



World Health  
Organization

REGIONAL OFFICE FOR **Europe**

# Urban green spaces: **a brief for action**

# 1. The relevance of urban green spaces<sup>1</sup>

Urbanization results in an increasing proportion of the population living in cities. In Europe it is expected that around three quarters of the population will live in urban settings by 2020. Urban living limits access to nature and can increase exposure to certain environmental hazards, such as air and noise pollution. Many urban areas face increasing pressure from expanding populations, limited resources and growing impacts of climate change. These challenges must be addressed in order for cities to provide healthy and sustainable living environments.

Green spaces and other nature-based solutions offer innovative approaches to increase the quality of urban settings, enhance local resilience and promote sustainable lifestyles, improving both the health and the well-being of urban residents. Parks, playgrounds or vegetation in public and private places are a central component of these approaches and can help to ensure that:

- urban residents have adequate opportunities for exposure to nature;
- urban biodiversity is maintained and protected;
- environmental hazards such as air pollution or noise are reduced;
- the impacts of extreme weather events (heatwaves, extreme rainfall or flooding) are mitigated;
- the quality of urban living is enhanced;
- the health and well-being of residents is improved.

Urban green space is a component of “green infrastructure”<sup>2</sup>. It is an important part of public open spaces and common services provided by a city and can serve as a health-promoting setting for all members of the urban community. It is therefore necessary to ensure that public green spaces are easily accessible for all population groups and distributed equitably within the city.

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1 This brief for action is based on evidence compiled on urban green space. Nevertheless, the reflections may be relevant for any settlement size and should also be considered for rural places.

2 In this brief urban green space is defined as all urban land covered by vegetation of any kind. This covers vegetation on private and public grounds, irrespective of size and function, and can also include small water bodies such as ponds, lakes or streams (“blue spaces”).



A photograph of a lush urban park. In the foreground, a small pond with dark water is bordered by large, dark rocks. A wooden fence runs along the edge of the pond. To the left, a white statue of a person stands on a pedestal. The park is filled with various trees, including palm trees and large deciduous trees with green leaves. A paved path winds through the park, and a few people can be seen walking in the distance. The overall atmosphere is peaceful and green.

Urban green space is an important investment that local authorities can make on behalf of citizens and their well-being



## 2. Purpose and structure of this brief for action

The links between green space and health have been summarized in many publications (Hartig et al., 2014; WHO Regional Office for Europe, 2016). The information in this brief is based on the conclusions of an expert meeting convened by WHO, which brought together an international team of urban health and green space experts to discuss the practical side of urban green space interventions. A full technical report of the expert meeting is also available (WHO Regional Office for Europe, 2017).

This brief aims to support urban policy-makers and practitioners by translating the key findings of a review of research evidence and practical case studies on urban green space interventions into implications for practice. It presents lessons learned and highlights aspects to consider when designing urban green spaces to maximize social and health benefits.

The brief provides information about urban green spaces and their benefits (section 4); general considerations on planning (section 5) and design (section 6), involving the community and stakeholders (section 7) and promoting use (section 8); and lessons learned on monitoring and evaluation (section 9). Section 10 describes potential risks and challenges to be considered and avoided, and a set of key messages is provided in section 11, followed by a short list of references, further reading and helpful tools.

## 3. Target audience

This brief for action aims to inform:

- practitioners at the local level involved with the design, planning, development and maintenance of urban green spaces;
- local decision-makers, politicians and public authorities with responsibility for urban development, environmental management, social affairs and public health;
- civil society organizations, local initiatives and citizens concerned with the quality of urban settings and the quality of life at the local level.

Researchers and private land owners, companies and developers may also be interested in the reflections shared.



A photograph of a park scene. In the foreground, two people are jogging away from the camera on a red running path. They are wearing dark blue tracksuits and light-colored caps. To the left of the path is a green metal fence. To the right is a paved walkway and a body of water. In the background, there are trees with autumn foliage and a city skyline across the water. A person in a red shirt is visible on the right side near a green trash bin. A semi-transparent white circle in the top right corner contains the text.

