Maintaining Urban Service Projects during the Operating Period
(A Case Study of Urban Spaces)

Dr. Amr A. Zeina
> Department of Architectural Engineering, Faculty of Engineering, Horus University, New Damietta, Egypt

Abstract:
The research reviews the problems of government service projects during the period of operation established by the state to meet the needs of citizens and to consume large amounts of the state budget. Some urban spaces after operation, especially public parks, which are a facility for recreational services for citizens and reduce environmental pollution, and a review of some public projects that have integrated the investment aspect in those projects to provide financial resources to ensure continuity and efficiency of operation. And how to develop a general strategy that requires all government service projects during the preparation and study period through the integration of the investment aspect to provide financial resources after operation to keep these projects from deteriorating and ensure their continuity while developing their efficiency to meet them. Citizens' needs and then come up with recommendations that maintain service projects with high efficiency and do not waste public money.

Introduction:
Urban development in the twentieth century was affected by modern trends in planning and architecture, and modern environments were formed that may not be characterized by sustainability, due to the incompatibility between urban goals and the existing natural reality. Random lack of planning criteria to meet human needs and achieve the concept of sustainability (Programme 2009).

And since the state's role in providing all services to citizens, whether urban, humanitarian or otherwise, depends on non-profitability and may reach support, whether partially or completely, to meet the needs of citizens, which led to the state's budget deficit to follow up on all service projects after they start working from during business. Follow-up, periodic maintenance and development to ensure the continuity of these projects to perform their tasks with the highest efficiency(Kaw, Lee et al. 2020).

One of the most important criteria for the sustainable development of urban spaces is that they are functionally, environmentally and socially compatible, and how to achieve sustainable development of urban spaces to meet the needs of users, whether current or future generations. Therefore, the stage of maintenance and follow-up of the operation of service facilities is no less important than the stage of designing and implementing those facilities, so that studies are done to develop a plan for the operation and management of the facility to ensure its continuity(Kaw, Lee et al. 2020) .

Research Problem:
The state establishes service projects, whether in the educational, health, transportation, recreational and other fields, to meet the needs and aspirations of citizens, but these projects deteriorate over time and their efficiency decreases due to the limited state budget. Maintenance of these projects through maintenance work. And raise operational efficiency, and therefore there must be a strategy that guarantees the continuity of service projects after operation with the efficiency of maintenance work to maintain it to provide services for current and future generations and achieve the concept of sustainability.

Research Objective:
Achieving a strategy that ensures the achievement of sustainability standards for urban spaces to meet the needs and aspirations of users and ensures continuity of performance with the highest efficiency through follow-up, periodic maintenance and development to meet the needs of current and future generations and achieve the concept of sustainability.

Research Methodology:
To achieve this goal, the study followed the inductive approach to study the concept of public service facilities and the role of the state in providing them and to identify the concept of urban spaces, then follow the deductive approach to study the aspects of utility. From integrating the investment aspect in implementing service facilities, by analyzing some examples of projects to establish public parks at the global level. To arrive at a strategy that ensures the continuity of the performance of urban spaces with the highest efficiency and achieves the concept of sustainability.

Theoretical Framework:
1- Public Utilities:
1-1 The concept of public utilities:
Public utilities are defined as the structure and service facilities established by the state to meet the needs of citizens, and managed by the state in the form of bodies and institutions that provide their services to all citizens without discrimination based on race or gender for their different groups. It is distinguished by its continuity in providing its services(Tafahomi, Hasanuddin Lamit et al. 2007).

They can be classified according to the type of activity into administrative establishments such as the judicial authorities and the police, and professional establishments such as unions run by members practicing a specific profession such as the Engineers Syndicate and the Bar Association.

Public facilities can also be classified according to the type of service they provide to citizens, including educational services such as public schools and universities, cultural services such as public libraries and museums, health services such as government hospitals and family care centers, as well as recreational services such as public parks and zoos(Fyfe 2006) .

1-2 Public utility problems:
The most important problems facing public service facilities in Egypt lie in the neglect of periodic maintenance, which has led to the deterioration of these facilities. This is due to the government support for these facilities, which negatively affected the state budget until these facilities became suffering from the accumulation of debts, which led to the inability to carry out periodic maintenance of the facility, which may lead to the collapse and collapse of the facility. The state will have to stop the service or create a new facility that wastes billions of pounds(Fyfe 2006).

Citizens' failure to maintain public facilities by carrying out acts of sabotage or misuse of the facility, and previous experiences have proven that the citizen underestimates any services provided for free or at reduced prices, as well as the employees responsible for managing those facilities(Fyfe 2006).

