URBAN LIVING SPD
Making successful places at higher densities

City Design Group
Growth and Regeneration

CONSULTATION DRAFT
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I want Bristol’s skyline to grow. Years of low level buildings and a reluctance to build up in an already congested city..... is something I am keen to change.

I acknowledge that higher density development- particularly tall buildings- is an emotive subject both for and against; advocates suggest tall buildings represent ambition and meet growth requirements, while those against often cite the need to protect the unique character of the city, and voice concerns that we do not repeat the mistakes of the past. Both positions are valid. Bristol has a unique context, and with more heritage assets than any other UK Core City, is more sensitive to the impacts of higher density development. Meanwhile Bristol’s reputation as one of the most liveable cities in the UK, is helping to attract people and investment which places significant pressures on land use to fulfil the city’s ambition and meet growth requirements.

The Urban Living SPD seeks to reconcile these often polarised views, providing positive guidance on how to deliver ambitious densities through urban forms with proven success. It sets out a range of quality standards designed to deliver high density, high quality homes; good places to live for the young and old, including families. Finally, it sets out where the future focus of Urban Living will be in the city, including my ambition to transform the eastern fringes of the city centre, creating new, flourishing higher-density neighbourhoods in which everyone has a stake and in which no one gets left behind.

Marvin Rees
Mayor of Bristol
February 2018
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Urban Living is the creation of compact, characterful urban areas where people can live, work and socialise with good access to public transport. Such an approach advocates higher density living in apartments, creative approaches to mixing land uses, a renewed commitment to delivering a higher quality public realm and the delivery of strategically located taller buildings. Densities are optimised by balancing the efficient and effective use of land, against aspirations for successful placemaking, liveable homes, and a positive response to context.

1. The City is seeking to optimise densities, by balancing the more efficient and effective use of land, with aspirations for successful placemaking, liveable homes, and a positive response to context. Chapter 2 of the SPD shows the ways in which this can be successfully achieved, setting out the important considerations at a city, neighbourhood, street and building level.

2. The City believes that opportunities exist to modestly increase densities within most areas of Bristol and has additionally identified a number of ‘Urban Living’ focal areas which are considered to have the potential to significantly increase densities. The degree of change will need to be established through a design-led approach, with a spatial plan being prepared for areas of anticipated change, which gives form to the concepts outlined in Chapter 2 of this SPD.

3. The City is keen that all new residential development achieves a minimum indicative net density of 50 dwellings per hectare (net). Net densities below 50 dwelling per hectare should only occur where it is essential to safeguard the special interest and character of the area. Hyper-density development (above 350 dwellings net per hectare) will be subject to much more rigorous impact testing to ensure other policy aspirations are met. A companion document ‘Urban Living – Learning from recent higher density developments’ provides comparative densities for a range of schemes across Bristol.

4. The City is seeking to drive up the quality of higher density housing schemes, and has prepared a set of new ‘quality standards’ to help achieve this which can be found in Chapter 3. These are broadly based on standards that have been in operation across London since 2015. It includes a new open space standard.

5. The City is seeking to encourage tall buildings, built in the right locations and to a high quality of design. Chapter 4 of the SPD provides a revised definition of tall buildings (30m or taller - approximately 10 residential storeys), and provides guidance on siting a tall building and achieving design excellence.

6. The City is keen to provide clarity to applicants, developers and other stakeholders on submitting a planning application for a higher density or taller building. Applicants are encouraged to more fully utilise their Design and Access Statements to describe the rationale for their scheme, and to provide an assessment of its likely impacts (both positive and negative). To assist this, Chapter 5 sets out a number of new checklists for applicants.

7. The City is keen that all applications for tall buildings, should be subject to additional scrutiny, as well as major residential developments that exceed the following thresholds:
   - more than 150 units/ha in a suburban setting;
   - more than 200 units/ha in an urban setting; or
   - more than 350 units/ha in a central area setting

8. The City recognises that building at higher densities can present a range of on-going management challenges whose resolution will be critical to the success of the scheme. It has not been within the scope of this SPD to address these challenges, but it is hoped that a separate practice note will be prepared later in the year dealing with this following the publication of the Hackett Report on Grenfell Tower.

9. The City is keen to replicate the success of a number of recently built schemes in the city which are already delivering higher densities. Wapping Wharf (200 dwellings/ha) and the latest phase of Paintworks (120 dwellings/ha) demonstrate how densities can be optimised. These and other schemes are reviewed in a companion document ‘Urban Living – Learning from recent higher density developments’.
The need for Urban Living

Bristol is experiencing unprecedented growth. Over the next plan period, it will need to deliver 33,500 new homes and all the employment, community and transport infrastructure that goes along with that. As it continues to change and grow, the City is keen to direct this growth to deliver Urban Living, providing a context-led approach to urban intensification. This will involve focussing growth on transport hubs and district centres, as well as the city centre, in order to better relate housing to employment locations, reduce travel, enable more mixed and balanced communities, provide greater lifestyle choices and enhance the overall performance of the urban area.

There are a number of key drivers behind the impetus for Urban Living. These are:

- **Land availability**: The need to make the best use of the city’s scarce land supply in order to meet the need for new homes and jobs.
- **Demographics**: The need to respond to a growing and aging population, and the changing aspirations of younger people.
- **Housing**: The need to respond to the housing crisis - and particularly the need for more affordable housing - increasing residential densities and diversifying the offer through custom-build and build for rent development.
- **Economic Development**: The need for more inclusive and sustainable growth.
- **Climate Change**: The need for mitigation at a local level.

**Successful Placemaking**: The need to enhance the quality of life for existing residents, whilst responding to Bristol’s unique character, to attract future inward investment.

**Health**: The need to promote more healthy lifestyles, to combat obesity and improve mental wellbeing.

**Retail and High Streets**: The need to reinvent our high streets, in the face of competition from out of town shopping centres and on-line retailing

**Transport**: The need to respond to future changes in travel behaviour, which is likely to result in people walking and cycling more and greater use of public transport.

**Strategic Investment**: The need to respond positively to local strategic investment such as MetroBus and MetroWest, and in the long term to a potential mass transit system.

**Purpose and status of the SPD**

Urban Living is a central plank of the draft West of England Joint Spatial Plan, and is defined as ‘maximising the potential of urban areas’. Bristol’s Local Plan is currently under review and will contain a new policy on Urban Living. This SPD adds further detail to the policies in the Local Plan. SPDs are subject to a consultation process and are formally adopted by a Council resolution. They can be considered as material considerations as part of the process of determination of planning applications. On adoption, the Urban Living SPD will replace the existing SPD1 Tall Buildings (adopted 2005), which will remain in place until then.
Introduction

Understanding Bristol’s context

An understanding of Bristol’s unique physical, social and economic context, is critical to informing its future evolution. Some areas have more potential to change and become more dense than others.

Bristol is a growing and evolving city and it is important that the future focus for Urban Living relates to existing infrastructure (primarily transport), as well as infrastructure already in the pipeline (MetroWest) or at the feasibility stage (Mass Transit). A West of England Mass Transit network, as outlined in the Joint Transport Study, could allow densities to increase further in the future. The City is currently undertaking feasibility studies to assess in more detail where these would serve and what system would be used.

The particular challenges to delivering Urban Living vary between the Central, Urban and Suburban areas, as do the opportunities. Further details of schemes recently built in the city (and highlighted here) which successfully incorporate many of the attributes of the Urban Living approach can be found in a companion document ‘Urban Living - Case Studies’ (Bristol City Council, 2018).

Central Area

The Central Area has been the focus of growth and investment since 2000. The Urban Living ethos can be seen most clearly in the regenerated Harbourside area, where a new residential community lives in apartments with easy access by foot to shops, services and leisure opportunities, all supported by a high quality public realm. Some of the more recent developments such as Wapping Wharf, The General and Invicta, have been particularly successful.

The Cabot Circus area illustrates a retail-led, mixed-use regeneration of the city centre which has diversified the city centre offer beyond retail, extending the life of the centre into the evening with new cafes, restaurants and leisure uses.

Since 2000, the residential population of the city centre has shown sustained growth, a large proportion of which are students living in dedicated student accommodation; often high density blocks including refurbished office buildings in the Nelson Street/Lewin’s Mead area.

This trend for Urban Living is set to continue, and over the next decade the focus will be the Temple Quarter area, and the shopping district focussed around Castle Park. It is envisaged that new building typologies will emerge which are arguably better suited to higher density living e.g. Build for Rent.

It is both inevitable and desirable that the focus for Urban Living should be in the Central Area, as it is the most accessible part of the city served by mainline rail services and most bus routes. It also has much of the necessary physical infrastructure required to support a more intensive use of land for a mix of uses.

However, continued focus for Urban Living in the Central Area has its challenges including:

- Provision of the necessary supporting community infrastructure (schools, doctors surgeries, open space, play areas etc);
- Creating balanced and stable communities rather than transitory communities;
- Meeting housing need, including the delivering of affordable homes;
- Responding positively to the significant historic context;
- Significant flood risks.

Figure 1: Existing gross residential density in Bristol: The urban area of Bristol divided into 4 hectare squares coloured to depict the gross density of residential dwellings in each.
Introduction

Urban Area

Broadly speaking the Urban Area is a 1600m ring around the Central Area, and comprises the city’s Georgian and Victorian residential suburbs, as well as industrial estates, urban parks and road and rail corridors. In recent years, there has been growing interest in delivering higher density, mixed-use development in the Urban Area, notable schemes being J3 (Easton), and Paintworks (Brislington).

It is actually the Urban Area’s historic suburbs which use land the most efficiently. Some of the City’s most highly regarded areas such as the Georgian and Victorian suburbs of Clifton and Southville are actually built at higher densities than the post-war high rise blocks of Lawrence Hill and Barton Hill. Post-war reconstruction of large parts of the Urban Area has not respected the tight grain, historic block structure to the area, has carved areas into land use zones and has tended to undermine the connectivity through these areas.

Whilst it is envisaged that the established Georgian and Victorian character areas will remain largely unchanged for the foreseeable future, it is perhaps the transition areas inbetween the established character areas that offer the most opportunity for change. Typically these areas comprise low density industrial and retail parks, and are physically isolated areas carved up by road and rail infrastructure. The areas with the most potential for an Urban Living approach are centred on the areas train stations (Lawrence Hill, Parson Street and Bedminster Green) which all currently use land inefficiently, and fail to exploit the full potential of their accessible location.

