

## Public space strategies for a sustainable metropolitan future

A collection of best practices

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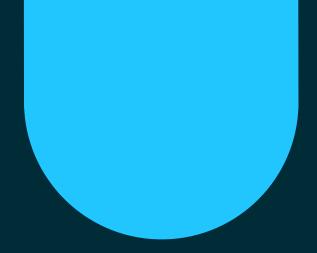
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# Introduction

This publication aims to present best practices on public space to inspire cities and metropolitan governments in the process of creating better public spaces for all. To highlight the importance of an action-oriented approach, we have taken real-life projects, programmes and policies from Metropolis members to demonstrate how metropolitan areas can benefit from public space under four core principles: **sustainability**, **inclusion**, **resilience and quality**. These principles were defined through a series of exchanges led by Metropolis in partnership with the Brussels-Capital Region.

Between May and December 2021, the Metropolis Secretariat General, Brussels-Capital Region, Medellín, Montréal, Seoul Metropolitan Government and Barcelona Metropolitan Area gathered to share local examples and discuss important criteria to consider when working on public space. This publication aims to draw together these rich discussions by providing tools, mechanisms and examples on how to create vibrant, attractive and safe public spaces.

With the shift towards a more urbanised world, urban development has been held up as the key to achieving sustainability. The inclusion of an SDG goal dedicated to human settlements shows the importance of cities and metropolitan governments as critical actors to creating built environments that are conducive to the principles of good governance, economic development, sustainability, social cohesion, gender equality and good quality of life for all inhabitants.

Cities and metropolitan governments are faced with the task of planning and providing a series of services that have a direct impact on the everyday life of inhabitants. And there is one area where all these services and decisions crystallise: public space. Examples of policies, programmes and projects related to public space show how cities and metropolitan governments recognise the value of public space as a driving force for sustainable urban development and are using public space to improve conditions at a local level.

<sup>1</sup> The 2030 Agenda for Sustainable Development.

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## **Building** sustainable practices

The concept of sustainability was pivotal in defining the current development goals established by UN members in the 2030 Agenda for Sustainable Development. Sustainability is widely defined as the capacity to meet current needs without compromising the ability of future generations to do the same<sup>2</sup>. This definition has been further developed since 1987 to incorporate the concepts of social and economic sustainability, along with the conservation of the natural environment.

<sup>2</sup> The United Nations Bruntland Commission (1987) defined sustainability as "meeting the needs of the present without compromising the ability of future generations to meet their own needs."

## Environmental restoration to reduce ecological impact

The extensive use of impermeable or low-permeability materials in the built environment can have negative consequences, such as causing the heat island effect and increasing the risk of flooding. This can be mitigated by a network of well-distributed open green public spaces, such as parks, gardens and playgrounds. When correctly planned and designed, these spaces can perform important ecological functions. The positive impact of these spaces can be amplified further when they are integrated in a city-wide public space system that is designed to support metropolitan green and blue infrastructure<sup>3</sup> and environmental connectivity. This way, well-designed metropolitan public space systems can provide ecological services that play a crucial role in climate crisis mitigation and adaptation strategies.

The concept of a "sponge city" became part of China's urbanism policy in 2014 and it continues to be a key fixture in the country's urban planning documents. In 2015, the Sponge City Programme was launched with "Guidelines to promote Sponge Cities", issued by the State Council of the People's Republic of China. The overall goal of this programme is to reshape the relationship between people, water and metropolitan spaces, based on three principles: following the natural cycle of the environment, adhering to guidance and development through planning and encouraging governance and social participation.<sup>4</sup> In 2015, Wuhan became one of the pilot cities to implement this programme. Wuhan aims to absorb 85% of annual rainfall by 2030. In Wuhan, the large number of concrete structures and the general use of impermeable surfaces prevent rainwater from seeping into the ground. In addition, when there are not enough green open public spaces, or when they are developed at a slower rate than the built environment they serve, the likelihood of waterlogging increases. When adequate drainage is not available, waterlogging becomes a recurrent problem.

To address its flooding issues, Wuhan is working to create an integrated system of comprehensive management structures, green infrastructure and an upgraded drainage system. The programme includes the creation of new water storage and purification facilities. Wuhan's sponge city programme heavily relies on public open spaces. Permeable pavements, such as grass, as well as special paving and different forms of water storage facilities–including lakes

as well as rainwater storage modules-, have been introduced to public spaces to absorb stormwater to alleviate waterlogging, while contributing to a more attractive and liveable city. An interesting feature of Wuhan's sponge city programme is that most of the interventions are small-scale solutions that are replicated across the entire city, creating a larger cumulative effect. In the summer of 2020, Wuhan experienced record-breaking precipitation levels during the rainy season, but no serious waterlogging<sup>5</sup> occurred, showing the success of the programme. It is expected that by the time the programme is completed in 2030, there will be a reduction in economic and environmental damage and a significant increase in safety and quality of life for Wuhan's residents. Wuhan is also expected to share the lessons it has learnt from this pilot project on improving resilience so that they can be replicated by other metropolitan spaces.

## Reshaping mobility patterns in favour of economic sustainability

As sustainability has been incorporated as a core concept in urban development, this has led to the evaluation of public service provision at a metropolitan scale. This has resulted in a shift towards a mobility model that favours less polluting transport systems, while contributing to economic sustainability. The concept of proximity is key for economic sustainability, because it helps reduce the cost of living and service provision by decreasing wasted time and resources, bringing down general service costs. In addition, a gender-sensitive approach to mobility policy is required to take stock of mobility patterns related to traditionally excluded groups. Metropolitan spaces are making significant efforts to favour public transportation options, while simultaneously reducing private car traffic. Furthermore, walking and cycling are being put at the heart of most mobility policies, which has a direct impact on public space.

"Cycling to work" is a joint project run by the Bogotá Mayor's Office, the District Institute of Recreation and Sport, the Secretariat for Women, the District Secretariat for Mobility and the Secretariat for Security, Coexistence and Justice. This ongoing project, which started in 2020, aims to support inhabitants interested in incorporating bicycles as a daily means of transportation, with a specific focus on women. The initiative also hopes to improve cross-sectoral collaboration to ensure the improvement and maintenance of bicycle infrastructure to increase safety for users<sup>6</sup>.

