



# CHAPTER 10

# 10 DESIGN CRITERIA AND PRINCIPLES

## 10.1 INTRODUCTION

This chapter sets out design principles for tall buildings. Proposals for tall buildings should demonstrate how they have responded to all relevant principles. The chapter finishes with recommendations for tall buildings application requirements.

### PRINCIPLE D1: AVOID STARK CONTRAST IN HEIGHT

Taller buildings should avoid stark contrast in height with their lower height context by locating the high point away from lower neighbours or step development down to visually mediate the height difference (Figure 10.1).

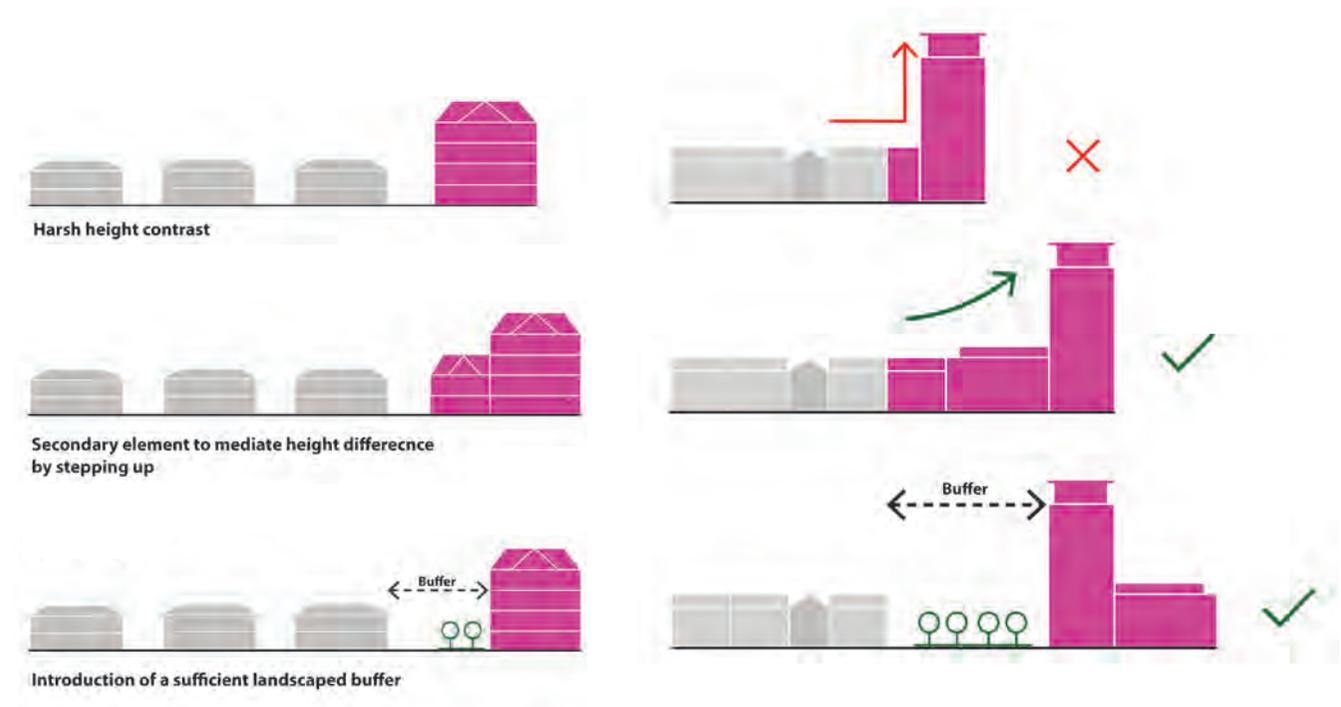


Figure 10.1: Avoid stark contrast in height - examples of mid-rise and high rise tall buildings

**PRINCIPLE D2:  
LANDMARK BUILDINGS SHOULD  
BE MIXED USE**

Tall building should generally be mixed use buildings with active ground floors and offer a meaningful facility for the wider public, unless it can be demonstrated that active ground floor uses such as retail, leisure, cultural, community, health, employment are not viable in a location and the landmark is justified from a pure legibility point of view (Figure 10.2).