There are challenges in delivering Urban Living in the Urban Areas, including:
- Delivering higher density development in less financially viable areas;
- Addressing the social inequalities in areas with often high deprivation and pressure on the existing social infrastructure (schools, doctors surgeries, open space etc);
- Meeting housing need, including the delivering of affordable homes; and
- Achieving higher densities whilst providing sufficient car parking

However, the opportunities for delivering Urban Living are significant, and include:
- Creation of higher density nodes next to the areas local train stations;
- Promoting an industrial-led mixed use redevelopment of many of the areas trading estates;
- Rejuvenating post-war housing estates; and
- Rejuvenating failing high streets.

Suburban Area

Bristol’s suburbs are generally speaking the 20th century expansion of the city beyond the more densely built Victorian suburbs. The design of many of these areas was heavily influenced by Garden City principles.

There has been less interest to date in delivering Urban Living for residential schemes in the Suburban Area, although there are signs that this is beginning to change e.g. Gainsborough Square (Lockleaze), and a citizen-led house building project in its embryonic stage in Knowle West. Encouragingly, it is clear that large institutional land owners such as the hospital and university are proactively seeking to use their land more intensively, as is the City Council (Hengrove Park and Filwood Business Park).

The challenges to delivering Urban Living in Suburban Area can be summarised as follows:
- Delivering higher density development in less financially viable areas, and in areas where the accessibility by public transport is low;
- Meeting housing need, including the delivery of affordable homes;
- Reversing the decline of local facilities caused by falling population densities coupled by increasing consumer choice and car use; and
- Accommodating residential car parking in areas with little or no parking restraint.

The opportunity to deliver Urban Living is not as great as in the Central or Urban Areas. However, there is growing interest in intensifying the suburbs across the UK. As best practice approaches emerge, and development pressure increases, it seems inevitable that even suburban areas may be re-imagined at higher densities.
The planning of density needs to be considered from the scale of the whole city through to the design of the individual building if Urban Living is to be successfully delivered. The following guidance has been prepared to inform the delivery of Urban Living primarily in the Urban Living focus areas (see Fig 4).

### City scale
- Optimising densities
- Urban Living focussed on the eastern fringes of Bristol City Centre, existing town and district centres; and existing and future transport hubs
- Delivering successful places with the necessary infrastructure
- Dominant road infrastructure remodelled to unlock potential for an Urban Living approach
- Industrial and trading estates, as well as hospital and educational campus redeveloped to use land more efficiently

### Neighbourhood scale
- Successful placemaking at a neighbourhood scale
  - Walkable, compact neighbourhoods
  - Graded densities and building heights
  - Strategically located taller buildings
  - Good accessibility to public transport and local facilities
  - Optimising densities through the preparation of a masterplan

### Street/Block Scale
- Responding to context at a street and block scale
  - Human-scale streets relating to prevailing building heights and the function of the street
  - Sunny, well-used primary pedestrian routes supported by generously scaled pavements and active ground floor uses
  - Vehicular access and servicing on less used, less sunny streets
  - Car parking accommodated in ways that do not dominate
  - Higher building elements set back from the street
  - High quality public realm and opportunities for urban greening
  - Daylight/sunlight targets achieved through good design rather than the rigid adherence to standards

### Building scale
- Making liveable buildings
  - Vertical mixing of compatible uses
  - Mixture of unit types, tenures, and sizes
  - Active public fronts to buildings; quieter private spaces to the rear
  - Prominently located, generously proportioned, building entrances serving as small a number of units as possible
  - Generous communal and circulation space
  - Discretely located but accessible waste collection areas
  - Adaptable buildings that can respond to changing user needs
Optimising densities

Development proposals should make the most efficient use of land by delivering an optimum density for its site and location i.e. developing land to the fullest amount consistent with all relevant planning objectives. The optimum density of a development should result from a design-led approach to determine the capacity of the site, which also ensures that proposals are livable, respond to context/local need and deliver successful placemaking.

In the context of mixed land use, density policy relates not only to housing but to all other urban activities as well.

Most parts of the city offer opportunities for modestly increasing densities, either through greater building coverage or building higher than the prevailing building height. Both approaches will be encouraged subject to a clear understanding of the context. Indeed, some of Bristol’s most valued historic areas are its most dense and continue to successfully adapt to accommodate new building typologies and new uses.

More significant increases in density will be encouraged in a number of Urban Living focal areas across the city identified in Fig 4. It will also be encouraged in the larger development sites (greater than 2ha) where there is potential for new development to define their own setting – and to accommodate higher densities and taller buildings than the prevailing context.

Focal areas for future intensification along Urban Living principles are both sustainably located in relation to public transport and local facilities (Fig 2), and have capacity to change (Fig 3).

The City is keen that all new residential development achieves a minimum indicative net density of 50 dwellings per hectare (net). Net densities below 50 dwelling per hectare should only occur where it is essential to safeguard the special interest and character of the area. Hyper-density development (above 350 dwellings net per hectare) will be discouraged and would be subject to much more rigorous impact testing to ensure other policy aspirations are met.

Urban Living: focussed on the eastern fringes of Bristol City Centre

It is both desirable and inevitable that Bristol’s city centre remains the principal focus for Urban Living and the agglomeration of certain types of economic activity is always likely to remain highest here. Much of the western side of the city centre already demonstrates many of the Urban Living attributes outlined here, and offers only modest scope for further intensification without undermining its essential character. That said, a major opportunity exists in Western Harbour (primarily around Cumberland Basin) subject to the remodelling of the road infrastructure in this location.
The east side of the city centre presents an entirely different proposition to the west. A major opportunity exists to deliver Urban Living intensification in an extremely diverse area on the eastern fringes of Bristol City Centre (see Fig 5) extending from Stapleton Road Station in the north to Bedminster Station in the South, and has Temple Meads Station at its heart.

There is already significant development interest in parts of this area including Temple Quarter, Bristol’s Shopping Quarter, Old Market and North Redcliffe, all of which are supported by established planning and design guidance setting out a clear vision for these areas. There is also significant development interest in Bedminster Green, although this area currently lacks an established vision agreed by all stakeholders.

In the longer term, it is anticipated that investor interest will grow in the eastern parts of the area, driven in part by its proximity to the city centre, and part by the area’s high connectivity by public transport. It is therefore important that a spatial plan be informed by the capacity of existing and planned infrastructure in a number of locations. Post-war road infrastructure remodelled to unlock the potential of some of the aforementioned areas will be remodelling the road infrastructure in a number of locations. Post-war roads, in combination with generous grass verges take up large amounts of land, representing an inefficient use of land. In recent years, changes in the approach to highway design means there is an opportunity to think about remodelling such highways to give sufficient space to allow pedestrians, cyclists, public transport and cars, together with play and green space in streets, creating pleasant places to be, and the focus for new, higher density forms of development.

Urban Living focussed on existing town and district centres; and existing and future transport hubs

Outside the central area, the most sustainable locations to optimise densities are the city’s town and district centres and it’s transport hubs (see Fig 2). There is an opportunity to strengthen a number of Bristol’s existing town and district centres and its transport hubs (see Fig 2).

In reality, some district centres and transport hubs offer greater potential for intensification than others, either by virtue of having sites available to redevelop, or by having adequate infrastructure to support new, more dense forms of development.

With considerable investment expected in both Bristol Temple Meads Station and its suburban stations (MetroWest), there is a tremendous opportunity to increase public transport patronage through an Urban Living approach which focuses new development on these existing and proposed stations.

Delivering successful places with the necessary infrastructure

Urban Living is about delivering successful places. Where an opportunity exists to deliver Urban Living across a neighbourhood, cluster of sites or single large site, there is an expectation that key stakeholders will work together to prepare a joint vision for the area; through either a spatial framework or a masterplan. There will be an expectation that the preparation of this vision involves extensive community involvement, and that the resulting plan is realistic about the common infrastructure required to support higher densities, and how this infrastructure is to be delivered.

The appropriate density for any individual site will be informed by the capacity of existing and planned physical, environmental and social infrastructure to support new development. In areas where there is currently insufficient capacity of existing infrastructure to support an increase in density (including the impact of cumulative development), the applicant will need to work with infrastructure providers to ensure that sufficient capacity will exist at/by the time of development delivery. In exceptional circumstance this may mean that development is contingent on the provision of the necessary infrastructure and public transport services and that the development is phased accordingly.

Dominant road infrastructure remodelled to unlock the potential for an Urban Living approach

Key to releasing the potential of some of the aforementioned areas will be remodelling the road infrastructure in a number of locations. Post-war road building tended to place the needs of the motorists over the needs of other road users, resulting in the building of roads that often act as barriers to other more sustainable ways of moving around the city. These roads, in combination with generous grass verges take up large amounts of land, representing an inefficient use of land. In recent years, changes in the approach to highway design means there is an opportunity to think about remodelling such highways to give sufficient space to allow pedestrians, cyclists, public transport and cars, together with play and green space in streets, creating pleasant places to be, and the focus for new, higher density forms of development.

Such an approach is currently being implemented at Temple Circus. Potential future projects could include Cumberland Basin, Lawrence Hill roundabout, Newfoundland Way/M32 corridor and Parson Street gyratory.

Industrial and trading estates, as well as hospital and educational campus redeveloped to use land more efficiently

Most industrial and trading estates use land very inefficiently. They typically comprise single storey sheds surrounded by car parking and are served by a convoluted pattern of cul-de-sacs with generous turning circles for large vehicles. This pattern of land use is not sustainable in the long term. In parts of London where land is at a premium, there are signs that industrial and trading estates are being redeveloped at higher densities. At its simplest, this might involve the terracing of sheds, or even the vertical stacking of units where this does not interfere with operational requirements. In a Bristol context, Filwood Business Centre illustrates the potential for accommodating industrial uses in a three storey building. Longer term, opportunities may exist for an industrial-led regeneration of these areas, which could involve introducing other land uses, and redesigning the overall layout to facilitate better connectivity with the surrounding areas.

In the past, many of the city’s large institutional landowners have not tended to use land very efficiently either. Hospitals, educational facilities and business parks have tended to adopt campus style layouts with buildings sitting in a landscape rather than arranged in blocks and streets. However, there are encouraging signs that as institution’s need for accommodation grow, and land becomes more expensive, a more urban form of development is being proposed, which when handled well, can result in successful placemaking e.g. Southmead Hospital’s recent partial redevelopment.