Urban green spaces  
provide opportunities  
for active lifestyles



## 4. Urban green space interventions and the benefits they provide

Urban green space interventions are defined as actions that significantly modify the quality, quantity and accessibility of urban green space. This can be done by establishing new urban green spaces or by changing the characteristics and functions of existing ones.

A broad spectrum of intervention types can be implemented at different scales in private or public spaces. These include:

**Picture 1:** roadside greenery and vegetation barriers along streets or rail tracks;

**Picture 2:** small urban green spaces (such as gardens or pocket parks) and playgrounds;

**Picture 3:** green roofs and facades;

**Picture 4:** parks and urban meadows;

**Picture 5:** greenways and corridors (such as green trails for walking/cycling);

**Picture 6:** coastal, riverside or lakeside trails, linking green with blue spaces;

**Picture 7:** recreational and urban gardening facilities (such as community gardens, sport and play areas and school grounds); and

**Picture 8:** facilitated access to urban woodlands, forests and natural wildlife areas.

### Opportunities

Opportunities to involve urban green space interventions in urban planning include:

- development of new residential neighbourhoods, community facilities, business parks or transport infrastructure projects;
- regeneration projects and urban renewal initiatives;
- brownfield development and rehabilitation of industrial areas;
- urban gardening/agriculture projects;
- initiatives to enhance biodiversity.

### Benefits

Through improved air and water quality, buffering of noise pollution and mitigation of impacts from extreme events, urban green spaces can reduce environmental health risks associated with urban living. In addition, they support and facilitate health and well-being by enabling stress alleviation and relaxation, physical activity, improved social interaction and community cohesiveness. Health benefits include improved levels of mental health, physical fitness and cognitive and immune function, as well as lower mortality rates in general (Fig. 1).

Everyone can benefit from urban green space interventions, but they can be of particular relevance for socially disadvantaged or underserved community groups, which often have least access to high-quality green spaces.







Fig. 1. A causal model of the impacts of urban green spaces on health and well-being



Source: developed from a figure created by A. Roué-Le Gall in Milvoy & Roué-Le Gall (2015).



# 5. How to approach the planning of urban green spaces

Experiences with urban green space interventions at the local level have identified a few general aspects to be considered within the urban planning process. This section suggests approaches for urban policy-makers and practitioners to consider during the process.

○ Be clear about the **objectives** of green space planning.

- What type and size of urban green space is being planned?
- What are its main functions to be?
- Which population groups are expected to make use of it?
- Who is responsible for its maintenance and management?
- Might the planned urban green space be a way to upgrade a deprived area?

○ Make use of the urban/local **planning context** and frameworks. These will ensure that planners:

- create a long-term vision of a green city within the local authority;
- integrate urban green space infrastructure needs in urban masterplans;
- consider green spaces within infrastructural projects (housing, transport, business parks, community and health facilities) and urban rehabilitation approaches;
- consider regional planning frameworks such as green corridors and networks;
- engage the local community as part of the local planning process.

○ Have a **long-term perspective** and remain flexible.

- Green spaces are a long-term investment: they may need some time to establish before they are fully usable, and they require long-term maintenance.
- The benefits of urban green spaces may only become apparent over time.
- Urban green spaces should be planned and designed in a flexible way, making functional adjustments possible to adapt to changing future demands.

○ Consider green space projects to be a **public health and social investment**.

- Providing green spaces in urban settings is an investment in health, well-being and quality of life, creating places for relaxation, recreation and social interaction.
- Urban green spaces are valuable settings for community organizations to host cultural or recreational events or provide space for (intercultural) gardening.



Contact with nature  
is an essential  
component of  
healthy cities





## 6. How to design urban green spaces

Urban policy-makers and practitioners are advised to consider four practical implications for the planning and design of urban green spaces identified from the review of evidence and practice.