**LANDMARKS SHOULD BE MEANINGFUL**

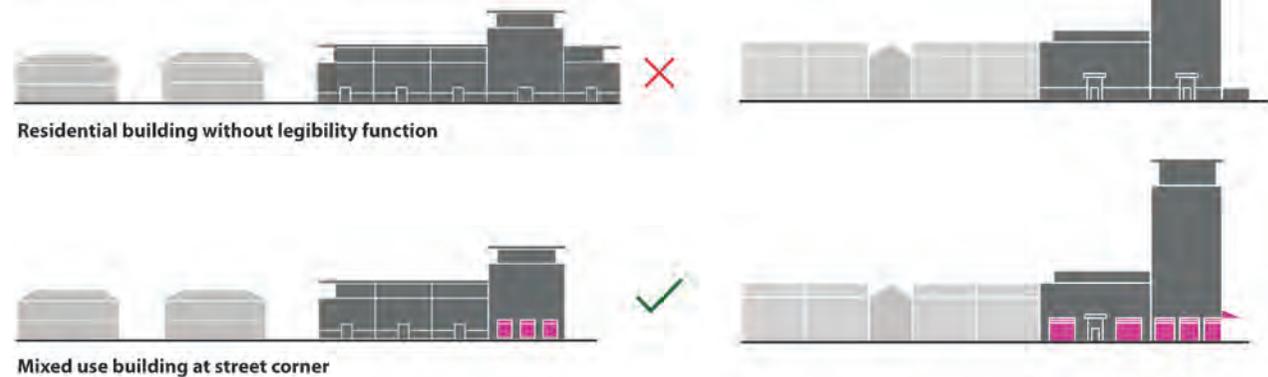


Figure 10.2: Landmark buildings should be mixed use - examples of mid-rise and high rise tall buildings

**PRINCIPLE D3:  
LANDMARKS SHOULD BE PROMINENT  
AND VISIBLE**

Tall buildings with a landmark role should be prominently located in the urban environment such as at a street corner or overlooking a public space and be visible from approaching routes in short and medium range views (Figure 10.3).

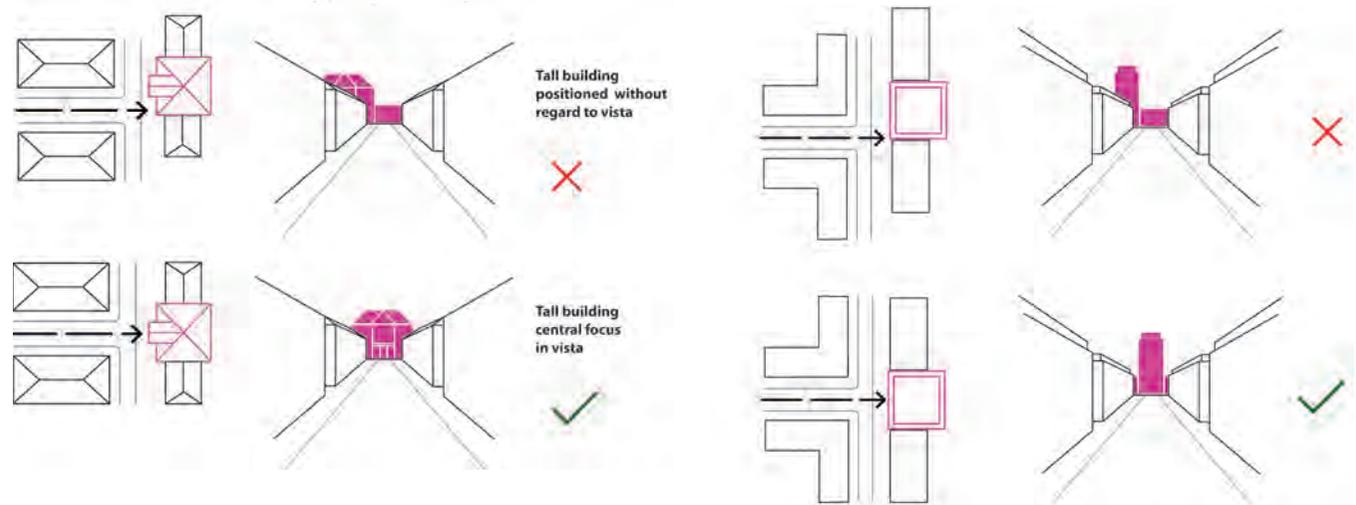


Figure 10.3: Landmark tall buildings should be located in vistas from approaching routes - examples of mid-rise and high rise tall buildings

**PRINCIPLE D4  
WELL ARTICULATED DESIGN IN RESPONSE  
TO ITS CONTEXT**

A tall building should be a building of integrity that presents a high quality design response to the local character without resorting to pastiche solutions. The design attention should be on the careful articulation of the overall form and design, drawing on local characteristics in terms of rhythm of facades, plot width, materials, details and building articulation (Figure 10.5).

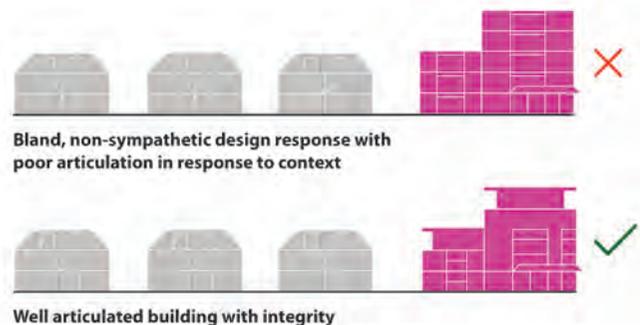


Figure 10.5: Articulation and sensitive architectural response to context

**PRINCIPLE D5  
COMPREHENSIVE DEVELOPMENT**

Generally a tall building proposal should form part of the comprehensive development of a large site where it can contribute to the regeneration and enhancement of a wider urban area. By delivering a tall building as part of a comprehensive development that includes mid-rise elements such as courtyard blocks, many problems associated with standalone tall buildings can be mitigated through design. A comprehensive, masterplanned scheme should provide active frontages and good street enclosure with a greater mix of uses, including a wider range of housing types. Development of a larger site can provide opportunities for public open space and an appropriate setting for the tall building, which can also be set back from the street or integrated within an urban block. Tall building developments should appropriately address the connectivity of the site and the permeability of the wider area, and seek opportunities to create new connections, thereby improving the wider area.

