilise the heritage assets and architectural features that make up the local character
- 5) provide spaces and buildings that maximise opportunities for urban greening to create attractive resilient places that can also help the management of surface water
- 6) achieve comfortable and inviting environments both inside and outside buildings.

- 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 of 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** are more likely to be successful. 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.

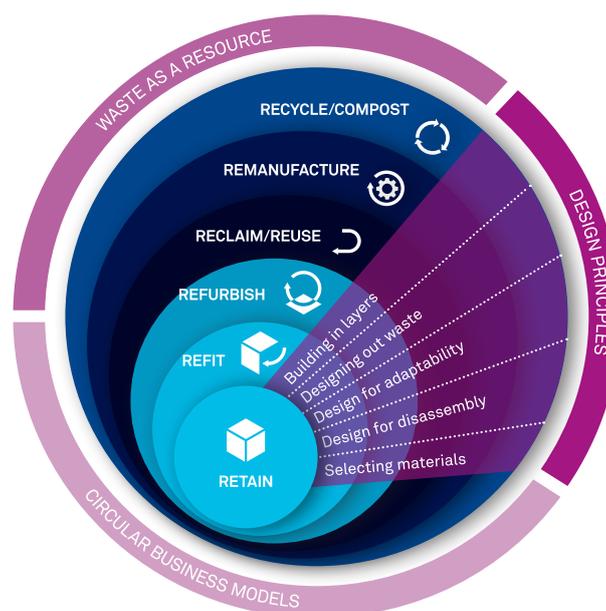
- 3.1.4 **Maximising urban greening** and creating green open spaces provides attractive places for Londoners to relax and play, and helps make the city more resilient to the effects of climate change. Landscaping and urban greening should be designed to ecologically enhance and, where possible, physically 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
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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



Source: Building Revolutions (2016), David Cheshire, RIBA Publishing ©

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) 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 form 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

- 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 and 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 Boroughs and applicants should use design review 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, 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) 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 using architect retention clauses in legal agreements where appropriate.

- 3.2.1 The processes and actions set out in Policy D2 Delivering good design will help ensure development delivers good design. 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.

- 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** 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.
- 3.2.7 The Mayor has produced **guidance on design reviews**, including how panels and processes should be managed. All development proposals should follow this guidance, and be subject to a level of scrutiny appropriate to the scale of the site. This design scrutiny should include work by planning case officers and ongoing and informal review by qualified urban design officers as well as formal design review.
- 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 where this is not possible.

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 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 developments where lifts are installed, as a minimum at least one lift per core (or more subject to capacity

²⁴ Mayor's Design Advisory Group. Shaping London: How can London deliver good growth? 2016

assessments) should be a 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.
- 3.3.2 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 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 devices 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.
- 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, 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
 - 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 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.
- 3.3.8 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
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professional development programmes. Further guidance on inclusive design standards can be found in the British Standards BS8300 Volumes 1 and 2.

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 New homes should have adequately-sized rooms and convenient and efficient room layouts which are functional, fit for purpose and meet the changing needs of Londoners 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.
- D Housing developments are required to meet the minimum standards below. 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 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. 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.

- E Residential 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 housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.
- G Dwellings 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) and food.

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

Table 3.1 - Minimum 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

b: bedrooms

p: persons

* Where a studio / one 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.

- 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. 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.
- 3.4.3 To address the impacts of the urban heat island effect and the fact that the majority of residential developments in London are 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.
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- 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.
- 3.4.6 **Private open 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 amenity or garden space is encouraged.
- 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 of Policy S4 Play and informal recreation.
- 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.
- 3.4.9 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.
- 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.
- 3.4.11 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
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- 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.

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 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 meet Building Regulation requirement M4(2) 'accessible and adaptable dwellings'.

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/>

- 3.5.1 Many households in London already require **accessible or adapted housing** to lead dignified and independent lives²⁷. 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.
- 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 with ease and are not limited by the design of communal areas.
- 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 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, and stacked maisonettes where

²⁷ Source – English Housing Survey

²⁸ <https://www.gov.uk/guidance/housing-optional-technical-standards>

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 are required to meet 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
- Number of dwellings per size typology (i.e. x no. of y bed units) which are required to meet M4(3) wheelchair adaptable standards

Policy D6 Optimising housing density

A Development proposals must make the most efficient use of land and be developed at the optimum density. The optimum density of a development should result from a design-led approach to determine the capacity of the site. Particular consideration should be given to:

- 1) the site context
- 2) its connectivity and accessibility by walking and cycling, and existing and planned public transport (including PTAL)
- 3) the capacity of surrounding infrastructure.

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

- B The capacity of existing and planned physical, environmental and social infrastructure to support new development should be assessed and, where necessary, improvements to infrastructure capacity should be planned 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 densities through encouraging 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 development is contingent on the provision of the necessary infrastructure and public transport services and that the development is phased accordingly.
- C The higher the density of a development, the greater the level of scrutiny that is required of its design, particularly the qualitative aspects of the development design described in [Policy D4 Housing quality and standards](#), and the 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 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 measures 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 measures 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.

- 3.6.1 For London to accommodate growth 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**. A design-led approach to optimising density should be based on an evaluation of the site's attributes, its surrounding context and 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.
- 3.6.2 **Infrastructure assessments** should be proportionate to the scale of the development. Minor developments will typically have only incremental impacts on local infrastructure capacity, which should be addressed by boroughs' Infrastructure Delivery Plans. 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.
- 3.6.3 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.