### ○ Put the green space **close to people**.

- Establish street greenery, urban gardens and green trails in close vicinity to urban residents, and use public open spaces for greenery.
- As a rule of thumb, urban residents should be able to access public green spaces of at least 0.5–1 hectare within 300 metres' linear distance (around 5 minutes' walk) of their homes.
- Ensure access to urban green space of sufficient quality for all population groups and users (universal access).
- Use greening opportunities in other sectors and projects (greening of schools, business areas, shopping areas, housing estates and similar) and promote private green areas.

### ○ Plan for a **diversity of urban green space types**, responding to diverse demands.

- Consider various types of urban green space – street greening, small and large parks, greenways, nature playgrounds and so on – to satisfy different needs.
- Make use of biodiversity, using different plants to create diverse settings.
- Do not over-design urban green spaces to support only very specific functions or attract only specific users – they should facilitate activities by all population groups.

### ○ Consider **simple design** features to improve the comfort of urban green space use.

- Establish clearly visible entrance or access areas.
- Use signing within parks or for greenways and trails.
- Prepare for different seasons (lighting, drainage, materials).
- Consider safety issues (lighting, visibility, accessibility).
- Supply infrastructural features such as benches, waste bins, toilets and so on.

### ○ Think of the **maintenance needs** of the urban green space.

- Regular maintenance is necessary so that end users perceive the urban green space as safe, clean and cared for.
- Combat signs of vandalism and antisocial behaviour quickly.
- Use maintenance-friendly designs, avoiding the need for expensive and/or complex maintenance requirements.
- Use plant species with no or small allergic potential – especially native species with fewer maintenance needs.
- Apply ecological maintenance practices and avoid potential health risks.



# 7. How to ensure adequate targeting, stakeholder collaboration and community engagement

Urban green space interventions improve the quality of life for the whole city, and a wide range of community groups and stakeholders need to be involved in their planning. Such interventions provide opportunities specifically to support disadvantaged or underserved areas and to reach out to individual population groups.

Green spaces can be used to **target specific user groups** and create health and social benefits.

- Local data on urban green space quantity and quality can be used to guide equitable planning.
- Adequate provision of urban green spaces within disadvantaged areas can provide a means of improving health promotion and social integration for specific target groups.
- Green space functions and equipment can be tailored to specific target groups, but should not exclude other functions or population groups.

Community participation in the planning, design and maintenance of urban green spaces is important to assure that local needs are met.

- Planning *for* people is planning *with* people – the community should be involved from the beginning to create urban green spaces that match the needs of local residents.
- Sufficient time and funding should be arranged to facilitate community engagement in the planning phase.
- Active involvement of local residents in building urban green spaces increases their identification with and use of the space.

- Practitioners should nevertheless clarify that community engagement is not a recipe for satisfying all demands and requirements from all population groups, and that the best compromise must be found.

Collaboration with stakeholders and other sectors can help urban green space interventions to be more effective.

- Multisectoral collaboration (including, for example, environment, transport, health, social affairs, police and so on) can help to maximize urban green space benefits and prevent unintended negative impacts.
- Partnerships with local businesses and organizations can help to fund the establishment of new urban green spaces (especially on private land) and support maintenance.
- Collaboration with environmental experts, academic institutes and research centres aids effective planning, monitoring and evaluation of urban green space interventions.
- Within local authorities, urban green spaces should be considered across regional and local planning processes to achieve a higher impact.



Community participation assures use and acceptance of urban green spaces



## 8. How to promote the use of urban green spaces

Outreach and promotion activities are of paramount importance to ensure that urban green spaces are used by a diversity of population groups and provide a setting for all local residents.

All urban green space interventions should apply a dual approach through which physical changes (such as creating new or improving existing green space) are accompanied by social promotion activities. Such promotion activities can be very diverse and include:

- promotion of urban green space through websites, onsite signs, brochures and similar;
- facilitated activities and public events such as family days, sports events, festivals and markets;
- small-scale group activities such as guided walks or green gyms;
- local champions and celebrities, who are very effective for promoting the use of urban green spaces and engaging the local community;
- setting up or collaborating with local organizations to (help) run and maintain the urban green spaces or to use them for their activities (such as urban gardening allotments).

