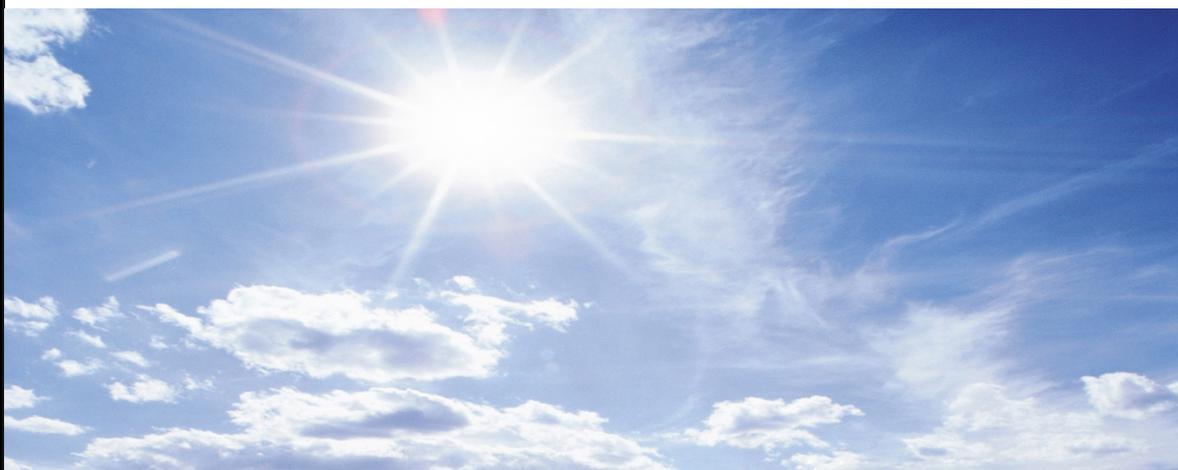


Planning Advice Note

Sunlight

**Guidelines and best practice for assessing
sunlight in the City of London**



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July 2017

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assessing sunlight in the City of London

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The City of London Corporation is the Local Authority for the financial and commercial heart of Britain, the City of London.

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Introduction

This Planning Advice Note is one of a series of Advice Notes being prepared by the City Corporation covering microclimatic issues in the City of London. The Notes will provide clarity of advice on potential microclimatic impacts arising from development and how they need to be considered as part of the planning process.

In the City of London, sunlit open spaces are at a premium, but are highly valued by workers, residents and visitors to the City. Many of the City's open spaces are small, so are especially vulnerable to overshadowing by buildings. In the UK climate, the warmth of the sun increases the duration of time for which it is comfortable to sit outside and the bright light improves the visual appeal of outdoor spaces. These factors encourage people to spend more time outdoors which in turn makes the City a more vibrant and popular place to be.

Providing and safeguarding sunlight to open spaces should be incorporated into design proposals at the earliest stage and the impact on sunlight should be assessed as part of the development planning process.

This Planning Advice Note contributes to the City's key objectives to protect amenity and maintain a high quality public realm.

Policy Context

The planning policy framework, which comprises the context for the development of the advice note, is set out below. The framework includes the documents below as well as other documents produced by the City Corporation e.g. the Public Realm Supplementary Planning Document which gives guidance on the City's street scene and public realm.

City Corporation Corporate Plan

The overall vision seeks to support, promote and enhance the City of London as the world leader in international finance and business services. The relevant Key Policy Priority aims to support and promote the UK financial based services sector by encouraging quality developments in the built environment.

National Planning Policy

The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how they are to be applied. The NPPF establishes a presumption in favour of sustainable development and seeks to establish a strong sense of place using streetscapes and buildings to create attractive and comfortable places to live, work and visit.

London Plan

The London Plan is the Mayor's spatial development strategy which forms part of the development plan for Greater London. The Mayor's vision is that London should excel among global cities, achieving the highest environmental standards and quality of life, and leading the world in its approach to tackling the urban challenges of the 21st century, particularly that of climate change. (Relevant London Plan policies are listed on Page 11).