<sup>3</sup> Blue infrastructure refers to all the elements within the built environment that are related to water, such as rivers, canals, lakes and wetlands, including manmade elements such as water treatment facilities. Green infrastructure refers to elements such as urban forests, parks, trees, gardens, lawns, fields, etc.

<sup>4</sup> The State Council of the People's Republic of China. (2015). Guideline on Promoting the Construction of Sponge Cities.

<sup>5</sup> Waterlogging is the saturation of soil with water. When the soil is considered waterlogged water flows from underground levels to the surface. As a consequence, displacement of the air occurs in the soil with corresponding changes in soil processes, such as anaerobic conditions. In extreme cases, the accumulation of toxic substances can impede plant growth.

<sup>6</sup> Main Objectives of the "Cycling the Work" Project (2021).



Cycling to work programme. © City of Bogota

Bogotá has over 500 km of bicycle lanes<sup>7</sup> that serve as an alternative means of transportation. In 2020, the city estimated that a total of 880,000 cycling trips took place per day8, only 24% of which were made by women. As a result, the city is implementing a series of actions to promote and expand cycling as a means of transport for women. The "Cycling to work" pilot project, implemented in June 2020, brought to light the factors that characterise an unsafe space and hinder the use of bicycles, especially for women. As a result, a series of actions were implemented to increase safety through better street lighting, updating existing cycle lane infrastructure, offering cycling courses and encouraging women to cycle more often. During the Covid-19 pandemic, the city strengthened its cycling network as a strategy to prevent the spread of Covid-19 and decongest the public transportation system. Bogotá incorporated a network of over 100 km of temporary bicycle lanes. The implementation of this project favours the metropolitan area, as many of the cycling trips go beyond city boundaries. This example shows how, by assessing and improving the use of the bicycle network, the metropolitan space can build upon its strengths and respond to its inhabitants' needs with different measures.

The concept of proximity is key for economic sustainability because it helps reduce the cost of living and service provision

<sup>7</sup> Bogotá's press release on temporary and permanent bicycle lanes (2020).

With a reported total of 13.3 million trips per day in the city, Bogotá City Council estimates that 35% of journeys are taken on public transportation and 15% in private vehicles, with 7% of total daily trips by bicycle. Bogotá's Mobility Survey (2020)

## Public space as a complement to social sustainability

When considering the social component of sustainability, it is important to provide an environment where individuals and communities feel a sense of belonging. This is particularly important when it comes to vulnerable groups, for example, people that depend on public infrastructure and public space for recreation and socialisation. Difficulties in securing access to adequate and affordable housing can be alleviated, to a certain extent, through the provision of high-quality public space that can accommodate some of these day-to-day activities. Furthermore, when public space is designed to complement other urban services, such as education and health, this improves the quality of the built environment by generating synergies between complementary uses. Schools, for example, benefit from open public spaces that can be incorporated into educational services at specific times of the day. It is essential for metropolitan spatial planning to address segregation patterns, accessibility and safety, among other key factors, to alleviate any potential shortcomings.

The **Be Sustainable Toolbox**<sup>9</sup> is a platform with tools, sources of inspiration, knowledge and guidance to encourage neighbourhoods to be ambitious in terms of sustainability. It was launched by the Brussels-Capital Region in 2021 to support local authorities, built-environment professionals, private developers and other actors involved in neighbourhood development to design sustainable urban projects. Interested parties, public or private, can receive support from the Sustainable Neighbourhood Facilitator, a multidisciplinary team that helps parties develop their projects, from diagnosis to implementation. The toolbox takes its users through a five-stage iterative process: context analysis, setting project goals, project definition, implementation and management. The Be Sustainable Toolbox offers four tools to support users throughout the five stages:

- The Be Sustainable Charter establishes ten objectives for the creation of sustainable neighbourhoods in the Brussels-Capital Region, in line with the UN SDGs and the local planning and policy framework. The ten objectives cover a wide variety of issues ranging from the water cycle and mobility to the natural environment, management and participation. By adhering to the Be Sustainable Charter, actors involved in the project agree to a common vision that sets the groundwork for defining the project goals.
- The Quickscan includes a set of 50 questions related to the ten objectives that ask questions about key sustainability-related issues for a quick assessment of the context and to lay the groundwork for the management stage.

- The Compass is a spreadsheet that works as a self-assessment tool with more than 200 qualitative and quantitative criteria to support project teams in the different stages of the process. In the context analysis, the compass helps to identify weaknesses, strengths and opportunities in the project area. At the goal-setting stage, it helps to set sustainability goals for each of the ten objectives. During the project elaboration, implementation and management stages, the Compass guides teams so that they stay focused on the project goals and context-specific requirements.
- The Memento is a comprehensive compilation of the theoretical basis for each of the ten objectives.



The spatial development objective highlights how important it is for public space to be designed in a comprehensive manner to improve the range of recreational activities on offer

Across these different tools, the issue of complementarity between public open space and other uses is addressed in several ways. The spatial development objective highlights how important it is for public space to be designed in a comprehensive manner to improve the range of recreational activities on offer, such as skate parks and playgrounds, as well as leisure spaces for more passive use as well as green and natural spaces. It also addresses the matter of flexibility and resiliency, both in terms of time and space, to ensure that different uses can be accommodated simultaneously or at different times of the day and that it is easy to transform the space to adapt it to the evolving needs of the neighbourhood. Lastly, it also deals with the role of designing at a ground level to ensure that public spaces are activated. The mobility objective underlines that infrastructure for non-motorised modes of transport should be incorporated in public space, such as parking, special lanes and repair points and to locate housing in low-traffic areas. Lastly, the physical environment indicator highlights the importance of having an adequate proportion of built and unbuilt spaces to prevent open spaces from becoming saturated.

<sup>9</sup> Access to the complete toolbox in the be sustainable site.