- 3.6.4 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 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 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 the internal residential units is maintained.
- 3.6.8 **Management plans** required to be submitted with higher density development proposal must include details of day-to-day servicing and
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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 Ensure the public realm is safe, accessible, inclusive, attractive, well-connected, easy to understand and maintain, and that it relates to the local and historic context, and incorporates the highest quality design, landscaping, planting, street furniture and surfaces.
- B 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 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 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 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.
- 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 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 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 Incorporate green infrastructure into the public realm to support rainwater management through sustainable drainage, reduce exposure to air pollution, manage heat and increase biodiversity.
- I Ensure that shade and shelter 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 or street furniture to ensure the function of the space and pedestrian amenity is improved. Applications which seek to introduce unnecessary street furniture should normally be refused.
- J Explore opportunities for innovative approaches to improving the public realm such as open street events.
- K Create an engaging public realm for people of all ages, with opportunities for formal and informal play and social 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 Ensure that 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. Pedestrian crossings should be regular, convenient and accessible.
- M Ensure the provision and future management of free drinking water at appropriate locations in 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 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 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, 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, 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 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.
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- 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 **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.
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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, the height of which may vary in different parts of London.

Tall building locations

- B Tall buildings should be part of a plan-led approach to changing or developing an area. Boroughs should identify 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, 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.

Impacts

- C The impacts of a tall building can be visual, functional or environmental. All three elements should be considered within plan-making and in deciding development proposals:
- 1) Visual impacts
 - a) The views of buildings from different distances need to be considered, including:
 - i 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 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 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) 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) 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) 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 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 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
 - 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
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- 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 Publicly-accessible areas should be incorporated into tall buildings where appropriate, particularly more prominent tall buildings.

- 3.8.1 Whilst high density does not need to imply high rise, **tall buildings** can form part of a strategic approach to meeting 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 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 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. In large areas of extensive change, such as Opportunity Areas, **definitions** of tall buildings should relate to the evolving context. 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.

- 3.8.3 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 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.
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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 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.
- 3.9.3 The Mayor considers that **smaller-scale basement excavations**, where they are appropriately designed and constructed, can contribute to the efficient use of land. 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.
- 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 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.

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.

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) 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

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>

design process³¹. This will ensure 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.

- 3.10.4 New development, including streetscapes and public spaces, should incorporate elements that deter terrorists, maximise the probability of detecting intrusion, and delay 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 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:
- 1) are designed to incorporate appropriate features which reduce the risk to life in the event of a fire
 - 2) are constructed in an appropriate way to minimise the risk of fire spread
 - 3) provide suitable and convenient means of escape for all building users
 - 4) adopt a robust strategy for evacuation which all building users can have confidence in

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>

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
- 2) the means of escape for all building users: stair cores, escape for building users who are disabled or require level access, and the associated management plan approach
- 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 site to enable fire appliances to gain access to the building.

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 of fire safety 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.

- 3.11.3 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.
- 3.11.4 Policy D3 Inclusive design requires development to incorporate safe and dignified emergency evacuation for all building users, by as independent means as possible. Where lifts are installed, Policy D3 Inclusive design requires a minimum of one lift per core to be a fire evacuation lift, which incorporating suitable levels of fire resistance to elements of construction forming refuges, evacuation lift enclosures, and lobbies.
- 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. Planning departments should 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.

Policy D12 Agent of Change

- A The Agent of Change principle places the responsibility for mitigating impacts from existing noise-generating activities or uses on the proposed new noise-sensitive development.
- B Boroughs should ensure that planning decisions reflect the Agent of Change principle and take account of existing noise-generating uses in a sensitive manner when new development, particularly residential, is proposed nearby.
- C Development proposals should manage noise and other potential nuisances by:
- 1) ensuring good acoustic design to mitigate and minimise existing and potential impacts of noise generated by existing uses located in the area

- 2) exploring mitigation measures early in the design stage, with necessary and appropriate provisions secured through planning obligations
- 3) separating new noise-sensitive development where possible from existing noise-generating businesses through distance, screening, internal layout, sound-proofing and insulation, and other acoustic design measures.

- D Development should be designed to ensure that established noise-generating venues remain viable and can continue or grow without unreasonable restrictions being placed on them.
- E New noise-generating development, such as industrial uses, music venues, pubs, rail infrastructure, schools and sporting venues proposed close to residential and other noise-sensitive development should put in place measures such as soundproofing to mitigate and manage any noise impacts for neighbouring residents and businesses.
- F Boroughs should refuse development proposals that have not clearly demonstrated how noise impacts will be mitigated and managed.

- 3.12.1 For a long time, the responsibility for managing and **mitigating the impact of noise** on neighbouring residents and businesses has been placed on the business or activity making the noise, 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 from existing businesses, sometimes forcing the businesses to close down.
- 3.12.2 The **Agent of Change principle** places the responsibility for mitigating the impact of noise firmly on the new development. This means that where new developments are proposed close to existing noise-generating uses, 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 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. 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 noise³².
- 3.12.4 Noise-generating **cultural venues** such as theatres, concert halls, pubs and live music venues 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.
- 3.12.5 Housing and other **noise-sensitive development** proposed near to an existing noise-generating use should include necessary acoustic design measures. This will ensure new development has effective sound insulation to mitigate and minimise potential noise impact 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.
- 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.
- 3.12.7 **Noise impact assessments** accompanying planning applications should be carefully tailored to local circumstances and be fit for purpose. That way, the noise characteristics of existing uses can be properly captured and assessed. For example, cultural venues 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. **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.

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

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 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 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 – 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.
- 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 by the introduction of new noise-sensitive uses.
- 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.
- 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.
- 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

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.

Metropolitan Open Land and local green spaces as potential Quiet Areas that boroughs may wish to designate³⁴.

34

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/276228/noise-action-plan-agglomerations-201401.pdf