**PRINCIPLE D6  
LIMIT HEIGHT ON ELEVATED LAND**

The siting of tall buildings on higher land should generally be avoided unless the intention is to create a highly visible landmark and the negative effects of this on the skyline and wider area are acceptable (Figure 10.4). Tall building proposals should be understood both in terms of their height above ground and their height above ordnance datum (AOD).

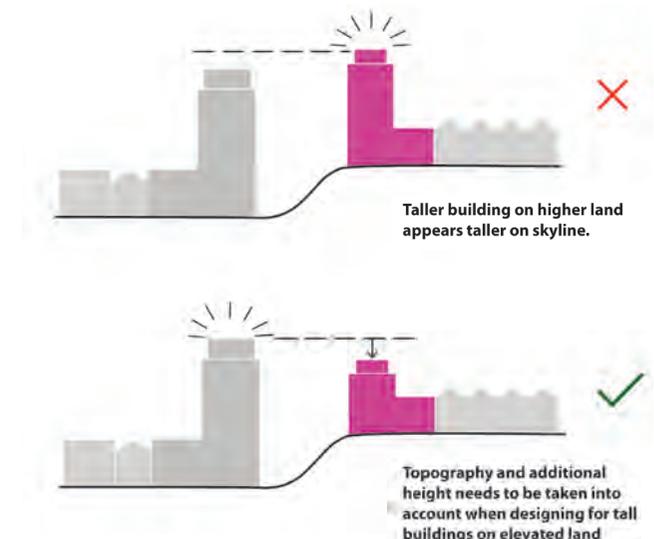


Figure 10.4: Topography affects the prominence of tall buildings

**PRINCIPLE D7  
ARCHITECTURAL EXPRESSION AND  
DISTINCTIVENESS**

Due to its exceptional prominence tall buildings of greater height should have a well-articulated, balanced and coherent overall form, appropriately expressing its base, shaft and top. The upper floors of the buildings will be highly visible and their form, design and lighting will significantly determine the distinctiveness of the building on the skyline. Tall buildings should express their verticality, appear slender and elegant, and coherently respond to views from all around. Façade design should be varied and respond to their role and position in the building. Balconies should be integral aspects of the building design and not appear as later additions. The underside of balconies is highly visible and poor balcony design can detract from the overall quality of a tall building. The choice of materiality and the palette of colours should assist in visually weaving the new building into its established surroundings, or where appropriately provide a contrast. Masonry façades are generally more durable and of greater longevity than panel systems and should be preferred.

**PRINCIPLE D8  
A HUMAN SCALE STREET EXPERIENCE**

Developments should respond to the scale of surrounding streets and spaces, their sense of enclosure and the quality of the ground floor experience. The height and massing of the development needs to consider how it integrates the tall building element and prevents it from feeling overbearing on surrounding streets, and existing and new developments. Excessive enclosure or the creation of a ‘canyon’ effect should be avoided, for example by applying set-backs to effectively limit the visual impact of greater height on the street space (Figure 10.6).

**PRINCIPLE D9  
ACTIVE STREET FRONTAGES**

Tall buildings should provide a positive interface with the public realm around the building, and the design and distribution of uses especially at ground floor levels should provide overlooking and animation to the street space. Blank frontages and exposed servicing or car parking areas should be avoided. Cycle parking areas, storage and plant space, and other inactive uses should be internalised within the building envelope and wrapped by other active uses. Servicing yards should be integrated in the building, located away from primary pedestrian areas and be appropriately screened from public view. The building entrance should front onto the principal street frontage.

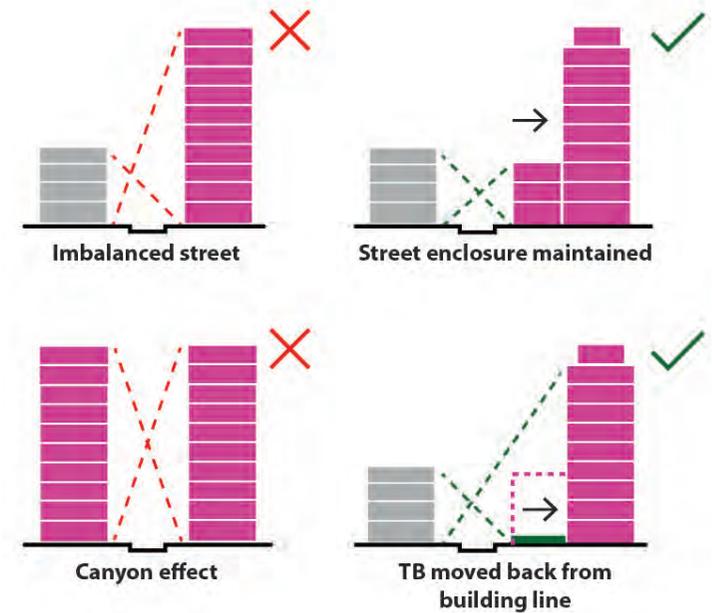


Figure 10.6: Tall buildings must provide good street enclosure without becoming overbearing