The Barcelona Metropolitan Area (Àrea Metropolitana de Barcelona, or AMB) developed the Sustainability Indicators protocol in 2018. The protocol includes a component on capacity building, an in-depth technical guide for implementation and a checklist to support technical teams in identifying issues related to accessibility in their day-to-day activities. The guide is divided into six chapters: monitoring and cross-cutting analysis, energy, water, materials, comfort and on-site sustainability. The chapters reflect the AMB's overall sustainability strategy, which aims to combat the climate crisis by implementing management systems that are in line with a more sustainable model. More specifically, this strategy aims to implement sustainability criteria across all the AMB's activities.

The AMB identified a capacity-building opportunity, as only few professionals in the technical teams working on public space had specific training on sustainability<sup>10</sup>. To address this skills shortage, the AMB designed and implemented a methodology with environmental and sustainability criteria for the conception, creation and management of metropolitan public spaces. This methodology equips the technical teams that work in the design, building and maintenance of public spaces with the necessary knowledge to incorporate sustainability into their work. The tool was developed and the capacity-building activities were carried

out between 2018 and 2019. The indicators and checklist, on the other hand, are still in use.

This methodology provides the technical teams with the tools and capacities to make informed decisions, define objectives and ensure the environmental quality of public spaces. The sustainability protocol includes implementation procedures and references to standards, key policies and laws, as well as specific technical tools and guides. Furthermore, it provides a checklist with a short description of the main objective for each criterion, the type of project where it is applicable and a summary of requirements and important documentation that needs to be taken into consideration.

This methodology provides a clear framework to define the overall sustainability strategy. It recognises capacity gaps and builds on the technical skills of its professional teams. By investing in the skillset of its technical teams, the AMB ensures the correct implementation of the sustainable guide over time. In turn, this means making progress towards achieving the goals set up in the general strategy. In addition, the systematic use of this new tool will allow the AMB to gather data for monitoring and evaluation, to further identify how metropolitan public spaces are contributing to achieving sustainability in the region.





10 Public tender to develop the Sustainability Indicators



## Fostering inclusivity

To understand inclusion, it is important to address the concept of exclusion, as metropolitan spaces are areas of economic and social inequality.<sup>11</sup> Gender, ethnicity, age, sexual orientation and socio-economic level are all factors that result in different uses of public space and that cause and normalise inequality. The effect of gender bias on public space, for example, links public space to men's needs and signals public space as a masculine domain. The different roles attributed to men and women have determined the rights of both, privileging the former and excluding the latter, in other words, creating hierarchies for the access to rights and opportunities.

In this scenario the collective right to the city<sup>12</sup> aims to reclaim urban spaces as collective spaces for everyone, while combatting marginalisation and exclusion. Inclusion refers to the provision of spaces where individuals and communities feel a sense of belonging. Inclusive public spaces are spaces where individuals and communities identify themselves as part of their urban environment by having access to shared urban goods<sup>13</sup> and having the ability to fully engage in collective affairs. In other words, inclusive public spaces are accessible and safe for all. As metropolitan spaces become denser and the urban population continues to grow, access to public space is an increasingly important asset.

<sup>11</sup> Social Inclusion in Cities (2021)

<sup>12</sup> Right to the city is the right of all inhabitants, present and future, permanent and temporary to inhabit, use, occupy, produce, govern and enjoy just, inclusive, safe and sustainable cities, villages, metropolitan spaces and human settlements, defined as commons essential to a full and decent life. This definition is based on the definition of the Global Platform for the Right to the City.

<sup>13</sup> Urban commons are the sum of natural and cultural resources that are accessible, shared and enjoyed by all. This includes natural resources such as air and water, but also public goods such as public spaces, public education and health, as well as the related infrastructure. Commons are held in common, not owned privately.

## Gender

A gender-sensitive approach is key to revert existing gender-related barriers and ensure the inclusion of the needs of women, girls and LGTBQ+ collectives. A gender-sensitive approach pays more attention to the needs of traditionally excluded groups to promote their interests. It emphasises reshaping the relationships between stakeholders, such as the local government, urban planners, maintenance teams and, of course, the different users of the space, in order to achieve equality. Public space is an important part of social and economic life for people and communities and it provides opportunities for social interactions and fostering community ties. For a gender-sensitive approach to be effective, it needs to be considered at every stage of the management cycle: assessment, formulation, implementation and evaluation. In addition, it must provide policymakers and technical staff with the necessary gender expertise to carry out their public functions. Gender bias transcends public space and can be found in other spheres. It is also of great importance to work towards equal access to women and vulnerable groups across all governance structures, to ensure no collective is underrepresented.

In 2018, the city of Montréal began implementing an intersectoral gender-based analysis (GBA+) to identify and acknowledge the needs of vulnerable, under-represented or potentially excluded groups. The main objective of the GBA+ is to integrate a differentiated analysis aimed at preventing systemic discrimination in policies, programmes and services. Gender-based analysis (GBA+) encompasses the notion of intersectionality, taking into consideration all people who may experience discrimination based on their gender, age, socio-economic status, ethnocultural origin, disability, or sexual orientation. This approach aims to recognise and act on exclusions that may overlap in a given situation.

The tool is designed to easily replicable whenever the framework elements apply. There is no order in which it needs to be implemented and some actions may be developed simultaneously. The tool is made up of different tools, resources and training modules that make it comprehensive and easy to implement.

Montréal's process of implementation of the GBA+ started by revising all policies and programmes under the lens of the GBA+. The city also developed a series of training and online free modules to ensure the correct implementation of this toolkit. The approach has since been translated into pilot projects developed by multiple municipal departments, including the Property Management and Planning Department; the Planning and Mobility Department; the Great Parks Service, Mount Royal and Sports; the Housing Department; and the Diversity and Social Inclusion Service.

## Co-creation and co-construction

Public spaces are an ideal scenario to encourage inhabitants to participate in the conception and creation of a space. Open public space can generate communication channels for local authorities and inhabitants, as there is shared interest, concern and involvement, fostering participation. This space for encounter between actors creates an opportunity to promote participation and empower individuals and communities to play an active role, as the process of participation empowers people and creates a sense of ownership and belonging.

