



World Health Organization  
Regional Office for Europe

## Green cities, blue cities



## Local authorities - this publication is meant for you

---

The World Health Organization, Regional Office for Europe regularly receives requests for technical and practical advice on a wide variety of topics linked to the environment and health.

Among these topics, urban development is attracting a growing amount of interest. That is why 12 booklets have been produced by WHO with the aim of providing information on the links between town planning and health; these have been written by experts in collaboration with a large number of partners, and form part of the series on local authorities, environment and health.

In this series, the recommendations are ranked by priorities, so that strategies can be developed which are appropriate to the local context.



marks the recommendations that must be put into effect in order to ensure a safe and clean environment. All local authorities have a duty to tackle these tasks immediately.



identifies the recommendations that will yield marked improvements in people's health and should be regarded as priority actions.



marks the recommendations that will, if they are implemented, substantially improve the local environment. Everyone's quality of life will benefit from these.

The unranked recommendations are designed to help you draw up strategies at local level and will not, in general, have a direct effect on health.

These booklets are designed to help local decision-makers act in the best interests of health and the environment within an urban setting, and to communicate with the public. Equally, professionals will find useful material for their everyday tasks.

A list of booklets in print or in preparation can be found inside the back cover.

Xavier Bonnefoy  
*Regional adviser for environment and health/ecology*

### Technical adviser

---



**Dr A. Vilalta**  
*Former Minister of the Environment of the autonomous government of Barcelona, is both a civil engineer and sanitary engineer. He is a member of the International Society of City and Regional Planners (ISoCaRP).*





Green cities,  
blue cities

---

## S U M M A R Y

Public spaces have a range of roles to play in a town or city. They are places where many things can happen – exchanges, meetings, even conflicts. They are an ideal setting for recreation and sport, as well as for cultural and social events, and for simple relaxation. They are open spaces, often embellished with plants and water, helping to maintain a balanced urban environment, with all the benefits that can bring for the well-being of the inhabitants.

Public spaces should be evenly distributed across every neighbourhood of the city. If mixed use in public spaces is achieved, it can be an important tool in combating social segregation. A long-term approach to planning, an equitable geographical spread, proper development and regular maintenance will allow local authorities to spread their financial burden over a longer period.

Various aspects of planning and management are discussed here. Action plans are suggested which will allow open spaces to become genuine public spaces once more, making the city a little more green, and a little more blue.



The redevelopment that Haussmann carried out and its impact on the urban scene of Paris



Far from being “what is left over after planning”, the public spaces of a city, assuming that they are evenly distributed and carefully laid-out, can greatly improve the quality of city life as well as the living and leisure conditions of its citizens. They play an essential part in the physical and mental health and well-being of the urban population. This booklet defines public spaces as areas for meetings and encounters, given over to a variety of activities – sport, recreation, the arts, leisure and so on. These public spaces can be green (parks, squares, and public or institutional gardens) or they can be blue (parks or areas set up next to the sea, rivers, and natural or artificial lakes, where water is a vital element in development and use).

---

## **Background to the growth of urban public spaces**

### **From public gardens to city parks**

Public gardens are as old as cities themselves and were the first public spaces designed to improve the health of the people. The first known public garden was created in ancient Rome by the emperor Julius Caesar, responding to the discontent of those inhabitants who lived on the banks of the Tiber and complained about the unhealthiness of their dwellings. During the Renaissance, the idea of the public garden began to spread throughout Europe.

By the end of the 19th century, the idea of creating public gardens had become more generally accepted. It was one of the most obvious signs of the process undertaken by the great European cities to improve public health. Sanitary conditions in cities, until the middle of the last century, were quite appalling: the density of population, the lack of sanitary facilities and the prevailing conditions of hygiene encouraged infectious and respiratory illnesses. In an effort to improve this situation, the authorities of the big cities became followers of the hygienics movement, and decided to reorganise the lay-out of their cities. Narrow, unhealthy streets were broadened into wide avenues planted with trees and parks were gradually

created on the outskirts of towns, with their surrounding walls being demolished. The idea was to allow inhabitants to enjoy the benefits of sun, greenery and fresh air.

For a long time public gardens were set up as monuments to the powers that be, or to celebrate a particular event or person. This symbolic function is still important, although the essential role of public spaces today is to provide pleasure and leisure areas which are accessible to everyone.

After the Second World War, the need to rebuild, together with the growth in car ownership, gave rise to a new pattern of town planning in the 1950s and 1960s. The theories which had been elaborated in the 1930s by Le Corbusier and the Bauhaus were taken up again and adapted to the demands of post-war reconstruction and a rapidly growing population: the functionalist model was king.

Without this model having been properly understood, many projects did not give enough importance to the creation of public spaces. Towns and cities experienced rapid urbanisation and an enormous growth in population, eating into the spaces which until then had been reserved for public use. Growth in car ownership with its accompanying air pollution and noise helped to aggravate the situation.