Future focus for Urban Living approach

1. Cumberland Basin
2. Lawrence Hill Roundabout
3. Bristol Temple Meads Station

Sites already adopting an Urban Living approach

1. Wapping Wharf
2. Southmead Hospital
3. Keysnham Civic Centre
Areas with the potential for optimising density through an Urban Living approach

Important city centre landmarks

Important city centre vantage points

Important transport hubs (existing and potential future)

Fig 5: Eastside - future focus for Urban Living approach to optimising density

City scale
Neighbourhood scale

Successful placemaking at a neighbourhood scale

Walkable, compact neighbourhoods

Proposals seeking to optimise densities need to demonstrate how they assist in delivering a walkable, compact neighbourhood as illustrated in Fig 6. It is based on a 400m radius, roughly a 10 minute walk, which is a generally accepted distance for ‘walkability’. The neighbourhood demonstrates many Urban Living principles:

- Graded densities/heights, with the highest densities/heights close to the heart of the neighbourhood, and lowest densities to the edge;
- Mixed use high street (with uses mixed both vertically within a building and horizontally along the street);
- Walkable neighbourhood with most community facilities, local services and public transport within a 500m walking circle;
- Integrated transport hub located at the heart of the neighbourhood where people can move seamlessly between transport modes in a high quality, legible environment;
- Efficient and effective urban structure based on perimeter blocks of varying sizes to accommodate a range of land uses and building typologies;
- Strategically located, taller ‘landmark’ buildings;
- Green infrastructure network, with high quality and green walking and cycling routes linking doorstep play areas, with pocket parks, larger parks and green spaces;
- ‘Big box’ uses such as supermarkets integrated into the high street, and sleeved with other uses to hide their service yards and car parking;
- Opportunities exploited to develop above shops, cafes, community uses, workshops, railway lines etc.

Graded densities and building heights

Proposals seeking to optimise building densities (usually though modest increases in building height) need to be informed by a thorough context analysis.

Context refers to the setting of a development, including both the existing physical surroundings and the planned vision for the future of an area. The purpose of the context analysis is to identify patterns, opportunities and challenges in the surrounding area, and then demonstrate how the proposed building will fit with and respond appropriately to these. For example, how the design responds to its physical context, including the character and legibility of the area and the local pattern of building, public space, landscape and topography?

Context analysis needs to be focussed on the block (approximately 250m radius from the proposed development site). This allows for a close examination of the immediate context, including buildings on the same block and across the street on adjacent blocks. This analysis should identify prevailing building heights, evaluate setback patterns, proximity to open space, ground floor uses, sunlight path analysis and the size, function and performance of surrounding streets.

Larger sites generally provide greater opportunities for increasing building densities and heights beyond those prevailing locally. Where necessary, buildings of a lesser height can be placed on the edge of large sites to provide some transition in terms of scale and massing in relation to the immediate surrounding context, whilst allowing the interior of a site to define its own setting/character and accommodate higher densities than the surrounding area. This is sometimes referred to as ‘placeshielding’.

Fig 6: Attributes of a successful urban neighbourhood
Neighbourhood scale

Strategically located taller buildings
Tall buildings are significantly higher than the prevailing building height. A well-located, well-designed tall building can be a positive feature of a successful walkable, compact neighbourhood. Tall buildings, particularly those that contain a mix of uses and are designed to accommodate the changing needs of occupants, can be an effective counter-measure to urban sprawl by encouraging a healthy, pedestrian-oriented lifestyle and promoting better use of public transport.

As well as undertaking a block-wide contextual analysis, proposals for tall buildings need to be informed by both:

- City-wide analysis - this would identify the key view points to the tall building
- Neighbourhood wide (500m radius from the proposed tall building) - this would inform the location, shape, general height, and spacing of towers

This is covered in more detail in Chapter 4.

Good accessibility to public transport and local facilities
Access to local facilities is a key aspect of sustainable neighbourhood design. Within a relatively compact city like Bristol, it should be reasonable to expect that most people should have access from their homes by foot, bike or public transport to the full range of social, retail, educational, health and recreation facilities outlined in Fig 7. In practice, this is easier to achieve the more compact, and densely developed a neighbourhood is.

It is important that any promoter of a major residential scheme (more than ten dwellings) undertakes an assessment of the local facilities in the vicinity of the proposed scheme. Meeting the standards set out here cannot be mandatory, but may be a starting point for a negotiation with an applicant. For example, where local facilities are missing or in decline, or are over-subscribed, is there an opportunity to provide this facility within the scheme itself e.g. Doctor’s surgery?

If there is poor accessibility to a range of services, and there is no strategy to plug these gaps, a significantly higher density scheme will be discouraged.

Optimising densities through the preparation of a masterplan
There is an expectation that a Masterplan will be prepared for any significant scheme seeking to optimise densities. A Masterplan provides a planning and design framework to guide the incremental development of large or complex areas. This Plan should provide a vision for the development of the entire site area, including how new buildings, streets, blocks, pedestrian and cycling routes, parks, and publically accessible and private open spaces will fit within the existing and planned context.

A Master Plan is required for developments having any one or more of the following characteristics:
- requiring new streets or parks;
- proposing one or more tall buildings (defined as over 30m);
- containing two or more construction phases;
- using shared servicing; and/or
- covering a site area larger than 2.0 hectares.

Fig 7: Accessibility criteria (based on Shaping Neighbourhoods, Barton et al, 2003)
Block/Street scale

Responding to context at a street and block scale

The characteristics of blocks, together with streets help define the urban fabric of a place. The relationship between block and urban form is the basis for achieving density and mix of uses, while the character and function of streets set the backdrop for daily life for the people who live, work and visit the city. As the city continues to grow, development at higher densities offers the potential to repair and reinforce the existing block and street structure that characterises the city.

This is not without its challenges. As a compact city, with limited hinterland, there are few large scale sites across the City which provide the opportunity to define their own context. Instead the majority of development potential in the city lies in smaller urban sites and infill development which require a more sensitive response to context as well as innovative approaches to, and use of, different urban forms.

The importance of understanding the existing street and block structure, microclimate conditions, including prevailing wind and sun path together with existing patterns of movement are key to understanding how to integrate higher density development (see Fig 8). Schemes should demonstrate how proposals respond to and enhance the local network of public spaces and streets.

The Urban Living aspiration relates to intensifying all land uses within the city to make more efficient use of land. A key component of this is promoting mixed use development, both vertically and horizontally within a block. Increasingly development trends are proving that careful placement and configuration of a mix of uses can serve to enhance the vitality of a block and wider neighbourhood.

One of the key challenges to delivering higher density development is managing and accommodating the competing demands on space, particularly at street level, to accommodate the required bin storage, cycle storage, car parking, servicing and communal open space within schemes. As we use land more efficiently we need to be creative in how these requirements are absorbed into the urban form and block structure in relation to street function.

In a residential context the aspiration is to promote Urban Living to a broader demographic, and ensuring the type of development delivered supports this. Large scale developments need to incorporate a variety of typologies within schemes which are suitable for families, elderly, co-living and those with specific accessibility needs, rather than just focusing on young professionals. They should also provide the opportunity for these to be mixed within blocks allowing people the option to change the type of accommodation without having to leave their community.

Fig 8: Diagram to be provided showing 250m x 250m sample urban neighbourhood, illustrating the following:
- Primary pedestrian routes
- Appropriate locations for siting bus stops and spill out spaces (sunny spots)
- Appropriate locations for siting service bays, and vehicular access to basement and podium parking (shady parts of the secondary route network)
- Appropriate locations for taller building elements where they cause least overshadowing to the well-used parts of the public realm, and interior communal spaces within blocks

AWAITING DIAGRAM: Integrating higher density
Primary Pedestrian Street, with active uses and spill out space into the street. The north-south orientation of the street allows sunlight into the space while creating a strong sense of enclosure. Gaol Ferry Steps, Bristol
Compact urban street which responds positively to orientation; larger windows, recessed terraces and landscape features on sunny side of the street while shaded side has smaller windows to reduce heat loss. Residential street, Amsterdam.
Careful siting of larger development block serves to frame urban park without overshadowing large areas of public realm. Acton Gardens, London.
Street/ block scale

Human scale streets relating to prevailing building heights and street function

Human scale perception of built form is focused on those elements that relate directly to the street, such as active groundfloor uses, regular entrances, thresholds, architectural detailing and massing that create a comfortable scale of enclosure, together with a comfortable microclimate to support the function of the street, such as appropriate levels of daylight and sunlight.

There is no single objective definition of what human scale is. In the city centre this may be defined by 6-8 storey buildings along a main movement corridor, lined with active uses and with tall building(s) at strategic locations along the street. In a more suburban setting this may be defined by 2-3 storey buildings along smaller scale residential streets with front garden threshold space. Therefore, while best practice guidance provides a useful starting point, the human scale of development can be defined by the existing character and function of the street, or by the emerging context in identified Urban Living Intensification areas.

Where taller elements are proposed it is important that the base of the building relates appropriately to the street. To ensure new development responds to the character of the street, taller buildings should establish a clear base building which relates to the prevailing building height, with taller elements set back from the street; allowing greater sunlight penetration to the street, protecting sky views, mitigating microclimate impacts and retaining a comfortable street enclosure.

Higher density schemes can provide a critical mass of people to support a vibrant mix of uses and activity at street level. These uses should be located to take advantage of sunny aspect and reinforce existing or establish new primary pedestrian routes.

Active uses which spill out onto the street should be located to optimise direct sunlight, achieving a minimum of 5 hours sunlight at the Autumn Equinox, and ensure a generously scaled pavement area to accommodate higher intensity of use.

Daylight and sunlight targets achieved through good design

Activity and enjoyment of the public realm is dependant on achieving a comfortable and inviting environment. For example primary pedestrian streets tend to be more successful where the physical quality of the route is supported by favourable climate conditions such as direct sunlight, with shading, and shelter from wind.

The siting of taller elements should optimise opportunities for day lighting both internal courtyards and surrounding streets, allowing penetration of direct sunlight to key areas. Overshadowing should be limited to secondary streets or less sensitive land uses.

Overshadowing impacts of proposed development should be minimised as far as possible. However flexibility should also be applied when using BRE assessment in higher density developments, taking a more contextual approach, particularly in relation to existing development or areas identified for Urban Living Intensification.