In order to ensure that a co-creation process is accessible to all, the use of shared, non-technical language is fundamental. All the information and methodologies involved must be easy to understand and tailor-made for every area of the intervention. The use of an easy-to-understand language allows inhabitants without a technical background to fully participate in co-creation processes. When co-construction is planned it is important to train participants with little or no technical knowledge prior to the co-construction activities. For example, this could involve capacity-building relating to the use of maps and other visualisation tools, or conducting a workshop on how a pavement has to be laid, in addition to other training activities that will favour the co-construction process. This helps participants develop new skills and building the skills of participants means the works carried out have a quality standard that ensures the final project will stay in good condition over time. Failing to tailor co-creation and co-construction processes to the capacities of participants not only causes frustration but also risks the success of the project.

In 2013 and 2014, **Buenos Aires**, through the Secretary of Habitat and Inclusion, led a project to create a new public space that served as new access to the Zavaleta informal settlement. This small-scale intervention was part of a more complex programme, aimed at the positive transformation of the Zavaleta informal settlement, a neighbourhood that has historically been stigmatised.

The initial assessment of the settlement reported significant<sup>14</sup> health issues, due to the lack of water and sanitation services. Another significant challenge was insecurity, related to the use of public space as areas for drug dealing and consumption, which led to spaces becoming neglected and deteriorating. The project was carried out by the Buenos Aires Secretary of Habitat and Inclusion, based on a participatory process. A series of participatory workshops with residents were conducted to co-design the space, define uses and determine the work plan for construction. This intervention included the design of a public space at the entrance to the informal settlement, together with the first phase of a new water and sanitation system, supported by the private sector.

<sup>14</sup> Zavaleta: How to intervene in a historically stigmatised neighbourhood.



To improve the coordination between stakeholders, during construction works the local community was organised as a cooperative. A series of activities were carried out alongside construction, also based on a participatory process. During construction, capacity building workshops were carried out, aimed at empowering women in particular. After the completion of the project and until 2015, the Secretary of Habitat and Inclusion proposed and carried out activities and workshops to foster sports and skills development for Zavaleta's population. The main impact of this project, as reported by Buenos Aires Secretary of Habitat and Inclusion, was the establishment of an open channel for dialogue and a process of trust building that transformed Zavaleta's inhabitants into active participants. The Secretary of Habitat and Inclusion also reported an increase in safety in the use of public space.

## Involving communities in public space management

Participation requires a political and management environment that welcomes active participation and recognises inhabitants and communities as key stakeholders. As shown in the section on co-creation and co-construction, in order to ensure proper participation, all the information related to the project or programme and the processes and methodologies in place needs to be readily available. This means that all the materials need to be easy to find and easy to understand.

A shared management approach is a management system based on the collaboration of different actors to achieve a common goal. Stakeholders share the responsibility to maintain a particular space. Traditionally, users of a space are only able to report issues and have to wait for a centralised management and maintenance system to take action. A co-management structure can help reduce the burden on local authorities by providing eyes on the ground that can identify issues and problems faster. Depending on their degree of involvement, users can even directly deal with specific issues in a more agile way.

It is important to take into consideration that by co-managing a space one can increase the risk of privatisation of public space through the creation of restaurants and bar terraces, or the enclosure of streets with fences or security controls. This can lead to increase the risk of exclusion of vulnerable groups through the securitisation of public space.

Sicap-Liberté, a district of **Dakar**, experienced an urban space crisis linked to disputes between different sectors of the population, poor public service infrastructure and limited frequency in the use of public space. To cope with this scenario, the NGO Kër Thiossane—a local exchange platform for hardware, software and skills capable of offering support for cultural, educational and civic projects in Africa—created the **School of Commons**<sup>15</sup> in 2014, an artistic, educational and transdisciplinary laboratory related to digital technology practices and new communication tools. The School of Commons, which is still active today, was set up in the heart of a public space, the Jardin Jet d'Eau, with the conviction that through creativity and culture, individuals and communities can make urban spaces more friendly and safe. The project includes a fab-lab<sup>16</sup> hub, co-managed by Kër Thiossane and the city of Dakar, which holds workshops for those who wish to learn how to use digital manufacturing tools. Temporary events, such as the city's digital arts festival, are also hosted in this project.

The garden became key for the success of the project, as the maintenance of the space is achieved through the cooperation between owners and tenants of nearby buildings, Kër Thiossane and local authorities. The garden hosts a range of different programmes, including workshops, movie screenings and resident meetings and is a public, open space that is popular with residents, bridging the gap between inhabitants and the co-leaders of the project. Over time, nearby residents have begun to see the garden as an asset to their neighbourhood that creates an energetic atmosphere. As a result, more inhabitants are interested in co-caring for the garden and contributing to a positive asset through this public space.

The example of Dakar provides an approach where the management of a space is fully shared between the city and other stakeholders. However, other cities have developed co-management strategies that are more narrowly defined. An example of this approach is Seoul's Blooming Flower Programme<sup>17</sup>, which started in 2013 and is currently on its second season, expected to end this year (2022).

This programme adopted a multi-layered approach to encourage participation in its efforts to green the metropolitan space and overcome the city's limited budget and staff numbers for park management. The programme includes a large number of activities that address city greening through different interventions such as planting trees on the roadside, alleyways and vacant plots. It also includes an online tree planting game called "Tree Plant" that allows residents to learn how to place small flowerpots in front of their homes and take care of green spaces and trees nearby.

The programme works with different actors. Residents green their homes, immediate surroundings and unused spaces inside schools with trees, flowers, or vegetable gardens. Small business owners place flowerpots on the public space in front of their businesses and in areas where waste disposal is prohibited, preventing dumping. Larger enterprises take part in the Public Open Space Restoration Project by planting trees and flowers around their company's building in addition to or as part of their corporate social responsibility mandate. Civic groups and social enterprises develop and manage green-related community programmes and distribute tree-planting materials. Lastly, Seoul's local authorities and autonomous districts<sup>18</sup> play a supporting role. The autonomous districts recruited participants and developed plans for the campaign at the local level while Seoul's local authorities overviewed the progress of the autonomous districts, provided advertisement support and held contests to disseminate best practice examples. By designing a set of activities that are led and carried out by different stakeholders around the metropolitan space, Seoul's Metropolitan Government has managed to alleviate the park staff shortage, while supervising and supporting interventions.