City of London Local Plan

The Local Plan was adopted in 2015, and provides a spatial framework that brings together and co-ordinates a range of strategies prepared by the City Corporation, its partners and other agencies and authorities. The strategic objectives of the Plan include maintaining the City's position as the world's leading international financial and business centre, and seeking to promote a high quality of architecture and street scene appropriate to the City's position at the historic core of London. (Relevant Local Plan policies are listed on Page 11).

Guidance

Context

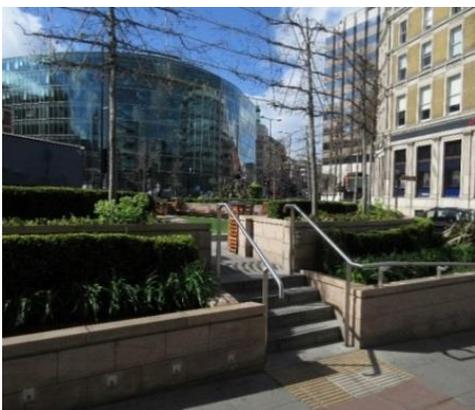
In the City of London, sunlit open spaces are at a premium due to the dense urban fabric, but they are highly valued by urban dwellers. Many of the City's open spaces are small, so they are especially vulnerable to overshadowing by buildings. This planning advice note should be read in conjunction with The City of London Open Space Strategy Supplementary Planning Document.



Bright light from the sun improves the visual appeal of outdoor spaces

Recent research has highlighted the health benefits of sunlight. Bright light during the day helps synchronise the body clock, improving sleep patterns. The UV rays in outdoor sunlight generate Vitamin D, essential for healthy bones. Exposure to bright light as children grow helps avoid the risk of them developing short-sightedness.

Sunlight also has an important effect on mood. Sunlit spaces are perceived as more attractive and pleasant to spend time in. In the UK climate, the warmth of the sun increases the duration of time for which it is comfortable to sit outside. The bright light from the sun also improves the visual appeal of outdoor spaces and the city as a whole. All these factors encourage people to spend more time outdoors, which in turn makes the City a more vibrant and popular place to be.



Sunlit spaces are perceived as more attractive and pleasant

Sunlight has important practical benefits, too. It can dry out the ground, reducing moss and slime, and melt frost, ice and snow. It enables a much wider range of plants, especially flowering plants, to grow.

Types of open space

Sunlight availability should be assessed for all of the following types of space (existing or proposed):

- gardens (this need not include small front garden areas if the dwelling or block of dwellings has another, larger garden);
- roof terraces used for sitting outside and for growing plants;
- public gardens and parks;
- children's playgrounds, including school playgrounds;
- sitting out areas such as those between non domestic buildings and in public squares;
- outdoor seating areas for cafes and bars;
- focal points for views such as a group of monuments or fountains.



Sunlight availability should be assessed when designing focal points such as fountains

Each of these spaces will have different sunlighting requirements depending on the time of day and the time of year they are used. A sunlit balcony is an attractive amenity, but it may not be possible to have well sunlit balconies everywhere, especially if dwellings are north facing or there are tall buildings to the south.

Although it is often good to walk in the sunshine, sunlight is less essential in circulation areas like streets and pedestrian footpaths. In a heavily built up area like the City of London a typical street will only receive sunlight at certain times of day, depending on its orientation.

Providing sunlit open spaces

Various techniques can be used to improve sunlight to proposed open spaces, and retain as much as possible in existing spaces. The sunlit nature of a site can be enhanced by siting low rise buildings to the south, with taller, higher density buildings to the north, although this may not be desirable if there is housing or an existing open space to the north. Special care needs to be taken in the design of courtyards as often they can turn out to be sunless and unappealing. Opening out courtyards to the southern half of the sky will improve sunlight within them.