## 9. How to monitor and evaluate urban green space interventions

It is vital to monitor and evaluate urban green space interventions to:

- assess whether the intervention provides the intended benefits; and
- find out whether certain population groups benefit less, or could even be negatively affected by unintended side-effects.

Effective monitoring and evaluation starts at the beginning of a project by reflecting on the indicators that should be used to document the project outcomes, and by incorporating monitoring and evaluation activities in the project timeline and budget.

○ Ensure that **monitoring is considered from the start** and that appropriate **budget is allocated**.

- Consider the use of existing data at the local level to reduce the need for new data collection.
- Be realistic about the impacts of the intervention and how they can be measured.
- Collect baseline data prior to project implementation to compare the results before and after the intervention.
- Consider the time frame for the project outcomes to be realized (environmental impacts may occur more quickly than social or health impacts).

○ The **impacts on both users and non-users** should be considered.

- Include non-users in assessment surveys to understand why they make no use of the urban green spaces.
- Identify potential conflicts between different user groups with different needs.
- Ensure that monitoring identifies whether the urban green space has activated new users or whether visitors simply used other green areas before.

○ Mixed **monitoring methods** should be used.

- Quantitative data collected through surveys, observations or measurements can provide valid and comparable information on use and impacts of urban green spaces.
- Qualitative data compiled through interviews is helpful to explore the meaning of urban green spaces to an individual, and to understand personal preferences and concerns.

## Aspects to consider in monitoring and evaluation

As health is affected by a wide range of factors, complex methods are required to assess and monitor the health impact of urban green space actions. Some health and well-being parameters can be taken from established and validated surveys; these include perception of/self-reported quality of life and well-being, perception of restoration and relaxation in green spaces, and self-reported health status.

Unless there is professional support from health experts, however, local projects should be careful to use objective health parameters (such as body mass index or cardiovascular disease) to document the impact of their interventions.



Green space impacts to consider in monitoring and evaluation include the following (Table 1).