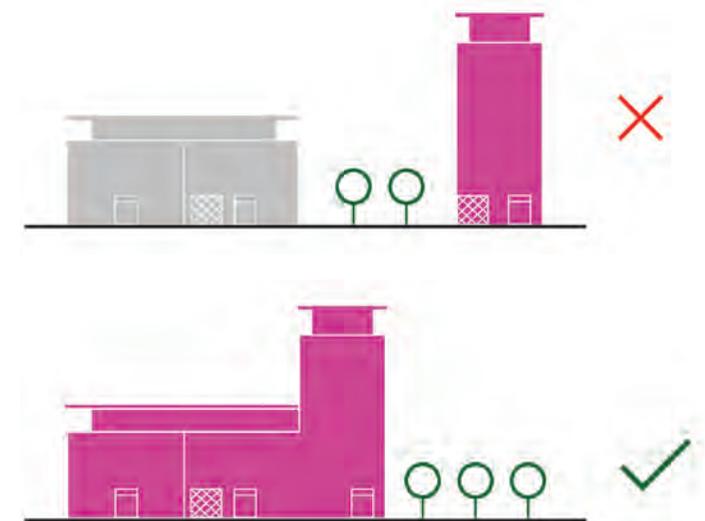


Figure 10.7: Integrating a tall building within a street block helps to internalise parking areas, avoids exposed servicing yards and blank frontages, and provides active frontages

**PRINCIPLE D10  
A HIGH QUALITY PUBLIC REALM**

The public realm around a tall building should be of high quality, consider the provision of tree planting, soft landscaping, seating, lighting and public art, and deliver a design that reflects the prominence of the building in the area. The footway at the base of a tall building should be generous and proportionate, and cater for increased pedestrian activity outside its entrance. Drop-offs, service bays and car park entrances should be located away from the entrance of the building and principal routes to avoid conflicts with pedestrian activity.

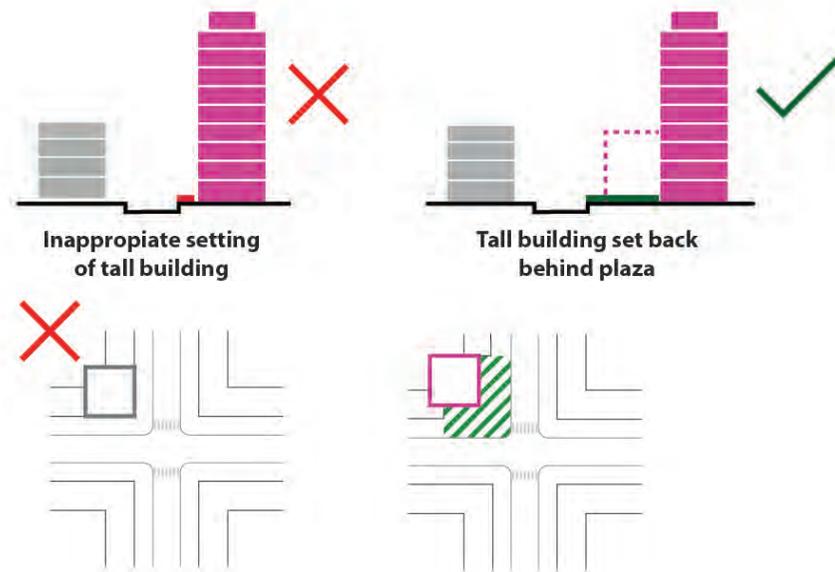


Figure 10.8: Tall buildings should provide an adequate setting within the street space, corresponding to its height and scale. This could include moving the taller element back from the building line (top) or street corner (bottom) and establishing a wider pavement or public space

**PRINCIPLE D11  
PUBLIC SPACE PROVISION**

Due to their high density form, tall buildings intensify the pressure on the urban environment and should contribute to the provision of quality spaces in their vicinity. Public open space design should reflect the needs residents and the wider public, where appropriate provide a setting for the tall building, and be orientated to maximise sun exposure. Overshadowing by a tall building located to the south or west of a public space may undermine its attractiveness and amenity and should be avoided (Figure 10.9).