Fig 9: Introducing a higher density building into an existing lower density context

Fig 10: Street enclosure ratios for base buildings

<table>
<thead>
<tr>
<th>Ratio of 1:1</th>
<th>Ratio of 1:2</th>
<th>Ratio of 1:3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very strong sense of enclosure</td>
<td>Strong sense of enclosure</td>
<td>Moderate sense of enclosure</td>
</tr>
<tr>
<td>Requires careful consideration of direct sunlight targets and orientation.</td>
<td>Requires careful consideration of direct sunlight targets and orientation when siting taller elements.</td>
<td>Generates much larger streets for buildings 3 storeys +</td>
</tr>
<tr>
<td>Traffic free areas allows greater space to pedestrians e.g. Gaol Ferry Steps</td>
<td>Allows space for more substantial street trees</td>
<td>Suitable in most settings.</td>
</tr>
<tr>
<td>Better suited to central and urban areas.</td>
<td></td>
<td>Transition area between existing prevailing building height and increased scale of new development</td>
</tr>
<tr>
<td>Generous public realm around main entrance to the building, proportionate to the intensity of use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set back building line to accommodate spill out space and active uses, on sunny side of street.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scale of base building related to street width and function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loading bay and servicing areas in shaded area of secondary street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taller element set back from street.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig 10: Street enclosure ratios for base buildings
Block/Street scale

High quality public realm and opportunities for urban greening

The public realm associated with higher density development is invariably used more intensively than in lower density areas, and as such needs to be well-designed to meet the competing needs placed upon it.

It is important that developments contribute positively and proportionately to the public realm, ensuring infrastructure is able to support the increased intensity of use and provide a network of high quality streets and spaces.

Opportunities for urban greening should be integrated within the street to help improve the pedestrian environment and to support rainwater management through sustainable drainage, reduce exposure to air pollution, manage heat and increase biodiversity. Strategic structural tree planting requires sufficient space to be allowed within the street for trees to thrive and provide sufficient soil depth and high quality growing material for planting.

Car parking accommodated in ways that it does not dominate

Integrated on street parking offers a flexible resource to accommodate parking in all areas of the city. In a more central setting this may accommodate short stay visitor parking, whereas in urban and suburban setting can accommodate residential parking in an efficient way.

In central and urban areas, where ground floor space is at a premium, podium or basement levels provide a discrete way to provide parking and servicing requirements. In suburban locations, additional parking may be sensitively integrated on-plot to the front of properties.

Consideration of controlled parking zones may be required to mitigate the potential knock-on impacts of higher density schemes, such as overspill parking, on a site-by-site basis.

Multi-storey or large surface carparks no longer represent an acceptable use of land. Instead ‘sleeving’ or developing above these areas represents a more integrated approach to parking, particularly in large institutional uses.

Vehicle access and servicing on less used, less sunny streets

Higher density development inevitably requires increased servicing. Space given over to these requirements should be minimised through efficient design such as on-street service loops, to avoid turning heads which take up space, and in larger developments, through shared facilities where possible. Access to parking and service areas should be located on secondary streets.

High quality landscape and architectural elements should be used to screen less attractive uses to reduce negative impact on the public realm and cumulative impact of these ‘back of house’ uses.

Where servicing is required in areas of higher pedestrian movement, carefully designed on street loading bays should be considered, ensuring usable space for pedestrians and cyclists is maintained when not in use.

New civic space provided as part of the Temple Quarter development allowing direct visual access to the River Avon, Bristol

Opportunities for enhanced landscaping within a retrofitted homezone area, The Dings, Bristol

Additional tree planting provided in central reservation of re-configured highway, Whiteladies Road, Bristol

Street trees and landscaping incorporated along street edge providing more comfortable pedestrian environment

Generous public realm accommodating high pedestrian flows and cycle way, Barcelona

Loading and servicing facilities discretely located along secondary street, Southmead Hospital, Bristol

Multi-storey car park successfully ‘sleeved’ with development providing some overlooking to landscape area, Southmead Hospital, Bristol
Making liveable buildings

Buildings not only contribute to the character of our streets, but also define the internal environment for most people, most of the day. As such they are required to respond to and support the health and wellbeing of occupants across all land uses, while optimising the amount and mix of uses to deliver the Urban Living agenda.

In higher density developments the intensity of use is increased to an extent that successful management and maintenance become critical to ensure functional, liveable places. Therefore this should be considered at the outset of design and demonstrate how design decisions have taken into account the day-to-day performance of the building and lifecycle costs of the scheme.

Vertical mixing of compatible uses

Horizontal mixing of residential above commercial uses has become a common fixture along our high streets and central areas. However there is scope to increase the vertical mixing of compatible uses to make best use of the site, while improving residential amenity. Careful consideration of noise transfer, operation hours and servicing at the outset of design may allow the introduction of less traditional mixed use combinations such as light industrial and distribution uses.

Mixture of unit types, tenures and sizes

Buildings should be designed to accommodate a variety of residential typologies such as flats, maisonettes, integrated townhouses, and live/work units to reflect the needs of potential occupiers, and create mixed and balanced communities. Location of units, such as family-friendly dwellings, require careful consideration. For example larger family units could be located at ground floor with direct access to both the street and external communal space or at the upper levels with access to generous terraces, replicating the configuration of a traditional family house. Live/work units would also benefit from street level frontage, particularly if in light industrial use.

Design should not be tenure specific and should allow shared use of communal open space by all residents. Opt in scheme for all residents to access communal facilities, typically paid for through service charges should be promoted.

Adaptable buildings that can respond to changing user needs

Internal configuration and construction methods should be considered at the outset to allow future flexibility of units across all uses. For example ensuring non-structural internal walls to allow units to change size and shape as required, or future proofing access to accommodate greater numbers of people and movements.

The rise in popularity of off-site and modular construction methods should be considered when designing circulation areas to allow for convenient maintenance and replacement of fixtures and fittings, for example bathroom and kitchen pods.

Consider building forms and location of internal circulation to allow future conversion to habitable space. For example roof pitch and construction to allow conversion of roof space, or increased floor to ceiling heights in commercial space to allow the insertion of mezzanine levels.

Lower block of terrace houses to the southern side of the perimeter block allows sunlight into the courtyard and units on the north side

Shallow plan blocks allow dual aspect units and more generous internal courtyard space

Ground floor maisonettes allow direct access to both the street and communal space within the block, with the opportunity for private outdoor space, replicating the configuration of a traditional family house

Double height ground floor provides opportunity for commercial use at street level, such as retail or workshops. Vertically stacked mixed use, with office levels between retail and residential acting as a buffer to noise outbreak from servicing and traffic noise from primary street.

Generous sized balconies utilising direct sunlight and provides overlooking to communal space

Corner units provide dual aspect, with views out of the block. Single aspect units overlooking internal courtyards should be avoided

Podium and basement levels discreetly accommodates parking requirements so that it does not dominate the street. Tree planting accommodated within internal courtyard at ground level allowing natural ventilation to podium parking areas.

Reflective cladding materials together with larger windows in ground floor units can improve daylight levels within units facing into the block.

Off-site construction of standardised bathroom pods reduce costs and time scales involved in initial construction as well as future replacement

Flexible workspace accommodates variety of workspace within ‘shell’ building and allows future adaptability, AirBnB HQ, Dublin

Fig 11: Indicative east-west section through central area perimeter block
Active public fronts to buildings; quieter private spaces to the rear
Perimeter blocks successfully define public fronts, with private space enclosed within the block. Active uses are generally commercial uses which provide a higher level of activity to the street. Ground floor levels should be designed with greater floor to ceiling heights to allow maximum flexibility for commercial active uses. In larger, phased developments ‘meanwhile’ uses should be promoted. Where residential uses are proposed at ground floor, habitable rooms should be located at the front of the building to provide natural overlooking and sense of activity from regular windows and doors to individual units. Raising the internal floor level of units above street level can improve privacy while still enabling a relationship with the street.

Private communal space should be designed to take account of a variety of uses such as integrated childrens play, areas for growing and quiet areas. Prominently located and generously proportioned building entrances serving as small a number of units as possible
Building entrances should be celebrated within the design to aid legibility and add interest at street level and reflect a proportionate response to the intensity of use.

Entrances should serve as small a number of units as possible to help foster a sense of community and familiarity with neighbours, as well as providing multiple entrances to activate the street edge.

Generous communal and circulation spaces
In large schemes these areas serve as internalised streets and so day lighting and generosity of space is critical. In a residential context circulation areas need to accommodate daily movements, especially at peak hours, as well as functional requirements of moving furniture and other goods from time-to-time.

Circulation spaces should be generous enough to allow comfortable use by the building occupants, including stopping to chat with neighbours, passing in corridors without experiencing ‘close-quarters’ proximity and allow for moving furniture. Natural lighting and ventilation are important and can be achieved through glazed atria, making features like winter-gardens possible.

External communal space should be considered in non-residential uses as well as residential to provide convenient access to well designed and landscaped outdoor space, particularly where access to public open space is limited.

Discretely located but accessible waste collections areas
Waste storage should be contained within the building mass. Commercial uses should rationalise storage and collection points to minimise multiple bin stores and associated loading facilities.

Waste storage in flatted schemes should be conveniently located for residents and actively promote recycling facilities, including within individual units. Appropriate management plans should also be in place for waste collection.

Where shared storage and collection is not possible, integrated waste storage should be designed into the front of properties, rather than back gardens.
3. Residential Quality Standards

The City is seeking to drive up the quality of higher density housing schemes, and has prepared a set of new ‘quality standards’ to help achieve this. These are broadly based on standards that have been in operation across London since 2015. It includes a new open space standard (see pages 37-44).

Submitted planning application documents, including Planning Statements, Design & Access Statements and drawings, should clearly demonstrate that the quality standards identified in the SPD would be achieved in any new flatted residential development proposal (see Checklist 2).

The scope of the standards includes:
- Private outdoor space
- Shared internal circulation space
- Parking and servicing
- Individual dwellings
Quality standards for residential schemes

Private outdoor space

Standard 1 - A minimum of 5sq m of private outdoor space should be provided for 1-2 person dwellings and an extra 1sq m should be provided for each additional occupant. This can be provided as private balconies or gardens, or as communal gardens and roof terraces.

Standard 2 - Where communal private open space is provided, the space should:
- have a clear purpose and be designed to be safe and easily managed;
- be clearly demarcated from the public realm;
- be overlooked by surrounding development;
- be designed to take advantage of direct sunlight;
- have suitable management arrangements in place;
- be accessible to all residents regardless of tenure or mobility;
- provide a suitable threshold treatment
- to ground floor flats.

Standard 3 – For developments with an estimated occupancy of ten children or more, a space suitable for informal ‘doorstep’ play for the under 5s should be provided within the development. The size of this space should be no less than 0.3sqm per resident. This space should either be within the private communal space and for the use of residents only, or within the public realm and publically available. Either way, it should be integral to the design of these spaces.

Standard 4 - The minimum depth and width for all balconies and other private external spaces should be 1500mm. Balconies should be designed and orientated to be sunny, sheltered and secluded from neighbouring premises.