<sup>15</sup> School of Commons of Dakar

<sup>16</sup> A fab-lab is a Fabrication Laboratory, a small-scale workshop equipped with computer-controlled tools for digital fabrication.

<sup>17</sup> Seoul, a Blooming Flower: Citizens-led Green Campaign

<sup>18</sup> Seoul is divided into 25 autonomous districts (gu). These are administrative units, similar to a municipal government, that have their own legislative council and mayor and that undertake many of the functions that are handled by the city in other jurisdictions.



The City of Johannesburg's End Street North Park project promoted sociability, cohesion and well-being by addressing challenges related to the design, management and operation of public open space. To do so, the project piloted alternative ways of developing and managing open spaces to make them safe, inclusive, functional and sustainable. The project started in 2015 and ended in 2017. It is notorious for bringing together a large number of metropolitan departments<sup>19</sup>, local and international stakeholders and the community at every stage in the process. In order to build a proper understanding of the space and ensure true inclusivity, the project team spent months visiting the park almost every day to identify and include the groups who regularly frequent the nearby surroundings and/or use the park, with a special emphasis on women and girls and other vulnerable actors, such as homeless people who slept in the park.

The design process employed several engagement methods, such as focus group discussions, a participatory safety audit

and a two-day participatory design workshop that used Minecraft as a design tool. Much effort also went into putting in place management structures and ongoing activities, such as Saturday events that activated the park and fed the design process. A Public Space Committee was established to organise events and coordinate the park's activities. This was supported by the Sports for Social Change Network (SSCN), which runs sports programmes in this and other parks in the inner city. A Stakeholder Forum for residents and park users to engage the local authorities on matters of concern, like crime and pedestrian safety, a Policing Forum and a Local Park Management Team were also created.

One of the main outcomes of the project is a governance model for managing public open space within resource-constrained environments that allows for the project impact to be scaled up through replication. This model was further developed in Building the Public City, a second project that emerged after the success of the End Street North Park project.

<sup>19</sup> This project was led by the Johannesburg Development Agency (JDA), Johannesburg City parks and Zoo (JCPZ) and Johannesburg's Department of Public Safety. They are all metropolitan departments/entities.



## Moving towards resilience

In general, resilience is understood as the capacity of individuals, communities, institutions, businesses and systems within a metropolitan space to survive, adapt and grow despite stresses and shocks<sup>20</sup>. Resilience is needed to respond to the social, economic and climate-related emergencies that are hitting metropolitan spaces with increasing frequency and magnitude. While shocks and stresses increase in regularity and extend, metropolitan spaces must build resilience to withstand them. However, to fully encompass all issues that relate to resilience, it is important to look beyond natural disasters. Resilience as a concept incorporates a comprehensive perspective that covers social, economic and climate factors. The concept of resilience has evolved from an initial emphasis of persistence in a world subject to ongoing changes, to include the concept of human adaptation and social transformation. The current approach to resilience is based on the principles of adaptability and transformability.<sup>21</sup>

<sup>20</sup> Resilient Cities Network

<sup>21</sup> What is Social Resilience? Lessons Learned and Ways Forward (2013)

## Social resilience

Encouraging social resilience requires addressing the social challenges that are specific to metropolitan spaces, such as urban violence, rapid urbanisation that leads to the proliferation of informal settlements and the unequal provision of public services. Cultivating social resilience abilities involves increasing the capacity to tolerate, absorb, cope with and adjust to environmental and social threats of different kinds. Some of the strategies to encourage social resilience are shared with the challenges posed in seeking more inclusive and sustainable metropolitan spaces. Some of the challenges characteristic of social resilience are the inclusion of migrants in metropolitan spaces, as well as caring activities such as delivering food. and providing comfort and dignity to residents.

The Greater Amman Municipality rehabilitated the Shura and Jordan Parks in 2016 in an attempt to reduce socio-cultural tensions and spatial segregation between host and refugee communities. Amman has a long history of providing safety to migrants fleeing their homes in the region.<sup>22</sup> As a consequence, service provision of essential metropolitan services is provided to all, without discrimination of origin or nationality. However, the significant growth of Syrian refugee communities has increased pressure on Amman's infrastructure and the capacity of public services, particularly regarding education, transportation, public space, waste management and the provision of energy and water.

The **rehabilitation of the Shura and Jordan Parks** follows a social cohesion approach to strengthen the conditions of the vulnerable population, improve living conditions for residents, expand communication and interactions between refugees and local communities and foster community-based activities. By improving the physical conditions of parks, the project created opportunities to increase interactions between local inhabitants and refugees, improving social cohesion. Across the two parks, activities included the rehabilitation of both soft and hard landscape areas, additional planting, carpentry and playground maintenance and redesigning public spaces to meet evolving local needs.

After the rehabilitation of the two parks, district employees reported there was a sense of satisfaction amongst both communities with the renovation project. An increase in the use of the parks was also reported. In turn, this created further opportunities for social interaction between the host community and refugees.

## **Economic resilience**

One of the central pillars to achieve resilience in metropolitan spaces is to tackle economic inequality. Enhancing economic resilience goes beyond responding to economic crises. It incorporates the need to adapt to an interdependent and interconnected world. Furthermore, it is also about supporting economic opportunities for all and recognising the value of unpaid domestic work and the role of informal economies as cornerstones of the urban economy.

The **Warwick Junction** hosts a daily market with an estimated 8,000 traders<sup>23</sup>. From 1997 to 2000, eThekwini **Durban** started implementing a new approach to managing the Warwick Junction by working across municipal departments and involving informal workers. It made the first investment in infrastructure upgrades in key parts of the hub and a project office in the heart of the markets was set up as a space for traders to hold meetings among themselves and with municipal staff. Following this first phase, in 2008 Durban announced its intention to replace one of the main markets of Warwick's Junction, the Early Morning Market, with a shopping centre. Informal workers, supported by the NGO Aet protested in response, as losing the Early Morning Market would have affected the livelihood of thousands.