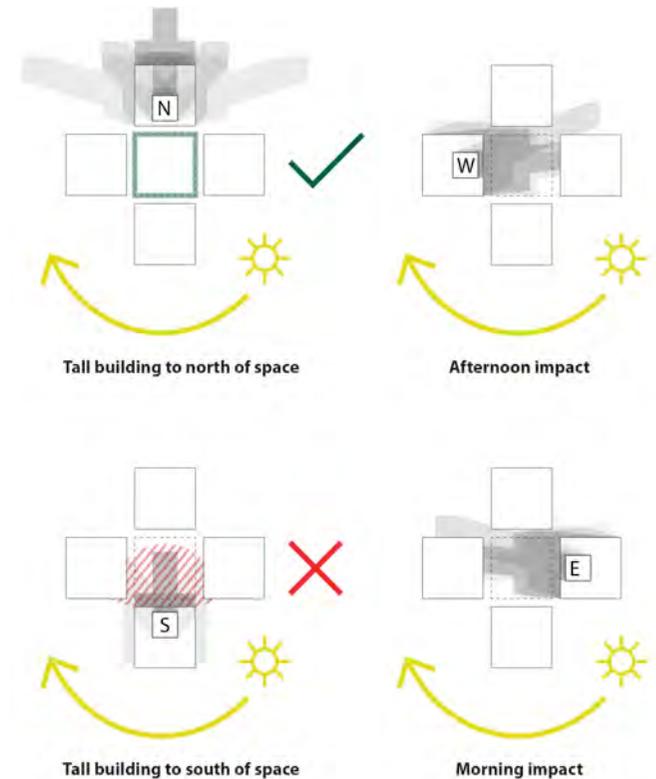


Figure 10.9: Tall buildings should avoid overshadowing open spaces. Proposals must consider the impact of shadow pattern on the amenity and usability of the public space.

### PRINCIPLE D12 MICRO-CLIMATE

Tall buildings should be designed to minimise negative microclimate effects (Figure 10.10). The design process should involve wind testing to ensure there is not excessive windiness or wind noise affecting the quality, amenity and safety of spaces around the building. Tall buildings can block sunshine from reaching neighbouring uses and overshadow public spaces, courtyards or gardens. The location, height and design of tall buildings should be tested and ensure its impact on surrounding spaces and buildings is minimised. Tall building design should minimise adverse impacts from solar glare and limit light pollution.

### PRINCIPLE D13 RESIDENTIAL AMENITY

High density development that includes tall buildings on compact sites can result in overlooking between dwellings and lack of privacy for both existing and new residents in an area (Figure 10.11). The layout of buildings should ensure adequate separation between buildings where dwellings face each other, communal spaces or the public realm. Furthermore design should ensure that all dwellings, especially on lower floors and single aspect units, have an adequate outlook and sky view that is not over-dominated by other buildings, receive adequate day and sun-lighting in the interior of units, and comply with BRE's good practice guidance on Day and Sunlight. Consideration should be given to the orientation of units, generally avoiding north facing single aspect units, and the impact of balcony overhangs on the day and sun-light conditions of homes. Units must be designed to avoid overheating from the sun by incorporating appropriate fenestration and adequate external shading. Throughout the building, adequate natural ventilation must be ensured, particularly for single aspect units.

### PRINCIPLE D14 AMENITY SPACES

Proposals for tall residential buildings must demonstrate how they will deliver adequate private and communal amenity spaces that are accessible, serve the needs of residents, are sheltered from wind and noise, and maximise on day and sun lighting. These may be in the form of communal courtyards and gardens, private gardens at ground floor level, balconies, terraces or communal rooftop open spaces. Each apartment should have its own private outdoor space in form of a private garden, balcony or loggia and comply with the standards set by local policy. Where a development is unable to provide sufficient outdoor residents amenity space, additional internal amenity spaces should be provided. This could include communal break-out spaces, community, play or party rooms, as well as other facilities such as work spaces, gyms, visitor flats and others that enhance the amenity of high density living.

A contribution to the public space provision in the wider surrounding of a scheme could be required to take account of its use by future residents. Where family housing units are provided this should include outdoor play space for children based on an assessment of estimated child occupancy. Play spaces should be situated in well lit parts of communal spaces and offer protection from excessive sun-lighting, ideally designed so that family units overlook the play area.

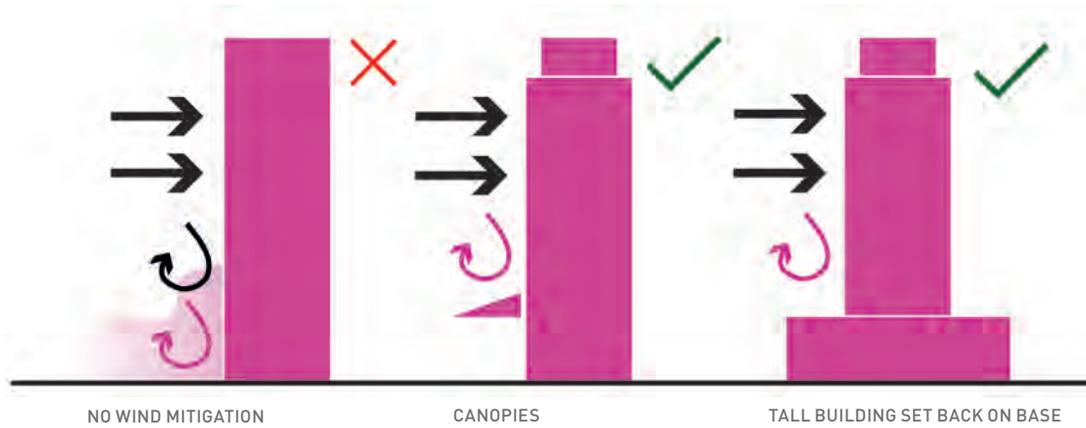


Figure 10.10: Good design of tall buildings should mitigate excessive wind at ground level