City governments often do not invest in building and managing quality public spaces due to poor city planning, budget constraints, and other urgent priorities arising from rapid urbanization. vehicles, leading to rapid deterioration that drains public resources and exacerbates various city problems(Habitat 2015).

1-3 Stages of implementation of public utilities(Kaw, Lee et al. 2020) :
- Planning phase: the pre-design stage, during which the project idea is established in terms of its importance and return, through the work of the economic feasibility study for the project.
- Design phase: it includes initial plans, design development, final designs, and operational plans.
- Project launch phase: tendering and bid evaluation.
- Implementation phase: The project is implemented in accordance with the operational plans and the general and specific specifications of the project.
- Post-implementation phase: It is the phase of operating the project and is done through contracting with several parties to manage the operation and train the cadres, as well as the periodic preventive maintenance works to preserve the project assets and prolong its life.

2- Urban spaces:
Intimate urban spaces and open spaces are places to contain the activities of collective residents in cities and residential neighborhoods.

2-1 Concept of Urban Spaces:
Urban space is defined as any space between buildings in the city, and includes everything that surrounds buildings such as corridors, public spaces, squares, bodies of water, playgrounds, private and public parks, parking lots, and roads. Urban spaces are also known as space defined by architectural walls(Fyfe 2006) .

Krier knew that all spaces between buildings are urban spaces linked geometrically and aesthetically with different types of facades surrounding the space, which helps human consciousness to perceive outer space as an urban void. Another definition of space is that it is one of the elements that influence and are affected by the social and economic content of urban communities, which qualifies them to represent a social value and economic resource as an active dynamic element in cities and embody the types of mutual interactions of influence between the environment and humans (Brenner 2019).

2-2 The importance of urban spaces:
Urban spaces are the direct interface to architecture and urbanization and one of the most important components of the city and a major hub for development. The importance of urban spaces can be summarized in the following points(Brenner 2019):
- Its direct impact is clear in many planning capabilities for land uses and the form of urbanization, which is the visual expression of planning and the direct impact of the aesthetics of urbanization, the environment, visual formation and its impressions in people's minds.

- Spaces are important in carrying out activities related to human needs. These activities have been divided into activities that require movement and activities that require stillness which are life outside homes in streets, squares, large parks and market squares, and this life is often in the open space of the city where people live and meet**.**

2-3 Classification of urban spaces:

Urban spaces are divided into two main parts**:**

a) Natural Spaces:

They are spaces formed by natural factors and elements without human intervention, such as mountains, rivers and valleys, as they help in forming the natural identity of the city itself. For example, we notice the difference between a city and another through its topography, which gives it its shape. While there are other cities that are central to clustered around an epicenter resulting from the natural terrain they formed, there are also other cities that can be divided by a river or sea that serves to define their features(Beebeejaun 2017)**.**

Big's Winter Bath in Copenhag en Harbor Source: https://www.archdaily.com/11216/copenhagen-harbour-bath-plot

Chaudfontaine park in Belgium.
Source: https://streetartutopia.com/2012/04/22/in-the-chaudfontaine-park-in-belgium/

Figure (1) Natural spaces

b) Urban Spaces:

They are man- made spaces such as parks, squares and artificial lakes, in order to meet his social and psychological needs, and to add joy and beauty to the city**.**

The urban spaces created by man are divided into the following sections(Beebeejaun 2017)**:**

Outdoor spaces:

They are places that serve people in public places, including (Kusno 2014):

- Paths: They are spaces through which a person can know the shops and buildings around him.

It's sidewalks, streets, and parking lots**.**

- Public parks and green spaces: green and extended spaces, which are areas for rest and recreation, and in some of them are designated for children**.**
- Playgrounds: The places designated for practicing sports in all its forms and types**.**
- Open spaces: are the spaces surrounding the cities and extensive and wide to spend short summer trips such as bushes or waterfalls and forests**.**

Trafalgar Square- London. Source: https://london.city-tour.com/en/what-to-see-london/tourism/trafalgar-square

Parque Lineal de Manzanares in Madrid. Source https://www.researchgate.net/figure/FIGURA-15-Parque-Lineal-de-Manzanares-Madrid-Espana-Fuente-Arqcabrera-2009_fig2_277403847

Figure (2) Natural spaces

- **Indoor public places**:

These are physical, human-built public spaces such as museums, libraries, transportation services, and train stations(Kusno 2014).

- **Indoor and outdoor semi-public spaces(Auf 2002)**:

Public places where people engage in various

activities such as restaurants and malls.