**Table 1. Impacts to consider in monitoring and associated questions**

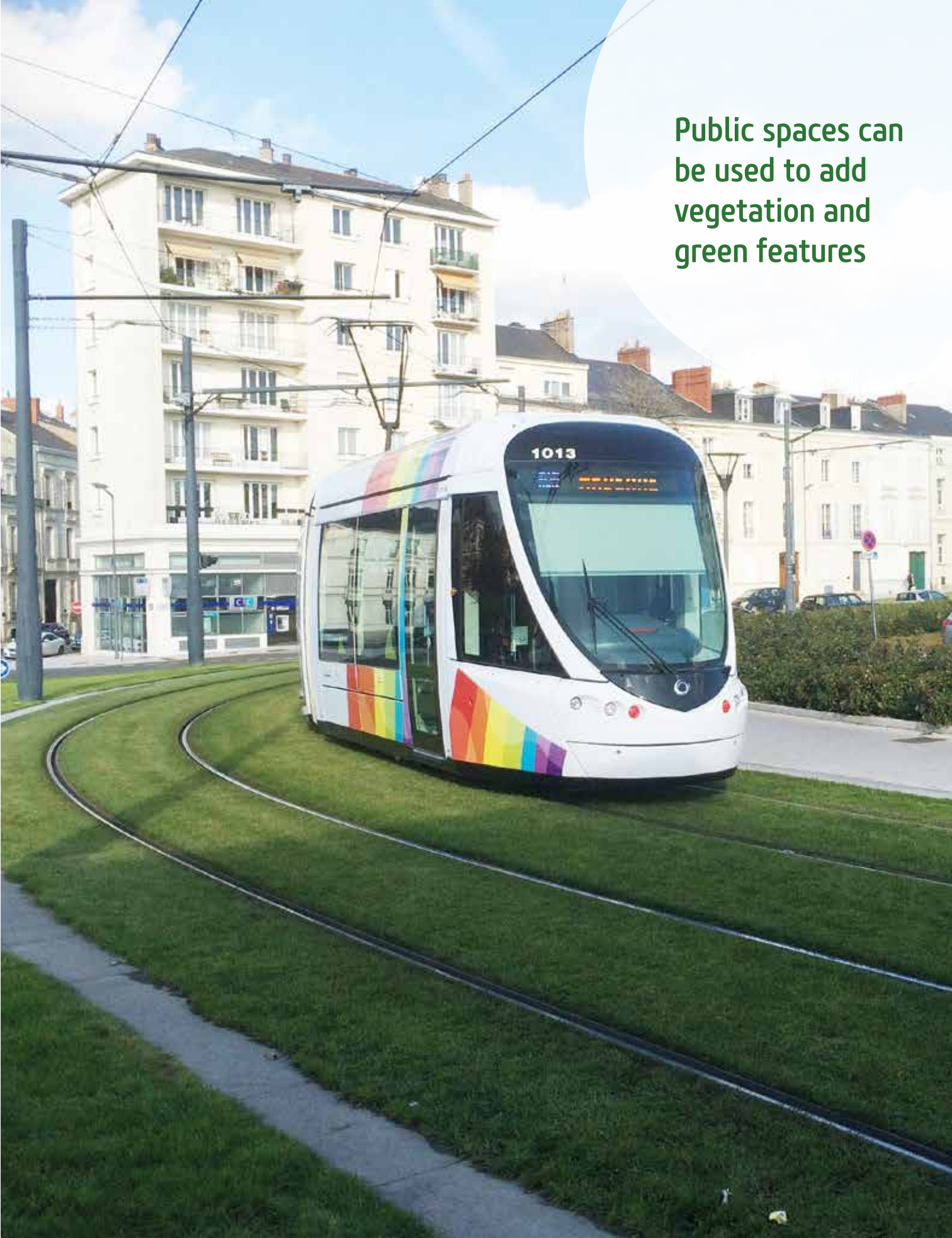
Impacts	Suggested questions to pose to establish the information
Environmental/ ecological impacts	<ul style="list-style-type: none"> <li>What is the impact of the urban green space on air quality, noise or urban heat exposure?</li> <li>Does it support water management and reduce risk of flooding?</li> <li>Does it support contact to nature?</li> <li>Does it enhance biodiversity?</li> </ul>
Lifestyle impacts	<ul style="list-style-type: none"> <li>Does the urban green space support/increase physical activity levels?</li> <li>Does it enable active transport by foot or bike?</li> <li>Does it increase the time people spend outdoors?</li> <li>Are more people using the urban green space?</li> <li>Does it support healthy lifestyles and active recreation?</li> </ul>
Social impacts	<ul style="list-style-type: none"> <li>Does the urban green space support or enhance social cohesion?</li> <li>Does it promote social interaction and exchange?</li> <li>Does the development of a green space support gentrification processes leading to displacement of local residents?</li> </ul>
Equity impacts	<ul style="list-style-type: none"> <li>Do all population groups make use of and benefit from the urban green space?</li> <li>If not, who are those groups that benefit least or even face disadvantages?</li> <li>Does the urban green space enable different functions for different user groups?</li> </ul>

Some practical tips and tools to support monitoring and evaluation are listed below.

- Observational data of urban green space use are a relatively simple and cost-efficient way to assess what type of people are using it, how many are doing so and for what purposes.
- Existing audit and observational tools – such as the Commission for Architecture and the Built Environment guides (CABE, 2004; 2006; 2009) or the System for Observing Play and Recreation in Communities (SOPARC) tool (RAND Corporation, 2017) – can be used but may need to be modified for the context.
- Engaging with local networks and organizations is a useful way to collect feedback from the community and urban green space users.
- Collaborating with academic institutes and research centres can assist with the delivery of effective monitoring and evaluation.



Public spaces can  
be used to add  
vegetation and  
green features





# 10. How to prevent and manage potential challenges and conflicts

It is important to be aware that **unintended side-effects** and conflicts can occur with any urban green space intervention (Table 2). These should be considered during the planning process and monitored after implementation to enable early detection and countermeasures.

Experience from urban green space intervention case studies shows that such challenges can be tackled through adequate planning and maintenance and effective communication with local users.