In 2009, the municipality withdrew its plans for the new shopping centre and AeT engaged to bridge the gap between the local authority and informal workers to meet the changing realities of the area. After this long process, the cooperation between Durban's officials, AeT and informal traders carried out work centred around facilitating collaborative redesigns of infrastructure, from new roofing and safer cooking areas to public toilets and first aid and recycling stations. Community empowerment projects were also implemented to help traders advocate for their rights and participate in municipal decision-making processes. Further participation with other stakeholders, such as universities, helped to destigmatise Warwick and spread the lessons learned from this participation process.<sup>24</sup>

<sup>22</sup> MC2CM Case Study - Amman

<sup>23</sup> Working in Warwick. Including street traders in urban plans. (2009)

<sup>24</sup> Empowering Market Traders in Warwick Junction, Durban, South Africa



## Climate resilience

Climate extreme weather events and natural disasters, such as extreme precipitation events, flooding and hurricanes, challenge the recovery capacities of cities and metropolitan spaces. The climate crisis is no longer a faroff scenario, but rather, a reality that is already affecting cities and metropolitan spaces.<sup>25</sup> The increasing impacts of natural disasters also stress the capacity of cities and metropolitan spaces to achieve a full economic recovery, which reduces the capacity to finance the implementation of projects that help mitigate disaster risk and help build climate resilience.

The first phase of the Cuernavaca Ferrocarril Linear Park was built in 2017. As the name states, this park was built on an unused railway line. This project was defined as an active urban forest that serves as a green corridor and at the same time, achieves a high social value by strengthening the identity and memory of the history of the place. The Linear Park is a 4.5 km-long green corridor that runs through Mexico City, one of the most populous and largest metropolitan areas in the world. The park connects 22 neighbourhoods as a structural urban element that compensates for the deficit of green spaces and water in the metropolitan area<sup>26</sup>. The park fills the vacuum left by the unused railway infrastructure as an opportunity to build the largest urban forest in Mexico City.

Green corridors are an example of a nature-based solution. The implementation of nature-based solutions brings many benefits to metropolitan areas, such as flood risk reduction, heat stress reduction, water storage and reuse. The trees in the Cuernavaca Ferrocarril Linear Park are indigenous trees that require very little maintenance and create shady spaces that serve as a form of heat regulation, mitigating the heat island effect. Furthermore, the park was designed to help manage stormwater and mitigate floods, through drains that allow for water to naturally infiltrate into the soil and reduce water runoff, as well as rain gardens that harvest water that is treated and stored to water the green space during the dry season.

<sup>25</sup> Resilient Cities Network

<sup>26</sup> A Catalogue of Nature-Based Solutions for Urban Resilience



Medellín created a Business Improvement District (BID) programme, locally known as Economic Revitalisation Zones (Areas de Revitalización Económica, or ARE), in 2017<sup>27</sup>. ARES aim to revitalise economic areas within the city, based on the principles of participation, sustainability, efficiency and complementarity. The main objective of this programme is to manage and finance public spaces and, by doing so, to increase the competitiveness of public spaces and the city overall. AREs are partnerships among Medellín local authorities and business owners in a specific area who make voluntary economic contributions towards the maintenance and improvement of public space and organise events that attract customers to their neighbourhoods.

AREs show how the responsibility for the management and maintenance of public spaces can be shared between local governments and local businesses. This arrangement reduces the pressure on the local government, while members of the ARE benefit from an improved urban environment. Supplementary services provided through AREs complement those offered by the city and have a particular focus on safety, maintenance, logistics, social programmes, signage to guide visitors and neighbourhood branding. In addition, this programme fosters economic resilience by directly benefiting AREs' members through the use of public space for their business

activities and, indirectly, by increasing property values and attractiveness, resulting in higher rents and increased customer numbers. Some of these profits are reinvested into the AREs. To minimise the risk of creating exclusive areas only accessible to customers, AREs' proposals must be shared with the general public and their interventions cannot restrict free access or close off public spaces.

Medellín has also recently created a programme to use public space for economic activities (Aprovechamiento Económico del Espacio Público, or AEEP), aimed at increasing economic activity in a particular area and financing public space management. After the Covid-19 pandemic, the programme was adapted to reactivate the economy. This programme boosted the use of public spaces, while safeguarding the health of all inhabitants. The security protocols needed to reopen local businesses while complying with social distancing measures were used as an opportunity to transform spaces previously dedicated to cars to public space islands. The spaces were adapted to organise the use of the space to ensure social distancing. Local businesses that operated with 100% indoor capacity prior to Covid-19 were granted the right to use selected public services and ensure safety protocols were maintained while supporting economic recovery.

<sup>27</sup> In 2014 the AREs were incorporated in Agreement 048 of 2014 as part of the city of Medellín's land-use plan. 2017 marks the beginning of the implementation project, in which the AREs were included in the APP Agency as instruments of the land-use plan. Subsequently, between 2017 and 2020, the decree regulating the AREs was developed, with 25 potential AREs identified but not yet approved. The programme is still ongoing.

## **Improving quality**

Surveys and maps can provide quantitative information on the type of public space within a metropolitan area, such as the total land allocated to public open space, which sectors of the population have direct access to public open space and the distance between public spaces in a particular sector. However, the quality of public space goes beyond traditional quantitative measurements. High quality public spaces are accessible and comfortable, users can engage in activities in those spaces and inhabitants have a sense of belonging to the space.

Well-designed and well-maintained public spaces are important for metropolitan areas to improve living conditions. A comprehensive view of the metropolitan space and its public space network is fundamental to maximise the potential of the existing infrastructure. A good strategy to safeguard the character of public spaces is to define general public space strategies and plans, to guarantee accessibility for all. However, to ensure metropolitan-wide strategies are implemented correctly, cross-sectoral collaboration is key. The traditional sectorisation of administrative structures and a frequent lack of communication between departments are challenges that can have a significant impact on public space.