It can also be classified according to the degree of its closure and its location in the general site. It is discussed by Ricky as it is categorized into Inner Courts, Forward Court, and Backstopping. Urban spaces can also be classified according to the functions associated with them within the city, as they can be divided into:

- The urban spaces associated with religious buildings (such as Al-Azhar Square and Sayeda Zeinab).
- The urban spaces accompanying the final stations (Al-Tahrir - Ramses - Giza).
- Urban spaces accompanying educational buildings (the square in front of Cairo University).
- The urban area associated with the tourist elements.
- Urban spaces accompanying public buildings (service and administrative).
- Commercial urban spaces (city center and commercial streets).

2-4 Sustainable urban spaces:

It is defined as the observance of the principles, foundations and standards of achieving urban, environmental, social and economic sustainability, in order to achieve urban spaces that meet the needs of users, and that represent places for the exercise of human, social, recreational and cultural activities. In order to interact and conform to the requirements and variables of the age, its material capabilities, components and living values for society and human meanings, so that urban spaces become sustainable and environmentally friendly(Habitat 2012) .
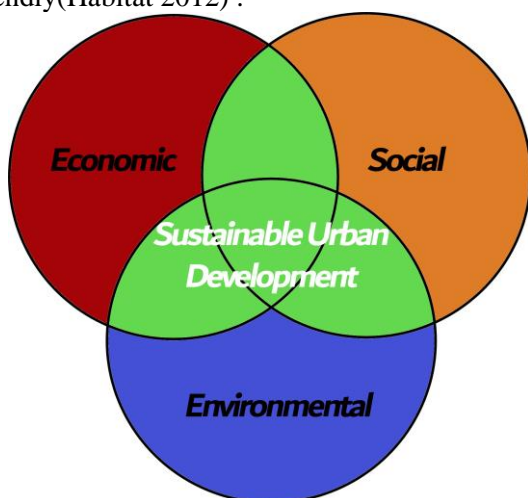

Figure 3 shows the dimensions of sustainable urban development. Source: (UN-Habitat 2012)

The dimensions of achieving sustainable space are an integral part of the main dimensions of sustainability (environmental, economic and social), which have been proposed at the global level and which aim to balance each other in order to achieve sustainability. By applying to the urban space system, the sustainable space meets the needs of its users at present through the good use of the available resources to provide the space that meets the physical and aesthetic needs and is in line with the environment in which it is located, and also ensures the sustainability of the resources to meet the needs of future generations in obtaining Environmentally, economically and socially appropriate urban spaces(Habitat 2012).

Thus, the basic principles of sustainable urban spaces, whether at the level of planning or design, are represented in a set of environmental principles in the effective exploitation of natural resources in the spatial scale without causing a negative impact on the environment, and a set of economic principles that are primarily concerned with reducing planning and design costs to a minimum. Maintaining these spaces and ensuring their continuity of efficiency and the social principles of interest in meeting the basic needs of users(Habitat 2015).

3- Investment:

3-1 Concept of Investment:

Investment can be defined economically as dealing with money to obtain profits by giving it up at a certain moment and for a certain period of time with the intention of obtaining future financial and liquidity flows that compensate the original value of the invested money and compensate for the entire corresponding risk for the future(Barton, Aibinu et al. 2019).

3-2 Investment Objectives (Gaillard 2009):

- a- Achieving a return or profit in addition to developing assets.
- b- Providing liquidity to meet future needs and risks.
- c- Maintaining the value of the assets.

3-3 State investment mechanisms in establishing public utilities:

The first mechanism: for the state to resort to restructuring subsidies through the economic reform program to reach those who deserve it only, and to prevent the rich and those who are able to benefit from subsidizing the poor by selling services. At their real prices for those who are able and excluding certain groups such as the most needy and low-income groups(Habitat 2015) .

But this mechanism has a flaw in how to determine the eligible groups so that the state does not abandon its primary role in supporting the poor.

The second mechanism: the state's involvement of the private sector in participating in the implementation and management of public utilities under the supervision of the state, through the investment of facilities while maintaining the state's responsibility to support the poor and their

enjoyment of these facilities. This is what will be addressed in the research by analyzing some projects in which the sector has participated by itself since the beginning of implementation or during the period of operation in order to provide the necessary resources to manage the facility and implement periodic maintenance, develop it and raise its efficiency and continue to meet the needs of users(Kaw, Lee et al. 2020) .

In a report prepared by the World Bank to help countries how to conserve urban spaces, Kaw, J. K. Senior Urban Specialist at the World Bank, highlights urban space planning and design, "Cities that successfully create and manage large public spaces and spaces, reap the tremendous value They are created, including environmental and social benefits that go beyond economic gains".

"Public spaces are particularly good arenas for creativity and collaboration between governments, the private sector and citizens to create vibrant and inclusive neighborhoods," John added(Kaw, Lee et al. 2020) .