**Table 2. Potential challenges and suggested solutions**

Potential challenge/conflict	Suggested solutions
Conflict between users and competition for space	<ul style="list-style-type: none"> <li>▪ Early community engagement</li> <li>▪ Providing adequate urban green space to allow for parallel functions catering to different groups</li> <li>▪ Mixing determined use of urban green space with specific equipment features for certain activities, with spaces that are less structured and allow all kinds of activities</li> </ul>
Degradation of urban green spaces due to overuse	<ul style="list-style-type: none"> <li>▪ Providing local urban green space close to people's homes to distribute the demand pressure</li> <li>▪ Restricting planning to functions that match the size and capacity of the urban green space</li> <li>▪ Ensuring adequate and frequent maintenance and cleaning</li> <li>▪ Avoiding the establishment of "event places" that attract too many customers (unless the size is sufficient for this)</li> </ul>
Community dissatisfaction with urban green space features/services	<ul style="list-style-type: none"> <li>▪ Early community engagement</li> <li>▪ Involving local residents in design and construction</li> <li>▪ Managing expectations during the planning phase, making clear that it will not be possible to meet all requests</li> <li>▪ Clarifying at an early stage that urban green space interventions need time to deliver their full benefits</li> </ul>



Potential challenge/conflict	Suggested solutions
Safety issues, antisocial behaviour, vandalism and fear of crime	<ul style="list-style-type: none"> <li>▪ Ensuring adequate and frequent maintenance to avoid the impression that the place is not taken care of</li> <li>▪ Providing adequate lighting to improve safety perceptions</li> <li>▪ Scheduling regular patrol walks by local police</li> <li>▪ Involving local residents in planning, building and maintaining the urban green space to increase the sense of ownership</li> <li>▪ Making the urban green space lively and used at different times of the day, such as by promoting social events and recreational use</li> </ul>
Gentrification and replacement of residents with low socioeconomic status	<ul style="list-style-type: none"> <li>▪ Cooperating with urban and housing managers to avoid significant rent increases caused by public green space investment</li> <li>▪ Distributing green space investments evenly between city districts</li> </ul>
Increase of health risks related to urban green spaces	<ul style="list-style-type: none"> <li>▪ Inspecting and maintaining urban green spaces and associated equipment regularly</li> <li>▪ Providing walkable paths for elderly and physically impaired people to minimize the risks of falls</li> <li>▪ Using plant species that do not produce large amounts of allergic pollen or poisonous fruit or leaves</li> <li>▪ Informing users about potential health risks related to the use of urban green spaces (such as ultraviolet exposure or vector-borne diseases like ticks) and how to avoid them</li> <li>▪ Considering protection from potential risks arising from water bodies and blue spaces such as lakes, wells and rivers</li> </ul>
Uncertain or reduced budgets for maintenance of urban green spaces	<ul style="list-style-type: none"> <li>▪ Ensuring a low-maintenance design</li> <li>▪ Looking at innovative models of funding (such as community ownership models like land trusts, foundations or cooperatives)</li> <li>▪ Ensuring local political support early on</li> <li>▪ Working with community groups, nongovernmental and other organizations to support maintenance</li> </ul>



# 11. Key messages

1

**Urban green spaces provide multiple benefits and constitute a necessary feature of healthy settlements.**

Green space interventions have been used to improve environmental conditions, protect and improve biodiversity, promote outdoor activities and active lifestyles, increase social interaction and exchange, and provide healthy urban conditions for good physical and mental well-being. When designed well, urban green spaces can be universally accessible, providing benefits for *all* members of the urban community.

Even small-scale greening interventions can deliver health, social and environmental benefits in a cost-efficient way – not many public health interventions can achieve all of this.

Green spaces benefit cities and urban quality of life because they can:

- deliver positive health, social and environmental outcomes;
- upgrade the social and environmental quality of disadvantaged and deprived areas;
- make cities more liveable and enjoyable;
- contribute to the positive image of cities/ city branding or identity.