Figure 10.11: Tall buildings should mitigate adverse effects on residential amenity and avoid overdominating existing homes and gardens

**PRINCIPLE D15  
SUSTAINABILITY**

Tall buildings should be sustainable, innovative and efficient buildings that minimise use of resources, are adaptable to change and are long lasting. Tall building proposals should demonstrate how they have minimised the carbon footprint of the building and benchmark the proposal against comparable best practice schemes, and contribute to the city’s commitment to tackle climate change. Developments should aim for the highest BREEAM or other equivalent industry standard sustainability rating. The annual carbon emission per floor area (kg/m<sup>2</sup>/yr) could also be adopted by the Council as a simple and transparent measure to evaluate and compare the energy efficiency of new buildings.

**PRINCIPLE D16  
CLIMATE RESILIENCE AND GREEN  
INFRASTRUCTURE**

Tall buildings must be take into account how the local climate is expected to change as a result of climate change and be designed to mitigate the effects of extreme weather such as heat waves and flooding. Tall building developments should significantly contribute to the green and blue infrastructure provision both within the development as well as the wider area. This can include landscaping and tree planting, sustainable urban drainage and other measures that mitigate the creation of heat islands, deliver cleaner air, support natural ventilation, mitigate risks from fluvial flooding, enhance biodiversity and offer resources for recreational, health and well being benefits.

**PRINCIPLE D17  
PARKING AND CYCLE STORAGE**

Tall buildings can generate a high demand for parking due to high residential density. Parking provision should be integrated into within the building envelop as part of a structured solutions and wrapped with other uses to minimise its visual impact on the street scene. Surface car parking around the building or structured parking exposed to the public realm should not be permitted as it detracts from the quality of the urban environment (Figure 10.13). Tall building developments should seek to encourage the use of public transport, walking and cycling, support car sharing and minimise its parking provision. Electric charging points should be provided for all car parking spaces. To facilitate cycling as a sustainable transport mode, a secure cycle storage for residents should be provided with easy access from the public realm. This should provide 1 cycle space per studio, 1.5 spaces per 1 bedroom unit, 2 spaces per all other dwellings.

**PRINCIPLE D18  
TALL BUILDINGS CLUSTERS**

Clustering of tall buildings should follow a coordinated, planned approach and be an expression of a desired character and function of a place such as an urban centre. The tallest building in a cluster should be located centrally and other buildings should step down in height towards the edges of the cluster (Figure 10.12). A cluster should be confined to a limited area to prevent a spread of tall buildings, therefore harming legibility. Across these areas taller buildings will need to vary in height to achieve a dynamic skyline and to avoid a monotonous mass of buildings at the maximum height.

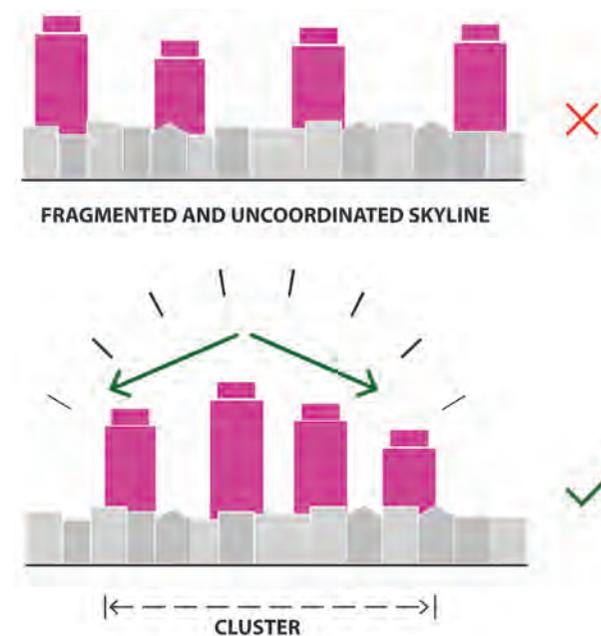
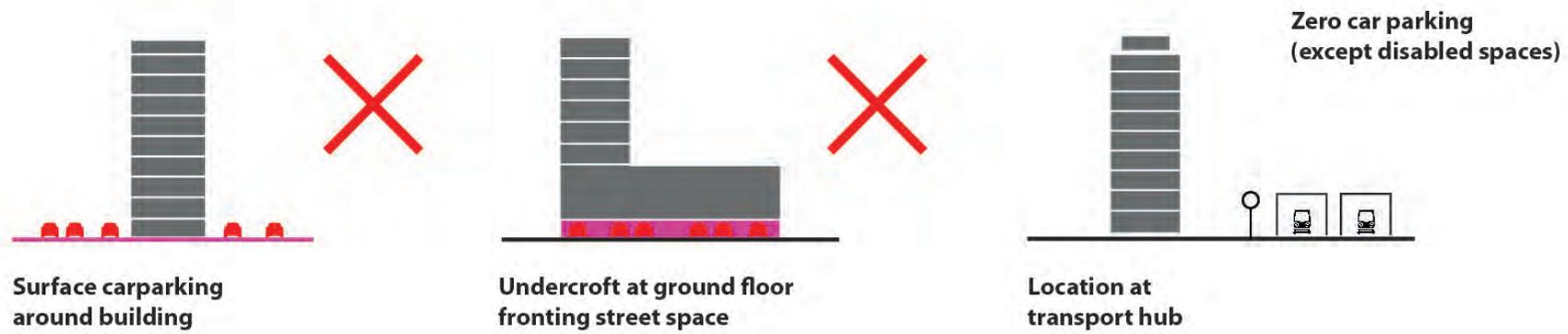