The economic and social problems which Europe has been experiencing since the first oil crisis are making the situation even worse. In the neighbourhoods which have been most affected, public spaces no longer have anything to offer in the way of public life. However, during the same period many towns have created and maintained very high-quality public spaces.

Over the last few years several local and national authorities have started a lengthy and rewarding process of revitalising public spaces. Thanks to this process, public spaces will once more become key places for gatherings and meetings – places designed for leisure and relaxation, for physical exercise, for recreation... or for the simple pleasure of jointly enjoying a haven in the city, with no barriers of class, age or background, and where the surroundings are particularly pleasant.

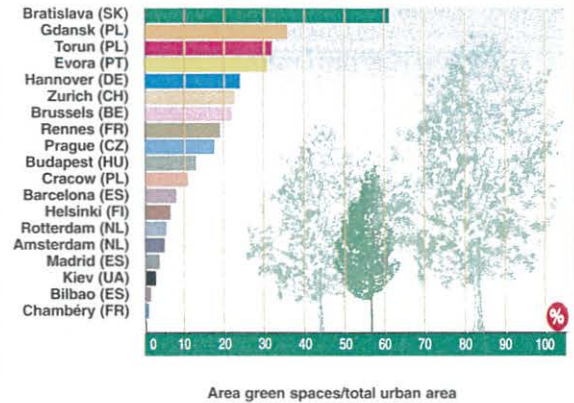
### European diversity

Green spaces, squares and courtyards, river banks, lakeshores, seashores and other public spaces, by their nature and appearance, mirror the urban diversity which is the glory of the European continent. Particular characteristics of geography, climate and culture are reflected in how public spaces are designed and used.

In the North, year-round rainfall makes it easier to maintain public spaces. In the South, the greater amount of sunshine has considerable and visible effects on the style of external spaces and on the way they are used. Outdoor social life is more exuberant and often more noisy.

## Some European cities and their green spaces

### Area of green space as a proportion of total area



(From: Dobris assessment)

### Public spaces for a healthy and sustainable city

The idea of sustainable development is a fruitful one for local authorities who want to improve the quality of life in their towns. (See *The city of the future*). The aims of sustainable development are based on a global approach: they consist in balancing the demands of development and growth with those of equity and social justice, at the same time maintaining ecological integrity and diversity, and encouraging a cultural mix. At the local level, this idea can be translated into reality in various ways.

- **Reducing the effects of traffic on the environment and on the health of the population**  
In the short term, citizens will be protected against the dangers and nuisance of car traffic if the risks of accident, noise and air pollution can be reduced.

In the long term, private car use may be reduced through finding alternative methods of transport, encouraging high-quality public transport and setting up pedestrian and cycle route networks. This will lead to a movement away from private transport towards less polluting and more reliable transportation systems.



- **Encouraging mixed use neighbourhoods**

Neighbourhood development should incorporate all the basic facilities which the residents need - shops, local services, public facilities, leisure and sporting facilities and of course high-quality public spaces. In this way residents will not have to travel to fulfil their day-to-day requirements. And neighbourhoods will be more lively.

- **Distributing high-quality public spaces across the city and developing them equitably**

It is important to concentrate on those neighbourhoods which are particularly short of high-quality public spaces, all the more since these areas are often underprivileged in other ways as well. Planning the development and maintenance of public spaces at city level can reduce inequality of provision. In addition, if all public spaces are provided to the same high standard, property values in the less favoured districts will rise to meet those elsewhere, thus levelling out property values across the city.

- **Minimising the use of natural resources and non-renewable fuels**

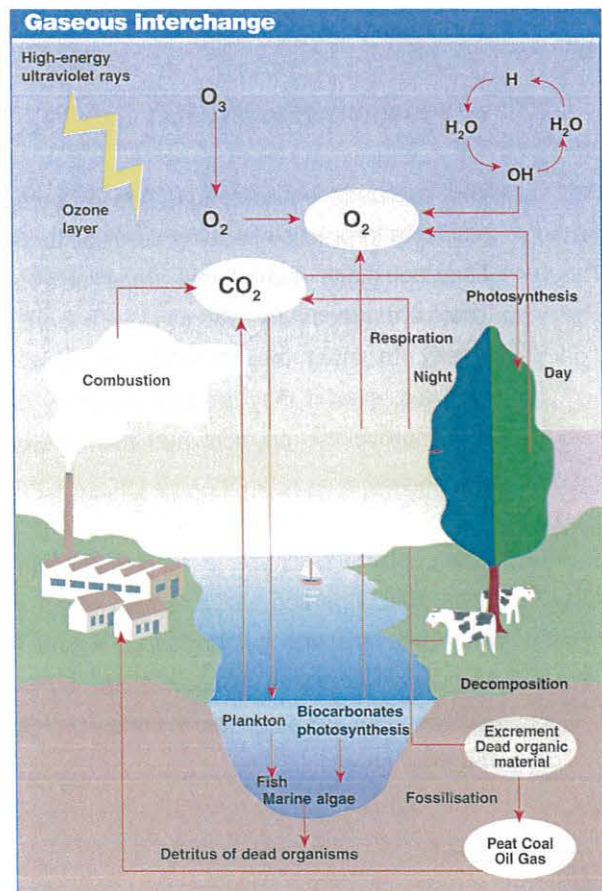
If permeable surface cladding is used in public spaces, water can penetrate and gradually evaporate, thereby keeping variations in temperature under control (see box on urban hot spots). Public lighting should be low consumption, possibly solar-powered, thus reducing public power requirements. Urban flora and fauna will be protected through the proper use of appropriate fertilisers and treatments.