Children’s play provision provided within the private realm, Hammarby Sjöstad , Stockholm

Private landscaped space within the block with quiet seating areas and more versatile areas of lawn, well overlooked by surrounding units, East Village London

Formal children’s play incorporated within the block, with covered shelter to allow comfortable supervision, Hammarby Sjöstad , Sweden

Communal private space within the block with areas of threshold space to individual ground floor units opening directly to the space, Het Funen, Amsterdam

Integration of play and public art within the public realm, The Point, Bristol

Open space provided through balconies and winter gardens together with areas of private garden space at podium level, Anapolis Stadstuinen, Rotterdam
Quality standards for residential schemes

Shared internal circulation space

Standard 5 - All main entrances to houses, ground floor flats and communal entrance lobbies should be visible, clearly identifiable, and, wherever possible, directly accessible from the public realm.

Standard 6 – Delivery arrangements must be well thought out and legible, with adequate and safe storage facilities should the recipient be absent;

Standard 7 - Each core should be accessible to generally no more than six dwellings on each floor (with the exception of Build for Rent, student accommodation and cluster flats building typologies).

Standard 8 - An access core serving 4 or more dwellings should provide an access control system with entry phones in all dwellings linked to a main front door with electronic lock release. This should comply with Secure by Design advice

Standard 9 - Corridors should be well lit, optimising opportunities for natural light and adequately ventilated. All internal circulation spaces should have a minimum width of 2m to enable large items of furniture to be moved around.

Standard 10 - All dwellings entered at the seventh floor (eighth storey) and above should be served by at least two lifts. At least one should be a fire-fighting lift, and be of sufficient size for the movement of large items of furniture. It is desirable that every wheelchair user dwelling is served by more than one lift.

Standard 11 - The layout of adjacent dwellings and the location of lifts and circulation spaces should seek to limit the transmission of noise to sound sensitive rooms within dwellings. This is best achieved by configuring living rooms next to living rooms and bedrooms next to bedrooms in vertical and horizontal arrangement.

1. Generous, natural lit corridors with accessible windows providing outlook in a residential care home
2. Residential internal corridor with light well providing natural light into the building together with outlook at the end of the corridor
3. Large, open internal stairwell using glass screens to allow light penetration into corridor areas, Royal William Yard, Plymouth
4. Prominent residential entrances directly onto the street
5. Well defined individual entrances onto the street from ground floor units with apartments above, Ely Court, London
6. Deck access and atrium provides natural light deep into the building, Airpoint Bedminster.
7. Deck access providing threshold space to individual units while allowing natural light through glazed screen which protects from prevailing wind, Anapolis Stadstuinen, Rotterdam
Quality standards for residential schemes

Parking and Servicing

See BCC’s Transport Development Management Guide for further more detailed information.

Standard 12 - Development proposals will support and encourage cycling by providing secure cycle storage which people can use with confidence. This should ideally be provided at ground floor level next to the individual building lobbies. Storage areas that are naturally lit and visible from the street will be encouraged. Cycle storage areas should include a range of storage types including a proportion of Sheffield stands, stands for over-sized bikes, and prams. Where cycle storage is provided within the home, it should be in addition to the minimum GIA and minimum storage and circulation space requirements, and should only be provided to ground floor flats or flats with adequately sized lift access. Cycle storage identified in habitable rooms or on balconies will not be considered acceptable, nor will vertical (hanging) or 45 degree cycle storage.

Standard 13 - Proposals for parking, servicing and loading should make effective and efficient use of land and be integral to the design of the development. Car parking provision should have regard to the Parking Standards set out in the Local Plan, the parking management regime in the local area, the level of accessibility by walking, cycling and public transport, and the surrounding on-street highway conditions. In the first instance, parking and servicing should be sensitively designed into the street. Any additional car parking requirement should then be accommodated to the front of plots (suburban/urban context) or within basements/podiums (urban/central area settings). Open areas of surface parking should be avoided e.g. rear parking courts in residential schemes and should only be considered once other approaches have been exhausted. Private garages should be discouraged as they undermine the ability of the street to accommodate car parking, and more often than not get used for storage purposes rather than parking. Access points to car parking should not be visually obtrusive or obstructive to pedestrians and cyclists. Car parking spaces within the street should generally be unallocated and therefore adoptable. Schemes with ten or more dwellings should provide an element of communal visitor parking (which can include on-street provision), and, where practicable, a service bay designed into the street capable of safely accommodating a refuse/emergency vehicle. Car club and electric car bays should also be provided. Each designated wheelchair accessible dwelling should have a car parking space that complies with Part M4 (3).

Standard 14 - Waste storage should be well integrated into the design of the development so residents and service vehicles can access it easily whilst not having an adverse impact upon visual and residential amenity. The location should satisfy local requirements for waste collection as outlined within the Bristol Waste Guidelines. Refuse should not be stored on the highway even on collection days. Refuse and recycling stores within buildings should be located to limit the nuisance caused by noise and smells and maintained to a high hygiene standard. All developments of 10+ units should incorporate recycling containers.
Individual dwellings

Standard 15 - All new dwellings should meet or exceed the nationally described space standard. Internal residential layouts must be ergonomic, and adaptable (for example, through removable partitions) to facilitate flexible use of space, increase living choices, enable home working and make life easier for wheelchair users. 90 per cent of new build housing should meet Building Regulation requirement M4(2) ‘accessible and adaptable dwellings’ with the remaining 10 per cent meeting Building Regulation requirement M4(3) ‘wheelchair user dwellings’.

Standard 16 - A minimum ceiling height of 2.5 metres for at least 75% of the gross internal area is strongly encouraged

Standard 17 - Design proposals should demonstrate how habitable rooms and bedrooms within each dwelling are provided with an adequate level of privacy in relation to neighbouring property, the street and other public spaces.

Standard 18 – Developments should minimise the number of single aspect dwellings. Single aspect dwellings that are north facing, or exposed to noise levels above which significant adverse effects on health and quality of life occur, or which contain three or more bedrooms should be avoided. It must be demonstrated that single aspect dwellings will have adequate passive ventilation, daylight, privacy, and outlook and avoid overheating.

Standard 19 - All homes should provide for direct sunlight to enter at least one habitable room for part of the day. Living areas and kitchen dining spaces should preferably receive direct sunlight. Living rooms should be fully ‘openable’ with a full height glazed balconette if no balcony or direct access to other private open space is provided.

Standard 20 - Development proposals should demonstrate how the design of dwellings will avoid overheating without reliance on energy intensive mechanical cooling systems

Fig 12: Orientation of apartment building in relation to solar path

1. Increased floor to ceiling height utilised in the main living areas with full height glazing to maximise natural light
2. Solar shading incorporated within the elevation to reduce internal overheating
3. Natural sunlight into kitchen space
4. Winter gardens utilised to provide comfortable amenity space on north facing elements or areas exposed to prevailing winds.
5. Furniture layout showing an ergonomically designed dwelling

Single aspect dwellings should not be located along a northern elevation
4. Tall Buildings
A well-located, well-designed tall building can be a positive feature of a successful walkable, compact neighbourhood. Tall buildings, particularly those that contain a mix of uses and are designed to accommodate the changing needs of occupants, can be an effective counter-measure to urban sprawl by encouraging a healthy, pedestrian-oriented lifestyle and promoting better use of public transport.

**Definition**

A **tall building** is one that is significantly taller than the prevailing building height. In areas of uniform height, a tall building would typically be more than 1.5 times the prevailing height, and in areas of more varied height, a tall building would typically be more than 2 times the prevailing height.

A **prevailing building height** is the most commonly occurring height of buildings within an area of common character.

In Bristol’s city centre, the prevailing building height is typically 4-6 storeys high. This has been an essential element in the city’s distinctive identity. However, in areas of plan-led major change such as the Temple Quarter area, a new prevailing building height of 5-8 storeys is emerging.

In the suburbs, the prevailing building height is typically 2-3 storeys.

**Scrutiny of applications for tall buildings**

All applications for tall buildings 30m high and above (approximately 10 residential storeys) will be subject to greater scrutiny, regardless of whether the proposed building is significantly taller than the prevailing building height or not. This brings the scrutiny threshold in line with the Building Regulations definition of a tall building. This height threshold will include extensions to existing buildings including significant plant.

It will be at the discretion of the planning officer whether a proposal for a tall building below 30m will require this additional scrutiny.

This additional scrutiny will include:

− a commitment to design review by the Bristol Urban Design Forum (BUDF) at the pre-application stage followed by a further desk-top review of the submitted planning application by the BUDF
− a commitment to effective pre-application community involvement through adherence with Bristol’s Statement of Community Involvement, with applicants expected to sign a Planning Performance Agreement (PPA) to agree a way of working between developers, the community and stakeholders
− a more detailed assessment of the development’s likely visual, environmental, functional and socio-economic impacts as set out in Checklist 3
− a detailed assessment of the scheme’s future maintenance and management plans (further details of this will be set out in a Planning Guidance Note)

**Fig 13: Definition of prevailing height, amplified height and tall buildings**
Siting tall buildings

The capacity of an area to accommodate a tall building is heavily influenced by an area’s underlying character. This should be understood at the scale of the city, neighbourhood, and street. Often the greater the existing variety of character within an area, the greater capacity for future change in terms of introducing higher densities, and new building typologies including tall buildings.

Bristol’s character is significantly shaped by its steeply sloping escarpments, open spaces and watercourses. These provide many, much valued vantage points from which to view the city and beyond. Development from the Georgian and Victoria period has typically exploited this dramatic typography, resulting in the creation of some of Bristol’s best loved townscapes. Conversely, much of the development from 1950s and 60s (the residential tower blocks and commercial slab blocks sitting in space) were based on new international ideas about planning and architecture and say very little about Bristol’s unique context. Any proposal for a tall building must respond positively to Bristol’s unique physical setting and its rich built heritage.

It has not been within the scope of this SPD to identify specific sites in the city that are considered appropriate for tall buildings. Rather, the SPD identifies focus areas for an Urban Living approach where there is scope for significantly increasing densities. These are the areas in the city that could most readily accommodate tall buildings.

The City is keen to follow guidance ‘Tall Buildings – Advice Note 4’ prepared by Historic England (2015) which argues for a plan-led approach to the location of tall buildings. This would involve the preparation of spatial frameworks for areas of anticipated change, capturing a shared vision for that area and provide a positive, managed approach to locating tall buildings, which discourages speculative development applications. Spatial plans should be informed by techniques such as urban characterisation and building height studies to provide evidence to support a local height definition for tall buildings and the identification of appropriate locations for tall buildings.

In siting a tall building, it will be important that the visual, environmental and functional impacts of the tall building are fully assessed (see Checklist 3). Impacts are likely to be both positive and negative. Where impacts are negative, mitigation measures should be explored.