Figure 10.12: Tall building clusters



Enables active and quality environment

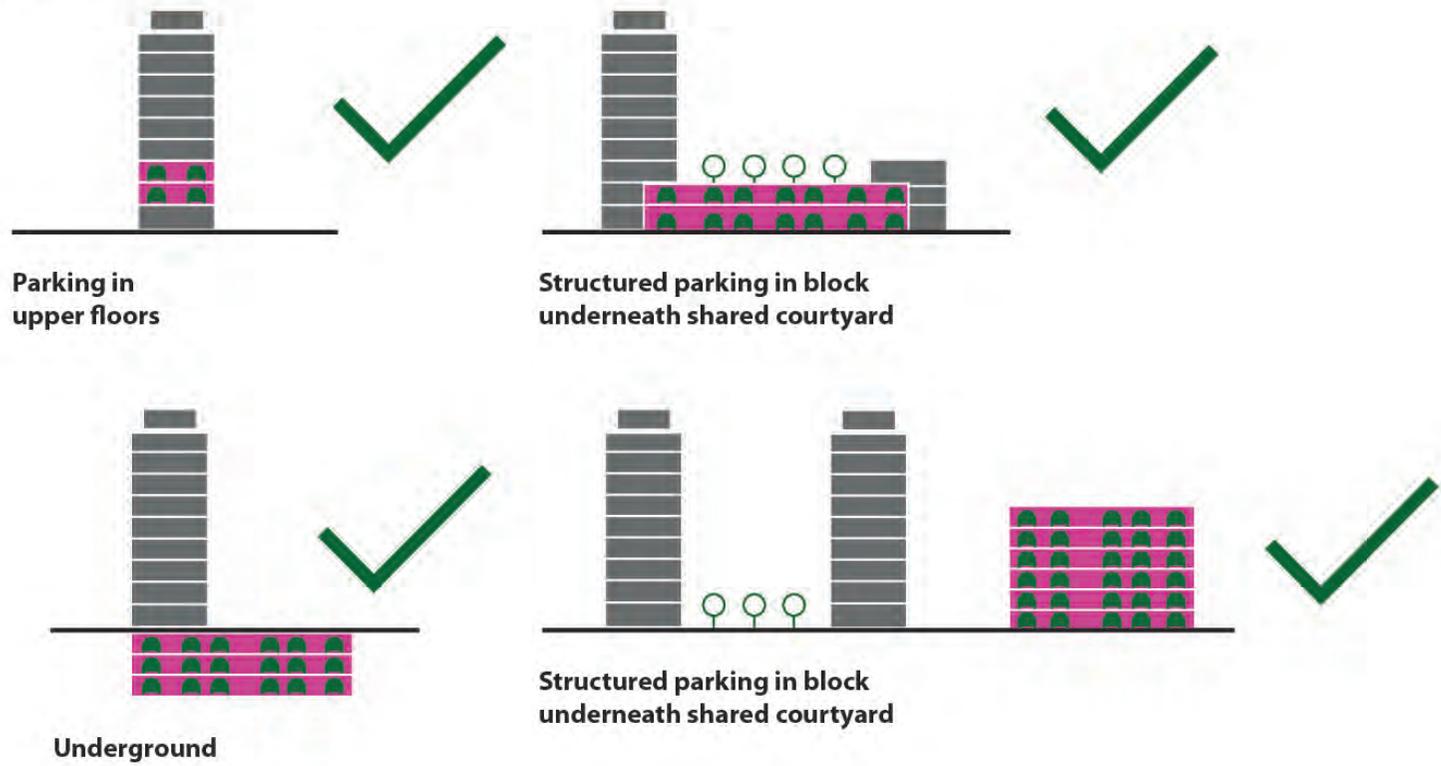


Figure 10.13: Tall building parking solutions

## 10.2 TALL BUILDINGS APPLICATIONS REQUIREMENTS

Tall buildings are a specific and unique form of development and as such require a specific approach in the planning process. The following recommendations for the local authority and applicants are made to ensure that proposals for tall buildings are appropriately tested.