An attractively sunlit amenity space

However, open spaces will be more peaceful and less polluted if they are protected from busy roads. On hot days in summer, some shade is welcome. Deciduous trees are a good way to provide this, as they will not be in leaf in winter, when sunlight is at a premium.

Where sunlight is restricted at ground level, a roof garden or terrace can provide an attractively sunlit amenity space. Sometimes these gardens have high walls or opaque screens around them for safety and privacy reasons. A clear screen or railings give better sunlight access, especially if the rooftop amenity space is small.



A roof garden or terrace can provide an attractively sunlit amenity space

In mixed use developments, gardens and public and private open spaces can be provided on top of the commercial elements of the development. In or near developments with tall buildings, it is important to consider the wind environment in open spaces.

Amount of sunlight

Guidance on sunlight provision is given in the BRE Report 'Site layout planning for daylight and sunlight: a guide to good practice'. It recommends that a space where sunlight is required should receive at least two hours of sun over at least half its area on 21 March. Where there are individual private gardens for each dwelling in a block, they should be considered separately. Sunlight at an altitude of 10 degrees or less does not count, because it is likely to be blocked by planting or other obstructions anyway.

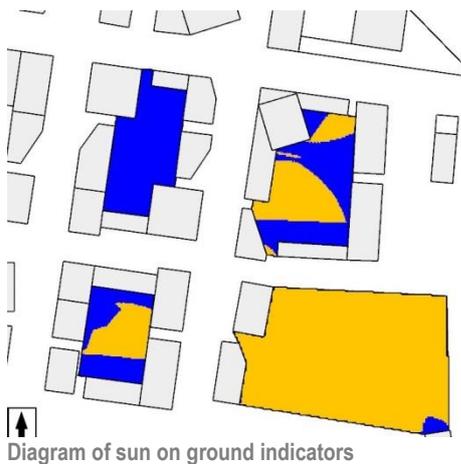


Diagram of sun on ground indicators

BRE publish sun on ground indicators that can be used to predict the areas which can and cannot receive two or more hours of sunlight on 21 March. Computer software is also available which can do this. The computer generated plan example (right) shows four open spaces in an urban area with tall buildings. The areas with less than two hours sunlight on March 21 are shown in blue and areas with more than two hours sunlight are shown in yellow.

Normally trees and shrubs need not be included in the calculation, partly because the dappled shade of a tree is more pleasant than the deep shadow of a building. However locations for tree planting should be chosen with care. The aim should normally be to have some areas of partial shade under trees while leaving other parts of the garden or amenity area in full sun. This will become more important as we experience warmer summers and more frequent heat-waves in future as our climate changes. Walls or solid fences more than 1.5 metres high should be included in the calculation.

The BRE guidance applies both to new gardens and amenity areas and to existing ones which are affected by new developments. If an existing garden or outdoor space is already heavily obstructed then any further loss of sunlight should be kept to a minimum. If less than half the space receives two or more hours of direct sunlight on 21 March, and a new development reduces that area to less than 0.8 times its former size, then this loss of sunlight is significant. The garden or amenity area will tend to look more heavily overshadowed.

Shadow plotting

For critical areas, particularly in public open spaces or for large developments, it is suggested that a more detailed study of sunlighting potential be carried out. This involves producing plans showing the location of shadows at different times of day and year. Computer software may be used to plot the shadows. Where there are existing open spaces, 'before' and 'after' shadow plots showing the difference that the proposed building makes may be helpful. In interpreting the impact of such differences, it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing of a space is to be expected.