Local authorities should make sure that any further development in the outlying areas of the city does not damage nearby lakes, rivers, woods, fields and other surrounding natural areas.

## The importance of public spaces for a healthy population

Public spaces, unlike spaces given over to residence, retail or work, are open spaces where individuals are in direct contact with the forces of nature - air, sun, rain, snow and plants. They allow citizens to undertake a range of activities, either physical or cultural, in high-quality surroundings. For this reason such areas are essential for health and well-being.

“Oceans and plants renew our atmosphere”



## Getting the urban environment into balance

Water and plants absorb carbon dioxide (CO<sub>2</sub>) and the process of chlorophyll synthesis turns it into the oxygen (O<sub>2</sub>) that supports life. Briefly, water and plants use solar power to transform carbon dioxide into oxygen: photosynthesis. At night, in reverse, leaves absorb oxygen and emit carbon dioxide. The day/night balance results in a net surplus of oxygen.

Plants also have other uses:

- leaves on trees collect dust,
- phytoacids act as bactericides,
- they act as partial noise barriers.

The presence of large bodies of water (seas, lakes, water courses and so on) also has an effect:

- they stabilise temperature levels,
- they produce oxygen and humidity,
- they absorb carbon dioxide,
- they give rise to thermal air currents which help maintain a warm climate.

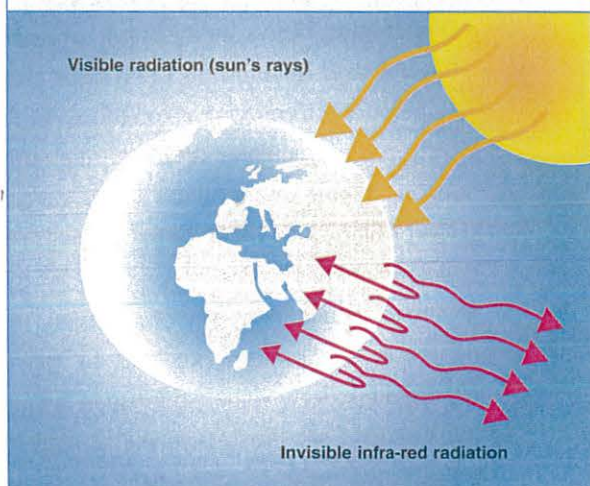
## Encouraging physical activity

Well equipped public spaces provide somewhere for residents to practise sporting activities and to keep fit. They constitute recreational areas for all age levels. They are places for everyone, but particularly the elderly, to meet their friends and relax. All these activities, even if they are not physically demanding, can improve the physical and mental well-being of individuals

## Vegetation, bodies of water and greenhouse effect

*The sun's rays enter the atmosphere, and heat up the earth. The earth then emits invisible infra-red radiation which helps to cool it down. If gases like methane or carbon dioxide accumulate in the atmosphere, they absorb part of this radiation, acting rather like the glass in a greenhouse, and leading to an increase in the temperature of the earth.*

*See booklet on Solid waste and health*



*Vegetation, by absorbing carbon dioxide, helps reduce this greenhouse effect. However, the part played by the sea is far greater.*

*The combination of these two effects maintains the level of carbon dioxide concentration in the air at between 0.03% and 0.04%. Any variation outside this range may lead to unforeseeable consequences for life on this planet as we know it today.*

*The gas emissions (CO<sub>2</sub>, CH<sub>4</sub>) which are aggravating the greenhouse effect are the result of human activity. Today, the increase in these emissions has resulted in a level of carbon dioxide in the atmosphere of 538mg/m<sup>3</sup>; this is the highest concentration recorded for the last 160, 000 years.*

### CO<sub>2</sub> concentration

*(From: Dohris assessment)*

预览已结束，完整报告链接和二维码如下：

[https://www.yunbaogao.cn/report/index/report?reportId=5\\_30649](https://www.yunbaogao.cn/report/index/report?reportId=5_30649)