## **Accessibility**

A sensitive system for data collection provides useful information about the conditions in public spaces and the people who interact with them. The tools developed to collect data based on the concept of inclusion provide us with inclusive baseline information for decision-making. This in turn acts as the first step to report on trends and show patterns of behaviour, social activities and community involvement. This provides the initial basis for decision-making and makes it possible to identify key priorities for applicable measures and interventions.

In early 2020, Barcelona completed the first phase of an **Accessibility Diagnostic** that assessed the level of physical accessibility to public facilities, public transport and public spaces. The goal of the diagnostic is to provide a detailed picture of accessibility challenges across the city to inform the design of specific accessibility measures and a pioneering global accessibility ordinance. The public space accessibility diagnostic assessed a total of 4,666 intersections and 583 km of roads in 35 neighbourhoods across the ten districts that make up the city. It included 36 indicators that covered different aspects related to the type of pavement, slope, steps, protection from vehicles, obstacles, parking for people with disabilities, pedestrian crossings and the measurements of walking and stop-over spaces. The diagnostic helped the AMB identify a number of initiatives to improve global accessibility in the city. These range from small scale interventions, such as changing the pavement in a specific location, to actions on a metropolitan scale, such as re-designing the mobility model in the city by implementing significant changes in the bus network to respond to mobility patterns of groups such as the elderly and women.

Focusing on the question of accessibility opens a range of possibilities to include the needs of inhabitants and communities into public spaces. Approaches may vary from the obvious, such as better street lighting, to specific initiatives and campaigns focusing on promoting women-friendly streets and public spaces. Including tools that enhance participation can help cities and metropolitan governments be better informed on specific issues. Eliminating physical barriers in public spaces ensures accessibility, which at the same time, contributes to increasing the quality of the space.

Berlin is facing a significant change in its population: the population of older adults is on the rise, while migration flows have caused an increase in diversity. To face these changes, in 2007 **Berlin** began to implement a **strategy to become a 'barrier-free' city**<sup>28</sup>. One of the key aspects to achieve a city that is more liveable and welcoming is the actions taken in public outdoor spaces to ensure accessibility to all residents and visitors. In that sense and in order to guide interventions on public space, in 2011 Berlin pub-

lished a manual titled "Berlin-Design for all: Public Outdoor Space", which intended to create a diversified but clear design across the spectrum of public spaces that benefits all users. The primary objective of the manual is to integrate the requirements of barrier-free access into the design concept. The guidelines are presented as a general framework, with examples and technical information given as suggestions. The examples aim to draw attention to recurring issues, such as how space can be adapted to accommodate human physiognomy/ergonomics, regardless of permanent or temporary disability; how to acknowledge and celebrate diversity; and how to confront ethical questions that arise in the design of public outdoor space. As the strategy remains in place, there are several examples of the implementation of the guidelines. One of those examples is the barrier-free outdoor area of the Steinwald School in Berlin-Merienfelde; by implementing features to identify function areas and include wheelchair-friendly urban furniture and playgrounds, this space provides children of all abilities with the necessary conditions to enjoy the school's outdoor area.

## Management & evaluation

The examples from Dakar and Buenos Aires presented in the chapter on inclusion demonstrate how well-designed and well-managed public spaces have a positive impact on the quality of life of residents in proximity to those spaces. This is even more true if public spaces are designed based on their needs. Appropriate maintenance and management of public spaces is instrumental to ensure that achievements are sustained over time. The active role and collaboration of inhabitants to manage and monitor public spaces is an important asset for metropolitan spaces in this matter.

In 2016, La Paz launched Barrio Digital (Digital Neighbourhood) to improve the management and maintenance of public spaces in poor neighbourhoods and encourage civic participation and responsibility. This ongoing programme aims to improve the maintenance and management of public spaces by implementing the use of an ICT tool for evidence-based participation. The participation process relies on SMS and online technology and was developed to be cost-efficient. Residents can ask questions and file complaints via text message or log the information on a webpage<sup>29</sup>. Each submission receives a tracking number that can be used to follow up and monitor La Paz's response, holding the city accountable for the correct management and maintenance of public spaces. The programme encourages participation from lower-income residents, allowing them to saving time and money when expressing grievances in relation to public spaces. Using ICT to enhance feedback helps La Paz to become more efficient in its operations and maintenance. The information gathered allows the city to tailor its response and allocate resources in accordance with the needs identified by residents.

<sup>28</sup> Berlin - Design for all - Public Outdoor Space

<sup>29</sup> Barrio Digital Online Portal



Sebategna intersection Before. © Glocal Designing Cities



New crossings and pedestrian islands in the Sebategna intersection. © Glocal Designing Cities

## Flexible and shortterm public space interventions

Tactical urbanism<sup>30</sup> is a people-led approach to urban planning, which departs from the traditional methods of planning and instead uses short-term, low-cost and scalable interventions intended to catalyse long-term change. These interventions can test new designs and solutions that will contribute to long-term solutions, as an innovative tool to test and evaluate public space projects before scaling up the solution. As highlighted in other sections, the active participation of residents is advisable to identify local needs and priorities.

Addis Ababa can be a challenging place for pedestrians. Sidewalks are narrow, uneven, or obstructed and drivers often fail to acknowledge pedestrians.31 To increase pedestrian safety, Addis Ababa launched several initiatives during 2016 to reduce traffic injuries and fatalities. One such initiative took place at the **Sebategna intersection**. Located near Mercato, the largest market in the metropolitan space, Sebategna sees footfall of around 13,000 pedestrians every hour during peak times. Using new street markings, blue paint and hot pink planters, local agencies transformed Sebategna by adding pedestrian islands and walkways, as strategies that help organise traffic and encourage slower turning speeds and safer pedestrian behaviour. This intervention had dramatically positive changes in a short time, with inhabitants immediately reporting an increase in their sense of security at the intersection. Informal traders, who had previously sold their goods from sidewalks, now have plenty of space in the newly created islands, leaving walkways open for pedestrians. The interim transformation was planned to be in place for six months so that the city can collect data to implement the permanent redesign.