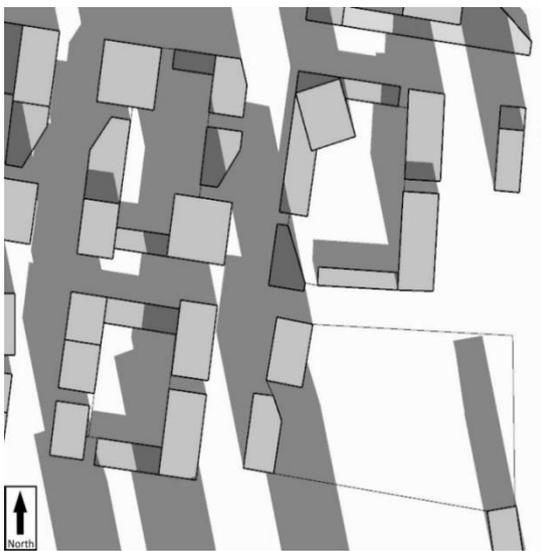


Diagram showing shadow on ground indicators

If a space is used all year round, the equinox (21 March) is the best date for which to prepare shadow plots as it gives an average level of shadowing. Lengths of shadows at the autumn equinox (September 21) will be the same as those for March 21, so a separate set of plots for September is not required. However clock times of the September shadows will be one hour later, because British Summer Time (BST) will be in force. Shadow plots should state clearly whether the time of the plot is in Greenwich Mean Time (GMT) or BST. BST is currently in force from April to October inclusive.

As an optional addition, plots for summertime (for example 21 June) may be helpful as they will show the reduced shadowing then, although it should be borne in mind that June 21 represents the best case of minimum shadow, and that shadows for the rest of the year will be longer. Conversely if winter shadows (for example December 21) are plotted, even low buildings will cast long shadows. In a built up area like the City, it is common for large areas of the ground to be in shadow in December.

If a particular space is only used at certain times of day or year (for example a café, outdoor performance area or school playground) it is instructive to plot shadows for those specific times.

Heavily shadowed spaces

Where sunlight is limited, the use of open spaces within the development can be planned with sunlight in mind. The sunniest areas can be earmarked for gardens and playgrounds, while areas with little sun can be used for cycle parking or circulation. For example, if a long face of a building faces close to due north then there will be an area adjoining the building which is permanently in shade for much of the year. Such areas could be reserved for uses like circulation or cycle parking.

If areas within a space can only receive sunlight for limited periods, it is better if different parts of the space can receive sunlight at different parts of the day (rather than the entire space being in shade for a large proportion of the time). Under these circumstances seating and other facilities could be spread over the different areas, so that people can sit in those areas that are temporarily in the sun.



A playground in a shaded area

Where possible, playgrounds should be situated in well sunlit areas, with some shade available for protection from the sun on very hot days. If only a shady space is available, the play equipment must be well maintained, and it is better to use AstroTurf or other artificial ground materials instead of grass. Even then, the playground may end up being underused compared to similar facilities in sunny locations.

In shady areas planting needs to be chosen with care. The Royal Horticultural Society defines areas with less than two hours sun per day as 'deep shade' where only a limited number of shade tolerant plant species will thrive. Paving and other hard surfaces will be more durable than grass, especially in areas with pedestrian traffic, though suitable drainage is needed.

Where a space is almost completely sunless, consider roofing it over to provide a sheltered atrium type space.

Contacts

Please phone the General Planning Enquiries desk for information on sunlight issues.

Phone

020 7332 1710

Email

plans@cityoflondon.gov.uk

Contact Address

Department of the Built Environment
Guildhall
PO Box 270
London
EC2P 2EJ

Policies

Relevant London Plan policies relating to the microclimate

- 5.3 Sustainable Design and Construction
- 7.5 Public Realm
- 7.6 Architecture
- 7.7 Location and Design of Tall and Large Buildings

Relevant City of London Local Plan policies relating to the microclimate

- CS 3 Safety and Security
- CS 10 Design
- CS 14 Tall Buildings
- CS 15 Sustainable Development and Climate Change
- DM 10.1 New Development
- DM 10.4 Environmental Enhancement
- DM 10.7 Daylight and Sunlight