Applicants seeking planning permission for tall buildings in the city must submit full planning applications for their proposals. Outline planning applications for tall buildings are not accepted. Applications for tall buildings of 8 storeys and above, due to their exceptional nature, will need to provide the following additional supporting information to enable a thorough assessment of the proposals and design:

- **Survey plan and calculations** that illustrate the heights of the proposed building in its surrounding context to determine the context height ratio and if the buildings has a proportional relationship with its surrounding;
- **Tall building statement** that evaluates the benefits and justifications for a tall building on the proposed site in response to the site specific principles compiled in Chapter 9 of this report and the general design principles provided in Chapter 10;
- **Viability study** to demonstrate that the viability and appropriateness of lower rise options of high density development have been explored;
- **Design and access statement** that sets out the architectural and urban design rationale for the proposal and addresses among other factors the development context, development objectives, relationship with the street and neighbouring buildings, relationship to open space (including waterways) scale and massing, alignment, density, materials, detailing, lighting (day and night time), existing and proposed land and building uses, ground floor uses, treatment of rooftop/ crown, ground floor treatment, landscaping and public realm strategy.
- **Visual impact assessment study** to illustrate the impact on the context, especially on heritage assets and significant views. This should include a computer-generated zone of visual influence and the impact on local, medium and long distant views which should be done through accurate visual modelling of proposals (buildings fully rendered) – from relevant assessment points defined by the Council. Proposals should be shown in daylight and night conditions and in different seasons.
- **Heritage impact statement** that identifies the heritage assets that the proposal has taken into account. This should demonstrate how the tall building proposal has responded to these heritage assets and their respective significance, and how the proposal has mitigated its potential adverse impact to avoid or minimise harm to the heritage asset and its setting. This should cross reference to the VIA as necessary.
- **Physical impact assessment study** to illustrate the impact on micro climatic conditions (wind tunnel studies, sun path studies, overshadowing, heat island and glare studies), privacy and overlooking, telecommunications, air quality and subterranean service infrastructure.
- **Movement statement** that provides a traffic impact assessment, including car parking, pedestrian movement and public transport needs, and a servicing strategy.
- **Building services strategy**, including building systems and enclosure, energy consumption and efficiency, lighting (day and night time), waste storage and disposal, and maintenance.
- **Sustainability statement** outlining how the building will apply best sustainable practices, including energy management and production, resource conservation, materials specification and waste management. A recognised method of sustainability assessment should be used (e.g., BREEAM, Home Quality Mark).

The greater the scale, impact and complexity of the proposals, the more detailed and comprehensive the statements should be. Applicants should be made aware that applications submitted without the above supporting information may lead to a planning refusal on the grounds of insufficient information to allow the application to be fully and effectively assessed.

Where on near-by sites there are existing tall buildings or extant permissions or concurrent proposals for tall buildings that have a bearing on the proposal's consideration, every effort should be made to include the relevant additional information. The potential clustering and cumulative effects of tall buildings should be addressed in the submission.

Applicants should be strongly encouraged to discuss their proposals for tall buildings with planning and design officers at pre-application meetings, with discussions beginning as early as the concept stage. Draft plans and initial design statement and impact studies are important to these discussions and should be made available to the officers at the earliest opportunity.

A computer generated zone of visual influence of the proposed tall building should be provided in early discussions with the Planning Authority (and its design and conservation officers) to assist the scoping of the visual impact work and heritage impact statement.

Tall buildings proposals should be subject to a minimum of two design reviews, utilising the Design Review Mechanism available to the Local Authority. The first review should be during the concept and masterplanning stage and the second at draft submission stage. The purpose of the reviews is to ensure design excellence of tall building proposals, the successful integration in their context and maximising the opportunity for place making and an enhanced environment.

### 10.3 POLICY APPROACH

Many local authorities now include tall building policies in their Local Plans to guide the location and form of development. However, approaches differ depending on the context. Some local authorities that are seeing intense pressure for tall buildings opt for a highly detailed and stringent policy approach whereas others prefer to build in flexibility with criteria-based policies.

Generally, effective tall building policies will include the following elements:

- Tall building definition, so it is clear when the policy is applied;
- Locations for tall buildings, either in specific terms (e.g. "site X") or general terms (e.g. "locations of high public transport accessibility");
- Design and functional requirements relating to impact on heritage, views, overshadowing, visual prominence, amenity, microclimate, sustainability and other relevant factors; and
- Requirements of various tests and evidence, for instance Visual Impact Assessment.

Tall building policies should relate clearly to a supporting evidence base document or Supplementary Planning Document on tall buildings, which provide a greater level of guidance.

### CASE STUDY EXAMPLES

**London Borough of Islington Local Plan (Proposed Submission Version 2019):** Highly specific policy approach that states that tall buildings will only be acceptable on sites identified as appropriate in the Local Plan. Supported by a Tall Buildings Study.

**Tower Hamlets Local Plan:** Criteria-based policy that sets general considerations for tall buildings and site-specific principles. Identified Tall Building Zones where tall development will be "directed toward". Tall Buildings SPD currently in production.

### RECOMMENDATION

It is recommended that Derby City Council prepare a dedicated tall buildings policy based on the evidence in this report. This will ensure the proactive and effective management of tall buildings in the city over the coming years. A Tall Buildings Supplementary Planning Document could also be prepared to provide further guidance to officers and developers.