## **Gender-sensitive** participation

Participation is key in gender-sensitive public space planning. It is essential to have a platform that enables different sectors of society and communities to contribute to the conception and definition of public spaces. A gender-sensitive approach to participation promotes social justice and creates high quality urban environments. Metropolitan areas need to pay special attention to identifying people that for any given reason are marginalised from the participation process or feel uncomfortable being part of it. It is advisable to incorporate those voices through alternative participation formats. For example, women and girls experience, use and understand public space in different ways. Therefore, it is helpful to include participatory tools that are designed to unlock the understanding of those experiences.

Exploratory walks with women are a participatory tool that can be used to gain a gender perspective on public space. This type of walks emerged in Montréal in 1990 as a tool to support policies on preventing violence against women and girls. They have since become a tool used in urban spaces around the world. The city of Marrakech<sup>32</sup>, for example, has used this tool to assess specific neighbourhoods in the city. Exploratory walks are, literally, walks where different users of the space walk a specific route in their neighbourhood to share their experiences and opinions about the space. These are usually organised in groups to encourage interaction and debate. During the walk, participants are encouraged to participate through activities and ask questions that relate to specific points on the route. Contrary to other forms of participation, exploratory walks create easy-going participation environments, better allow for small debate groups to spontaneously emerge and mitigate any map-reading difficulties.

<sup>30</sup> Tactical Urbanism is an approach based on building flexible and short-term projects to catalyse long-term changes. Tactical urbanism is characterised by low-cost, short-term, or temporary interventions that allow urban planners to experiment with existing spaces.

<sup>31</sup> Addis Ababa Resilience Strategy

<sup>32</sup> Safe Cities and Safe Public Spaces. Global Results Report (2017)

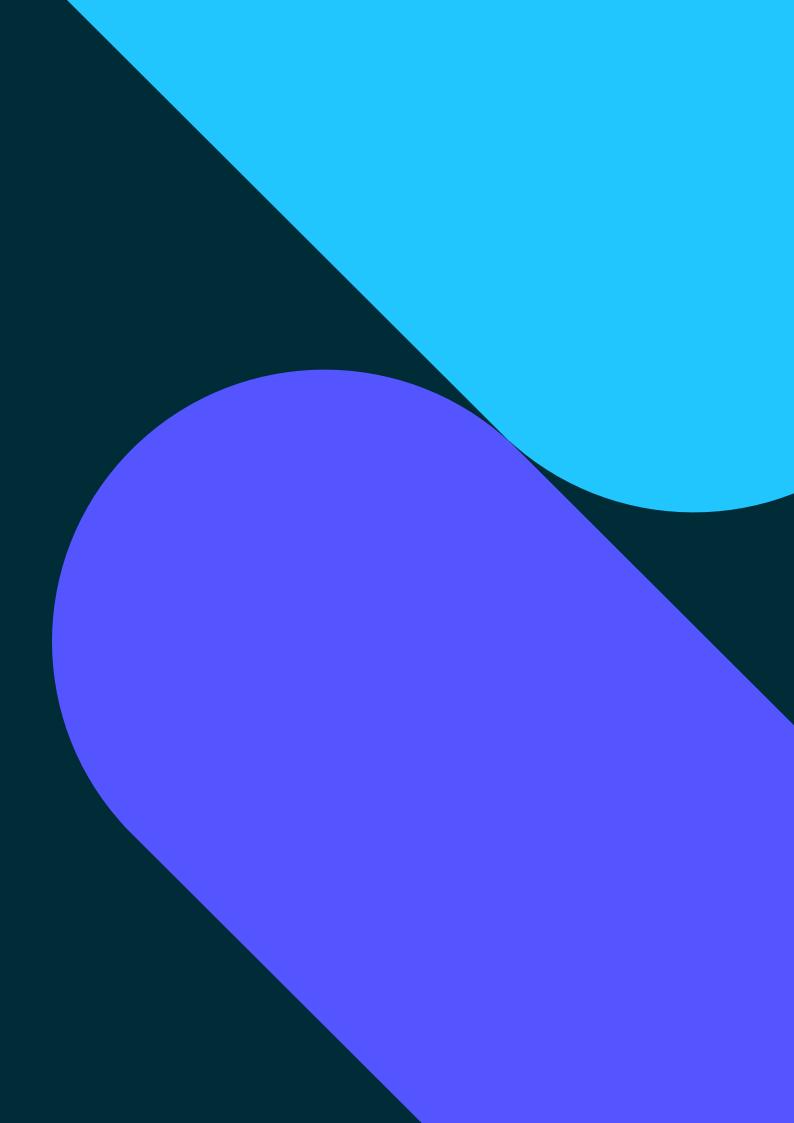


In summer 2020, the Brussels-Capital Region and the Flemish Community Commission launched the first edition of Staycation BXL, a temporary urbanism programme with activities and events for residents who stay in the city to enjoy the summer holidays. Thanks to its success, the project was repeated in summer 2021. Staycation BXL subsidised 179 projects in 2020 and 120 projects in 2021 through open calls that invite residents and associations to submit proposals for their neighbourhoods. The activities supported through this programme range from bicycle schools and repair points to art installations, areas to relax, sports activities and participatory events to collectively reflect on the use of public space.

By organising recreational social and cultural activities during summertime, the public authorities try to respond to the needs of inhabitants who do not have the opportunity to go elsewhere on holiday. Through these temporary interventions, Brussels has increased its range

of recreational and cultural activities across the entire metropolitan area in a very resource-effective way. Due to their temporary nature, the projects use materials that are cheap, easy to transport and easy to set up, such as removable paint and chalk, artificial grass, pallets, planters and deckchairs. This type of low tech and low budget materials managed to fit the purpose of the project thanks to their lightness, affordability and easy-to-implement nature, making them suitable for temporary interventions where aspects such as durability and maintenance are not that important.

In addition to increasing the range of cultural and recreational activities on offer, the project tested the principles of the new Brussels-Capital Region's Mobility Plan, called "Good Move". Timing temporary interventions for the summer holiday season provided the opportunity to test the impact on extra traffic caused by temporary pedestrianisation projects.



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