Generally speaking, larger sites (2ha and over) offer the greater potential for taller buildings, as these sites are more able to set their own context than smaller sites. Larger sites provide the opportunity to site tall buildings away from existing buildings and public realm, and thus protect them from over-shadowing and adverse wind effects.

Tall buildings will be encouraged where they can be integrated into a wider development block, with lower level buildings assisting the transition in scale from the tall building down to the surrounding context (place-shielding).

Tall buildings will generally be discouraged on physically constrained sites within existing built up areas, where a tall building is likely to have a negative impact on the daylight and sunlight penetration into the habitable rooms of existing buildings, or onto well used parts of the public realm.

Stand-alone tall buildings (i.e. buildings that do not form part of a block and street structure) will also be discouraged.

Where a cluster of tall buildings are proposed, it will be important that adequate separation distances are provided in between towers, both to limit the likely cumulative impact of the towers on the micro-climate at ground level, and to avoid the negative visual impacts of a perceived ‘wall of development’ (see Fig 15).

When siting a tall building, it will be important early on to test out a range of long-range, medium-range and local viewpoints to understand the suitability of a site to accommodate a tall building. This should be undertaken in line with guidance from both Historic England and the Landscape Institute.

Tall buildings will be encouraged where they are likely to have a positive impact on the socio-economic health of the wider neighbourhood. For example, tall buildings that form a key part of a wider plan-led regeneration of an area will be considered favourably, particularly where there is strong local support, and it can be demonstrated that the scheme addresses local housing need or provides local jobs, facilities or economic activity.

Tall buildings will be discouraged on sites in close proximity to other tall buildings (25m or greater).

A tall building should not be located where:

- it hides or masks the topography of the city
- it harms valued views from key vantage points (see Fig.7)
- it has a detrimental impact on the amenity of nearby occupants or on the public realm
- it has a negative impact on existing nearby renewable energy systems
- there is insufficient transport, utilities or community infrastructure to support a more intensive form of development.

Fig 15: Tall buildings with adequate minimum separation distance between buildings (25m or greater).

Fig 16: Important elements of a view assessment.
Design excellence

To acknowledge the important civic role that tall buildings could play in defining the image of Bristol, tall buildings should demonstrate design excellence. This should be achieved through:
- architectural quality;
- the effective use of resources;
- high-quality materials;
- innovative and sustainable building design and construction;
- a high quality public realm; and
- a sensitive and thoughtful response to the impacts that tall buildings place upon the urban landscape.

It should be recognised that this can be a highly emotive and subjective issue, and that considerable public debate should be both expected and encouraged.

It is anticipated that most tall buildings proposals will consist of three carefully integrated parts: a base building, middle, and top.

**Top (tower)**
The top of the building should be designed to make an appropriate contribution to the city’s skyline. Most tall buildings will be part of the urban backdrop which frames existing viewpoints and open spaces. In these instances, the top should reinforce the supporting role of the building and subtly integrate with the overall tower design. A minority of tall building by virtue of their location will warrant a more memorable top which can help people navigating themselves around the city. This might be achieved by utilising a unique shape or silhouette or by locating the most visible compositional elements at the top of the building.

In particular, there is a need to consider the visual impact of telecommunications apparatus and plant rooms at a high level. These can be extremely damaging to the appearance of a building but also, if integral to the original design, something of a feature. In general tops of buildings work best if they are lightweight and transparent in appearance. The introduction of alternative accommodation on upper floors, such as a duplex apartment or rooftop restaurant, can provide a successful design solution.

**Middle (tower)**
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 shading that is experienced in the public realm and by surrounding properties. Big, boxy, dominant massing should be avoided, as should large elongated or slab-like floor plates. When adequately separated, a slender point form tower with compact floor plates will cast smaller, faster moving shadows, than a bulkier tower. A slender tower can also improve access to sky view, permit better views between buildings and through sites, and contribute to a more attractive skyline. Towers with smaller floor plates can also make interior climate control within a building more energy efficient and increase daylighting within the building – an important contributor to sustainability, residential liveability, and workplace productivity.

Towers should be set back from streets, parks, and neighbouring properties to reduce visual and physical impacts of the tower and allow the base building to be the primary defining element for the site and adjoining public realm. Towers should be separated from each other by a distance of 25-30m.

Balconies should be designed to optimise useability, comfort and building performance. Balcony arrangements that appear to significantly increased the visual building mass e.g. wrap-round corner balconies should be avoided.

The reflectivity and transparency of the building is an important consideration. A highly reflective and transparent building material such as glass can sometimes cause obtrusive daytime glare. However, transparent materials have often been used to great effect to create significant landmark features at night. Proposals should consider how to exploit exciting advances in lighting, whilst limiting light trespass, and sky glow.

**Base**
A key failing of tall buildings is the way they meet the ground and therefore how they are perceived/experienced at the short distance.

Ultimately the aim should be to create a public realm with a human scale. Human scale need not necessarily be prejudiced by high buildings, provided that these are carefully located, and have regard to the effects on the microclimate. This often involves the following:
- stepping down a large mass to its neighbours;
- ensuring that the ground level most relevant to the pedestrian experience is as active and interesting as possible;
- ensuring that the public realm is naturally surveilled;
- providing legible and accessible entrances;
- providing a richness to the detailing and high quality materials;
- mitigating against the adverse impacts a tall building can often make on the microclimate;
- providing a continuity of frontage, thus providing definition and enclosure to the public realm.

**Fig 17:** The three parts to a tall building: base, middle and top
Tall Buildings

Sustainable design

Tall buildings should be designed to be adaptable and flexible to ensure that these buildings remain functional and capable of addressing any shifts in demographics and market demands over the long term. Future adaptability can be optimised through careful consideration of floor plate solutions, and the positioning of service cores.

Sustainable design is also concerned with the technical performance of the building, its materials and construction methods, water management, landscape elements and the quality of the internal environment.

While the core temperatures of fully glazed tall buildings are typically quite stable and comfortable with very low energy consumption, the incorporation of balconies can create highly dynamic thermal conditions within the first two metres of the building perimeter. Significant thermal losses and solar heat gain in the perimeter zone must then be offset with extra energy (e.g. mechanical heating/cooling) to create a comfortable and balanced interior environment year round. This in turn can translate into higher maintenance costs. There are many site and building design measures, including the selection of more efficient perimeter systems, which can be applied to improve the sustainability and energy performance of tall building developments. Energy performance should be evaluated as the design evolves, thus informing glazing ratios, positioning of buildings, massing, orientation and articulation, balcony design, materials and construction methods.

Energy efficiency could be optimised through:
- Adoption of appropriate building form & fabric e.g. through passive means such as increasing the availability of thermal mass (which acts as a heat sink or source of cooler temperature);
- Specification of an energy efficient services solution e.g. through double facades which allow natural ventilation of spaces and access to openable windows and daylight integrated lighting systems;
- Sub-metering of major plant and equipment;
- Use of energy efficient vertical transportation solutions e.g. energy recovery from lifts;
- Optimising solar design, utilising a shallow plan, atria or shafts to allow the introduction of natural light and fresh air, whilst minimising excess solar gain that could lead to overheating risk through use of external shading and careful consideration of facade design;
- Ensure heating and hot water systems are future-proofed for connection to district heat where required by planning policy, including location of plant room, sizing, loading and access designed in accordance with requirements of the heat network operator;
- Use of renewable energy e.g. BIPV (building integrated photovoltaics), heat pumps and wind power

The environmental impact of building materials can be reduced through the use of an environmental preference or profiling system e.g. the BRE’s Green Guide to Construction. The selection of materials will need to take into account the unique structural engineering requirements of tall buildings.

---

**Fig 18:** Pedestrian level wind effects (based on the Toronto Tall Buildings Guidelines)

<table>
<thead>
<tr>
<th>Issues</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind flowing down the building face causes acceleration wind speeds near the windward corners.</td>
<td>Buildings create a low wind pressure area immediately downwind.</td>
</tr>
<tr>
<td>Tall and wide facades that face the prevailing winds are often undesirable.</td>
<td>A low building upwind of a tall building increases the downward flow of wind, causing accelerated wind near the windward corners.</td>
</tr>
<tr>
<td>Wind is funnelled between two buildings causing accelerated winds between the (wind canyon effect).</td>
<td>The height, spacing, and orientation of the buildings affect intensity of wind acceleration.</td>
</tr>
<tr>
<td></td>
<td>Towers that step back from base buildings can be used to reduce undesirable downward wind flows.</td>
</tr>
<tr>
<td></td>
<td>The proportions of base building stepbacks and their influence on the wind is affected by the height of the surroundings.</td>
</tr>
<tr>
<td></td>
<td>Base building roof areas that are inaccessible to pedestrians can be used to mitigate against downward wind flows and improve conditions at grade.</td>
</tr>
<tr>
<td></td>
<td>Landscape base building roof areas can further reduce wind speed at grade.</td>
</tr>
<tr>
<td></td>
<td>The use of horizontal canopies on the windward face of base buildings is beneficial.</td>
</tr>
<tr>
<td></td>
<td>Parapet walls can increase the canopy’s effectiveness.</td>
</tr>
<tr>
<td></td>
<td>Sloped canopies only partially deflect downward wind conditions.</td>
</tr>
<tr>
<td></td>
<td>Colonnaded base buildings can be used on windward facades to control downward wind flows.</td>
</tr>
<tr>
<td></td>
<td>Colonnades provide pedestrians a choice of calm or windy areas (breezes are welcome on hot days).</td>
</tr>
</tbody>
</table>

---

[Diagram of issues and solutions related to pedestrian level wind effects.]
5. Guidance on submitting a planning application

All major applications need to demonstrate that they are optimising densities - balancing the efficient and effective use of land, against aspirations for successful placemaking, liveable buildings, and a positive response to context. The applicant should demonstrate how this can be successfully achieved, setting out how the scheme addresses this at a city, neighbourhood, street and building level.

Applicants are required to submit the information set out in Checklist 1 in support of this.

All applications for major residential developments (more than 10 dwellings) should demonstrate that they would be good places to live, by setting out how the scheme positively responds to the 20 Residential Quality Standards set out in this SPD.

Applicants are required to submit the information set out in Checklist 2 in support of this.