2

**The benefits of urban green spaces can be maximized through adequate planning, design and evaluation.**



Urban green space interventions are most effective when a **dual approach** is used, coupling a physical improvement to the urban environment with a social engagement and participation element promoting the use of green spaces and reaching out to different local users.



Urban green spaces are most sustainable when they are supported and implemented by various sectors and stakeholders. **Cross-sectoral collaboration** within local authorities and with community groups/private actors can help the interventions to deliver on multiple outcomes.



Planning and design of urban green space interventions should actively involve the local community and the intended end users. This will ensure **community engagement** and the delivery of interventions that serve the needs of the community.



Urban green space must be considered as a part of the whole **urban planning process** and the wider green infrastructure network. Urban greening interventions should be embedded in local planning frameworks and masterplans, and be reflected in other sector policies (such as housing, transport, health, sustainability, biodiversity and so on).

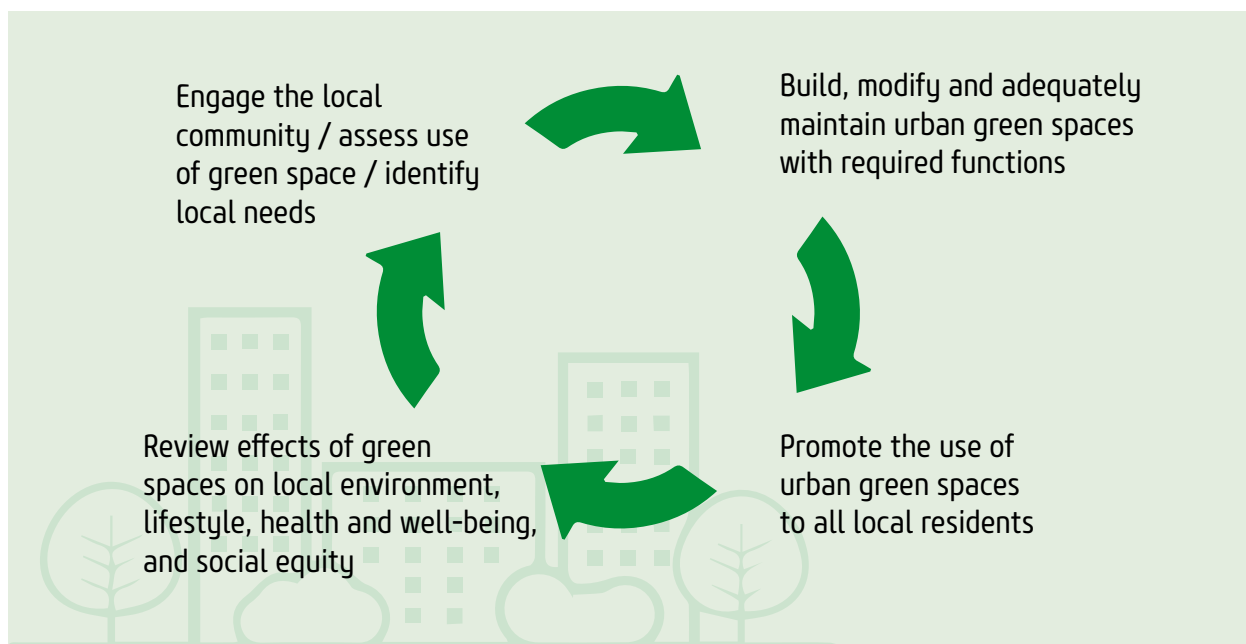
### 3

#### Local authorities are responsible for protecting and maintaining existing urban green spaces.

- Although there are some short-term effects, green space interventions need to be considered as an urban investment that delivers the strongest benefits over a **longer time period**.
- The use of urban green spaces and the related benefits need to be evaluated to inform future planning and to ensure that existing green spaces are **reviewed and adapted** to meet the community's needs (Fig. 2).

Local authorities may lack the financial means to establish new or modify existing green spaces, or municipally owned land that can be devoted to public open spaces may be limited. In this situation, it is most important to protect existing urban green spaces and make them accessible to as many residents as possible. Especially in disadvantaged urban areas, further reduction of green areas may result in negative social and health effects and should be avoided.