All applications for tall buildings, defined as 30m and above should be subject to additional scrutiny, as should major residential developments that exceed the following thresholds:
- more than 150 units/ha in a suburban setting;
- more than 200 units/ha in an urban setting; or
- more than 350 units/ha in a central area setting

This additional scrutiny will include:
- a commitment to design review by the Bristol Urban Design Forum (BUDF) at the pre-application stage followed by a further desk-top review of the submitted planning application by the BUDF
- a commitment to effective pre-application community involvement through adherence with Bristol’s Statement of Community Involvement, with applicants expected to sign a Planning Performance Agreement (PPA) to agree a way of working between developers, the community and stakeholders
- a more detailed assessment of the development’s likely visual, environmental, functional and socio-economic impacts as set out in Checklist 3
- a detailed assessment of the schemes future maintenance and management plans (further details of this will be set out in a Planning Guidance Note)
Checklist 1: Optimising Density

Applicants should use their Design and Access Statements to set out how their scheme optimises densities - balancing the efficient and effective use of land, with aspirations for successful placemaking, liveable buildings, and a positive response to context. The applicant should demonstrate how this can be successfully achieved, setting out how the scheme addresses this at a city, neighbourhood, street and building level.

Applicants should use the Design and Access Statement to demonstrate that the proposed scheme is a suitable response to the site and its setting, and that it can be adequately accessed by prospective users.

Applicants are encouraged to respond positively to the design considerations set out in Chapter 2.

The Design and Access Statement should be used to explain the design evolution, showing alternative options that have been considered and setting out the reasons for the selection of the preferred option. The Design and Access Statement should evolve alongside the evolution of the scheme, and should be used for a tool to communicate the vision for the site throughout the pre-application process.

The Design and Access Statements should be designed to be a concise and user-friendly document. It should aid decision-making by enabling local planning authorities and third parties to better understand the analysis that has underpinned the design of a development proposal. It should comprise graphics and text.

The Design and Access Statement should provide the following quantitative information to enable the scheme to be properly assessed. Density calculations should adopt the methodology set out in Appendix 1, with reference being made to worked examples in the companion ‘Urban Living – Learning from recent higher density developments (Bristol City Council, 2018)

### All schemes (Key facts and figures: Monitoring information)

<table>
<thead>
<tr>
<th>Information</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site area (hectares)</td>
<td></td>
</tr>
<tr>
<td>Number of separate buildings</td>
<td></td>
</tr>
<tr>
<td>Proposed number of phases for scheme delivery</td>
<td></td>
</tr>
<tr>
<td>Total number of non-residential units</td>
<td></td>
</tr>
<tr>
<td>Estimated number of non-residential building occupants (peak period)</td>
<td></td>
</tr>
<tr>
<td>Total building footprint i.e. Gross external area (GEA) (sqm)</td>
<td></td>
</tr>
<tr>
<td>Residential gross internal floor area (GIA) (sqm)</td>
<td></td>
</tr>
<tr>
<td>Non-residential GIA (sqm)</td>
<td></td>
</tr>
<tr>
<td>Total GIA (sqm)</td>
<td></td>
</tr>
<tr>
<td>Floor Area Ratio (total Gross Internal Area of all floors / site area)</td>
<td></td>
</tr>
<tr>
<td>Site Coverage Ratio (Gross External Area of ground floors /site area)</td>
<td></td>
</tr>
<tr>
<td>Maximum height in metres above ground level of each building and at Above Ordinance Datum (above sea level)</td>
<td></td>
</tr>
</tbody>
</table>

### For residential schemes

<table>
<thead>
<tr>
<th>Information</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of dwellings</td>
<td></td>
</tr>
<tr>
<td>Number of units per hectare</td>
<td></td>
</tr>
<tr>
<td>Number of bedspaces per hectare</td>
<td></td>
</tr>
<tr>
<td>Number of private and intermediate dwellings:</td>
<td></td>
</tr>
<tr>
<td>- 1 bedroom/1 bedspace</td>
<td></td>
</tr>
<tr>
<td>- 1 bedroom/2 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 2 bedroom/3 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 2 bedroom/4 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/4 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/5 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/6 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 4 or more bedrooms (please specify number of bedspaces)</td>
<td></td>
</tr>
<tr>
<td>Number of socially rented dwellings:</td>
<td></td>
</tr>
<tr>
<td>- 1 bedroom/1 bedspace</td>
<td></td>
</tr>
<tr>
<td>- 1 bedroom/2 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 2 bedroom/3 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 2 bedroom/4 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/4 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/5 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 3 bedroom/6 bedspaces</td>
<td></td>
</tr>
<tr>
<td>- 4 or more bedrooms (please specify number of bedspaces)</td>
<td></td>
</tr>
<tr>
<td>Total number of bedspaces</td>
<td></td>
</tr>
<tr>
<td>Number of units per hectare</td>
<td></td>
</tr>
<tr>
<td>Walking distance to children’s play space</td>
<td></td>
</tr>
<tr>
<td>Walking distance to primary school</td>
<td></td>
</tr>
<tr>
<td>Walking distance to GP surgery</td>
<td></td>
</tr>
</tbody>
</table>

### Parking

<table>
<thead>
<tr>
<th>Information</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of car parking spaces provided</td>
<td></td>
</tr>
<tr>
<td>Number of allocated parking spaces (residential/ non-residential)</td>
<td></td>
</tr>
<tr>
<td>Number of unallocated parking spaces</td>
<td></td>
</tr>
<tr>
<td>Number of on-street parking spaces provided</td>
<td></td>
</tr>
<tr>
<td>Number of parking spaces provided within basements, podiums or multi-storey arrangements</td>
<td></td>
</tr>
<tr>
<td>Number of parking spaces provided in private garages or driveways</td>
<td></td>
</tr>
<tr>
<td>Number of parking spaces provided in open areas of surface parking</td>
<td></td>
</tr>
</tbody>
</table>

### Accessibility

<table>
<thead>
<tr>
<th>Information</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking distance to bus stop</td>
<td></td>
</tr>
<tr>
<td>Walking distance to Metrobus stop or train station (which ever is closest)</td>
<td></td>
</tr>
<tr>
<td>Walking distance to local, district or town centre (whichever is closest)</td>
<td></td>
</tr>
</tbody>
</table>
Checklist 2: Residential Quality Standards

Applicants should use their Design and Access Statements to demonstrate how a major residential developments (more than 10 dwellings) would be good places to live, by setting out how the scheme positively responds to the 20 Residential Quality Standards set out in Chapter 3.

To support a qualitative appraisal of the scheme against these standards, the applicant should also provide the quantitative information set out opposite. Where a scheme comprises a number of separate blocks with their own private outdoor space, and shared internal circulation spaces, it is recommended that this information is provided on a block by block basis.

<table>
<thead>
<tr>
<th>Ref</th>
<th>Private outdoor space (Quality Standards 1-4)</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS1</td>
<td>Total number of bedspaces</td>
<td></td>
</tr>
<tr>
<td>QS1</td>
<td>Total area of private external space (balconies, roof terraces, gardens)</td>
<td></td>
</tr>
<tr>
<td>QS1</td>
<td>Total area of communal external space (ground, podium or terrace level)</td>
<td></td>
</tr>
<tr>
<td>QS1</td>
<td>Total area of communal external space (roof level)</td>
<td></td>
</tr>
<tr>
<td>QS1</td>
<td>Total combined area of private and communal space</td>
<td></td>
</tr>
<tr>
<td>QS2</td>
<td>% dwellings with access to private external space</td>
<td></td>
</tr>
<tr>
<td>QS2</td>
<td>% dwellings with access to communal external space</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ref</th>
<th>Private outdoor space (Quality Standards 1-4)</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS3</td>
<td>Estimated number of children living in the development</td>
<td></td>
</tr>
<tr>
<td>QS3</td>
<td>Total area of dedicated communal ‘doorstep’ play space within the private curtilage of the building</td>
<td></td>
</tr>
<tr>
<td>QS3</td>
<td>Total area of dedicated communal ‘doorstep’ play space within the public realm associated with the building</td>
<td></td>
</tr>
<tr>
<td>Pg24</td>
<td>Walking distance to an existing playground with a range of play equipment</td>
<td></td>
</tr>
<tr>
<td>Pg24</td>
<td>Walking distance to a social space designed for young people (12 years and older)</td>
<td></td>
</tr>
<tr>
<td>QS4</td>
<td>Number of balconies complying with the requirement for 1500mm minimum dimension (width and length)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ref</th>
<th>Shared internal circulation space (Quality Standard 5-11)</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS5</td>
<td>% ground floor dwellings with their own front door onto the street or communal outdoor space</td>
<td></td>
</tr>
<tr>
<td>QS6</td>
<td>% dwellings with their own secure post-box</td>
<td></td>
</tr>
<tr>
<td>QS6</td>
<td>% dwellings supplied with a secure space for parcel deliveries</td>
<td></td>
</tr>
<tr>
<td>QS7</td>
<td>Number of stair cores within the block</td>
<td></td>
</tr>
<tr>
<td>QS7</td>
<td>Maximum number of flats served by any single core</td>
<td></td>
</tr>
<tr>
<td>QS7</td>
<td>Maximum number of flats on any single floor served by a single core</td>
<td></td>
</tr>
<tr>
<td>QS8</td>
<td>% dwellings with an access control system with entry phones linked to a main door with electronic release</td>
<td></td>
</tr>
<tr>
<td>QS9</td>
<td>Minimum width of corridor</td>
<td></td>
</tr>
<tr>
<td>QS10</td>
<td>% wheelchair user dwellings (Building Regulation M4(3) with either ground floor access or access to at least two lifts)</td>
<td></td>
</tr>
<tr>
<td>QS10</td>
<td>% dwellings at the seventh floor (eighth storey) and above, with access to two lifts</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ref</th>
<th>Parking and Servicing (Quality Standard 12-14)</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS12</td>
<td>Total number of cycle spaces provided</td>
<td></td>
</tr>
<tr>
<td>QS12</td>
<td>Total number of cycle spaces provided for oversized bikes</td>
<td></td>
</tr>
<tr>
<td>QS13</td>
<td>Number of car club bays provided</td>
<td></td>
</tr>
<tr>
<td>QS13</td>
<td>Number of electrical charging bays provided</td>
<td></td>
</tr>
<tr>
<td>QS13</td>
<td>Number of on-street loading bays provided</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ref</th>
<th>Individual dwellings (Quality Standard 15-20)</th>
<th>To be completed by applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td>QS15</td>
<td>% of dwellings meeting the nationally described space standards</td>
<td></td>
</tr>
<tr>
<td>QS15</td>
<td>% of dwellings that meet Building Regulation requirement M4(2) ‘accessible and adaptable dwellings’</td>
<td></td>
</tr>
<tr>
<td>QS15</td>
<td>% of dwellings that meet Building Regulation requirement M4(3) ‘wheelchair user dwelling’</td>
<td></td>
</tr>
<tr>
<td>QS16</td>
<td>% of dwellings where at least 75% of the gross internal area has a minimum ceiling of 2.5m</td>
<td></td>
</tr>
<tr>
<td>QS18</td>
<td>Number and % of single aspect dwellings</td>
<td></td>
</tr>
<tr>
<td>QS19</td>
<td>Number and % of dwellings with no direct sunlight to at least one habitable room for part of the day</td>
<td></td>
</tr>
</tbody>
</table>
Checklist 3: Additional scrutiny for taller, more dense schemes

The existing Bristol Local Plan has a wide number of policies which can be used to assess the visual, environmental, functional and socio-economic impacts (both positive and negative) of taller or more dense development schemes. These are set out in Fig 19. It is anticipated this diagram will be updated in time to reflect policies in the revised Local Plan.

The guidance opposite sets out likely impacts relevant to the assessment of taller or more dense developments, and the tools that should be used to assess these. It is recommended that the Design and Access Statement is then used to draw together these various impact assessments together in a user-friendly summary format. This list of impacts is not exhaustive and other impacts may need to be taken into consideration on a site by site basis.

Visual impact
Buildings that are taller or more dense than the prevailing context are likely to be more visible. This will require additional scrutiny of:
- Key long-range, medium and short-range viewpoints to the building(s)
- The architectural quality of the building(s) and associated public realm
- The quality of materials specified

Assessment tools
- Visual Impact Assessment - This should be undertaken in accordance with guidance prepared by both the Landscape Institute and Historic England (see Appendix C). Accurate visual representations (AVR) of the submitted scheme should be provided from key viewpoints agreed with the Planning Authority. Proposals for tall buildings (30m and higher) should additionally be illustrated through AVRs which show the scheme both by day and by night. Where there are a number of consented but unbuilt schemes in the vicinity of the proposed scheme, AVRs should be provided that show these schemes to enable the cumulative impact of consented schemes to be understood
- Environmental Impact Assessment (if considered necessary by the Planning Authority)
- Design Details - part elevation and section (1:20) showing all typical external treatments and building elements
- Material Samples - Agreed sample reference panels to include external facing materials and construction details, and to be erected on site

Functional impact
Buildings that are taller or more dense are likely to be used more intensively and result in the more intense use of the surrounding public realm and transport infrastructure. This will require additional scrutiny of:
- The proposed approach to ensuring the safety of all building occupants, and passers-by, including in the case of emergency such as a fire
- The proposed management and maintenance arrangements for the building
- The proposed access and movement arrangements, ensuring the building is designed to cope with peak time use
- An assessment of the capacity of the transport infrastructure and public realm to accommodate the quantum of development, identifying any additional infrastructure that will need to be delivered by the development, and its phasing

Environmental impact
Buildings that are taller or more dense are likely to have potential environmental impacts requiring greater scrutiny. These impacts are likely to be experienced:
- During construction - air quality, dust, noise, vibration, traffic, water quality
- In the vicinity of the proposed building(s) - wind effects, temperature changes (urban heat island effect), dispersion of air pollution, daylight and sunlight penetration, glare, noise; and
- Within the proposed building(s) - overheating, air quality, noise transference

Assessment tools
- Construction & environmental management plan - outlining the strategy for dealing with the cumulative and operational construction phase impacts
- Thermal comfort assessments (e.g. following CIBSE guidance or similar) to demonstrate that the proposals will not overheat in current and future climate change scenarios, accounting for urban heat island effect where relevant.
- Energy and Sustainability Statement

Socio-Economic impact
Buildings that are taller or more dense are likely to have an impact on the socio-economic health of the wider neighbourhood which need to be understood. These impacts are likely to include:
- The role of the development as a catalyst for further change in the area
- The contribution any new housing makes towards addressing local housing need and creating a mixed and balanced community
- The contribution the development makes towards providing local jobs, facilities or economic activity
- The schemes accessibility to a range of local facilities (see accessibility mapping on Page 24)
- The potential increased demand the scheme places on existing community infrastructure (schools, GP surgeries etc)

CONSULTATION DRAFT
Appendix A: Measuring Density

Density is a way of measuring the intensity of development on a particular site. On its own it does not indicate whether a proposal is good or bad. However, an unusually high or low density for the location should suggest further consideration of the brief and the aim of the scheme. It is important to remember that whilst understanding density levels is useful, ultimately it's the design outcome that is key rather than the density.

A robust and consistent methodology for the measurement of density is required, as a slight variation in the methodology used can result in wildly different density numbers for a development. A significant amount of work has been undertaken on measuring densities to inform the London Local Plan and this has informed the methodology set out here.

Use intensity: This is related to people and activities rather than buildings. It can be measured in terms of resident population per hectare, workers per hectare, or visitors/shoppers per hectare, also in terms of flows of pedestrians (‘footfall’ in retail centres) or traffic. However, in practice it is normally easier to use building density as a proxy – at least in residential areas.

Residential density: Discussions about density invariably revolve around residential densities. Residential densities are predominantly expressed as dwellings per hectare, although this takes no account of the size of dwelling. Habitable rooms per hectare or bed spaces per hectare both give a much better indication of the intensity of development and the likely numbers of occupants, although occupation will also be heavily influenced by tenure (private buyers and renters will often pay for surplus space, while affordable housing tenants will tend to fully occupy).

Non-residential density: This is usually expressed as plot ratios or Floor Area Ratios (FAR) and is Total Gross Internal Area of all floors divided by site area. Whilst plot ratio calculations for non-residential floorspace have historically been based on Gross External Area, GIA has been used here as this is how information tends to be supplied in planning applications. In practice the difference between GIA and GEA is relatively small. The GIA should include residential, non-residential, plant and in-structure car parking and servicing areas.

Mixed use schemes: It is important that non-residential space is taken into account as part of calculating residential density in mixed-use schemes. There are a number of approaches that can be taken towards calculating densities in mixed-use schemes. The approach advocated here is based a methodology developed by architects Macc increanor Lavington (see Appendix C) to inform the London Local Plan. The method takes into account the impact of vertically stacked mixed use development (i.e. where housing is on top of non-residential use) by reducing the size of the site area by an amount that is equivalent to the proportion of total non-residential floorspace. The remaining site area is used to calculate net residential density. This will produce a higher density than the unadjusted version. A series of worked examples can be found in the companion study ‘Urban Living – Learning from recent higher density developments’ (Bristol City Council, 2018)

Further specific guidance on measuring people and measuring open space to follow.
**Base buildings**: the section of a taller building which relates directly to the street, typically up to 4 storeys, which serves to frame the public realm and articulate entrances while defining a comfortable human scale. These are sometimes referred to as ‘podium’ buildings.

**Build for Rent**: managed large-scale housing for private rent. Build to Rent relies on income through rent over a number of years, rather than an upfront return on sales through a Build for Sale development model. Its promoters argue that its communities have different needs and priorities to those looking to buy a home and this should be recognised when being assessed by the Planning Authority.

**Corridor Access**: extended internal common parts with apartments on one side (single-banked) or both sides (double-banked)

**Maisonette**: apartment on two levels (alternatively called a duplex)

**Deck access**: open-air sheltered access walkway serving upper level apartments (alternatively called gallery-access)

**Hyperdensity**: a term coined by the architects behind the publication ‘Super-Density - The Sequel’ to describe very high densities, over 350 homes or dwellings per hectare - derived, not from UK distinctive and popular urban forms, but from global development patterns.

**Place shaping**: how a new development contributes to and alters an existing place on a neighbourhood scale. It entails the use of wider planning, housing, economic development and management tools to create a successful place, including the management of uses and the shaping of massing, building height and the layout of routes and urban spaces at a neighbourhood scale.

**Place shielding**: entails managing the interface between different places where new buildings on the edge of a site can buffer the surrounding area from larger scale buildings within the site or protect the buildings within the site from larger scale buildings or non-residential uses around its edge.

**Public Transport Accessibility Levels (PTAL)**: is a measure of connectivity to the public transport network for locations within London. PTAL values are influenced by the walking distance to nearby stations and stops, and by the frequency of services at these stations and stops.

**Space Standards**: nationally described space standard were published by the DCLG in 2015 and replace a number of existing different space standards used by local authorities. It is not a building regulation and remains solely within the planning system as a new form of technical planning standard.

**Supplementary Planning Document**: build upon and provide more detailed advice or guidance on the policies in the Local Plan.

**Visual Impact Assessment**: is the process of understanding and assessing changes in appearance of the landscape or townscape, or in the composition of available views, as a result of development. Assessments include visualisations which superimpose line work or CGIs (Accurate Visual Representations) onto existing views. Specific guidance is provided by the Landscape Institute in relation to Landscape Visual Impact Assessments and Townscape Character Assessments.

The following documents have informed the preparation of this SPD and provide useful further reading.

**Local Bristol context**

- **Bristol City Council (2018)** ‘Urban Living – Learning from recent higher density developments’ (companion report)
- **Bristol City Council (2018)** Local Plan Review
- **Bristol City Council (2011)** The Bristol Planning Protocol
- **Bristol City Council (2000-onwards)** Bristol Conservation Area Character Appraisals
- **Bristol City Council (2018)** Transport Development Management Guide (in production)
- **West of England Joint Spatial Plan (2018)**

**Wider context**

- **Barton, Grant and Guise (2003)** ‘Shaping Neighbourhoods – A guide for health, sustainability and vitality’
- **CIBSE (2017)** TM59 Design methodology for the assessment of overheating risk in homes
- **DCLG (2015)** ‘Technical housing standards – nationally described space standard’
- **DCLG (2017)** ‘Housing White Paper, Fixing our Broken Housing Market’

**Appendix C: Further reading**

- **Historic England (2015)** Tall Buildings - Advice Note 4
- **Historic England (2011)** Seeing the history in the view: A method for assessing heritage significance within views
- **Landscape Institute (2013)** Guideline for Landscape and Visual Impact Assessments
- **Landscape Institute (2017)** Townscape Character Assessment
- **Mayor of London (2016)** Housing Supplementary Planning Guide
- **Maccleanor Lavington et al for the GLA (2012)** ‘Housing density study’
- **Norman (2017)** The Savills/CoStar logistics debate - Beds and Sheds and the need for industrial led mixed use
- **Three Dragons et al for the GLA (2016)** ‘Lessons from higher density development – A report to the GLA’
- **ULI UK Residential Council (2016)** ‘Build to rent – A best practice guide’
- **Urban Task Force (1999)** ‘Towards an urban renaissance’
- **UWE and LGMB (1995)** ‘Sustainable Settlements: A guide for planners, designers and developers’
How can I comment?

For further details of the consultation please visit:
https://bristol.citizenspace.com/growth-regeneration/urban-living/