Fig. 2. Green space action cycle





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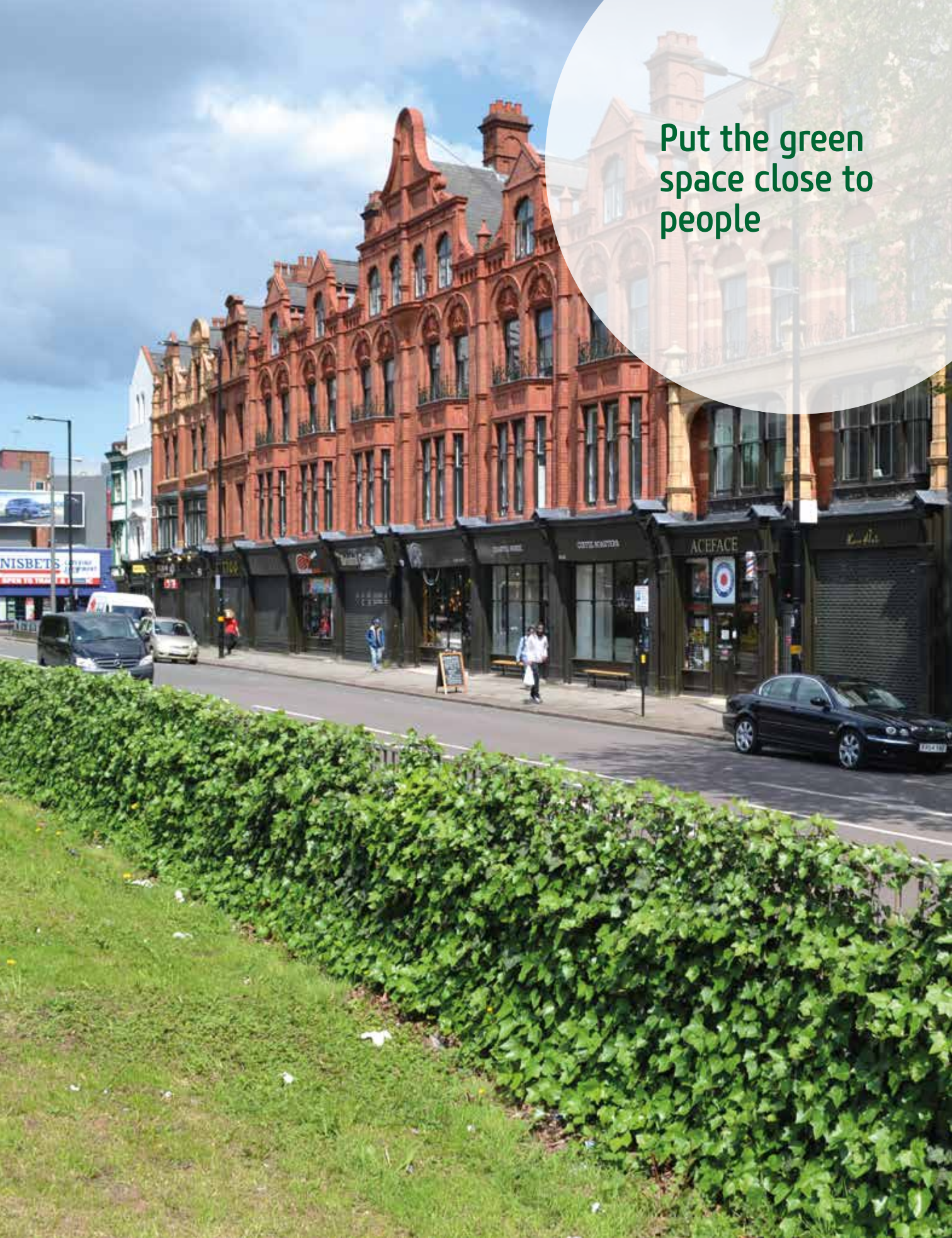
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Put the green  
space close to  
people





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