This research deals with adopting an innovative and effective strategy to create, finance and manage public spaces, prioritizing the value of people, communities and places. This strategy should focus on 3 main areas(Lee, Zhan et al. 2020) :

1- Stakeholders and Partnerships: Create public spaces with and for local communities, recognizing the need for strong partnerships between government agencies, private sector actors and citizens.

2- Policies, Planning and Design: Adopting effective planning policies, placement

approaches and innovative design solutions that ensure equitable distribution, inclusion, access and network quality for public spaces throughout the city.

3- Management, Governance and Finance: Implementing sustainable financial, management and governance models across the entire lifecycle of public spaces, from inception, implementation and maintenance to renovation.

4- Case Studies:

4-1 Integration with Green and Gray Infrastructure:

For instance, the Beddagana Wetland Park (BWP) in Colombo, Sri Lanka, not only increased resilience by acting as a "sponge" to lessen the effects of floods in the city, but also took use of the area's rich biodiversity to provide residents with areas for enjoyment.

The Park plays a significant role in educating the public about the environment, particularly the value of protecting biodiversity(Lee, Zhan et al. 2020).

When resilient infrastructure is created in a way that allows people to enjoy the area, placemaking advantages result.

Green infrastructure, which manages stormwater using natural methods, frequently offers great possibility for incorporating components of public space.

On the other hand, public-space components can be added to grey infrastructure, like traditional stormwater drains, in reclaimed sites.
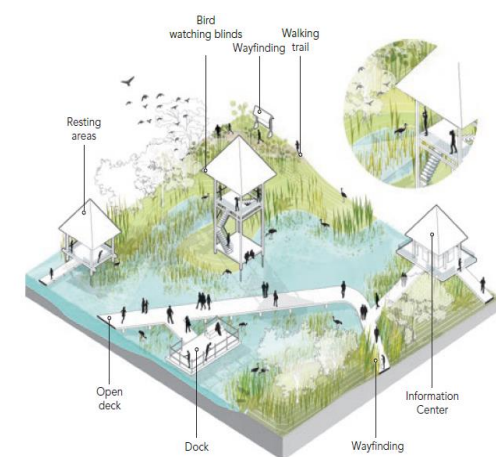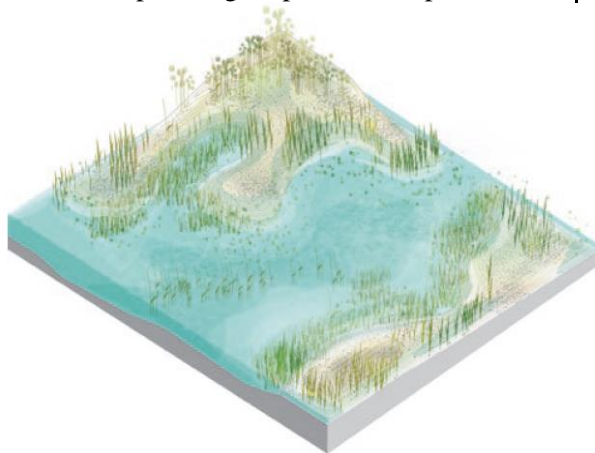

Figure 3 shows Landscapes Before and After Completion of BWP Project, Colombo, Sri Lanka- Source: ©World Bank.Further permission required for reuse. Note: BWP = Beddagana Wetland Park.

4-2 Synergy with Cultural Heritage, City Assets and Urban Systems(Kaw, Lee et al. 2020):

Synergy with City Assets, Cultural Heritage, and Urban Systems Historic structures and sites that are part of the cultural heritage are frequently connected to public areas.

Public space investments are a way to restore historic sites that have fallen into disrepair, reclaim

urban areas for cultural events, and reinforce neighborhood cultural and historical identities.

Locally, as shown in the Eduljee Dinshaw Road project in Karachi, improving the streets next to historic structures enhances accessibility to such buildings and draws more tourists and visitors.

On a larger scale, as in the Yangmeizhu Lane and Dashilar Pocket Places projects in Beijing, a

collection of public spaces within historic neighborhoods can be rehabilitated under city-level heritage preservation schemes.

In other areas, neighbourhood rebranding and the improvement of cultural venues are accomplished through public-space interventions.

For instance, Seoul's Gwanghwamun Square, formerly a 16-lane, car-oriented road, has been restored as a cultural landmark that links visitors to other attractions (such as significant cultural institutions like Sejong Center) and nearby cultural heritage (including Gyeongbokgung, the main royal palace of Joseon Dynasty, built over 600 years ago).

Streetscapes, pocket parks, and cultural buildings were also redesigned to integrate the district's numerous cultural assets, create a special sense of place, and energise the region through public art and performances in order to further enhance the character of the Brooklyn Cultural District.
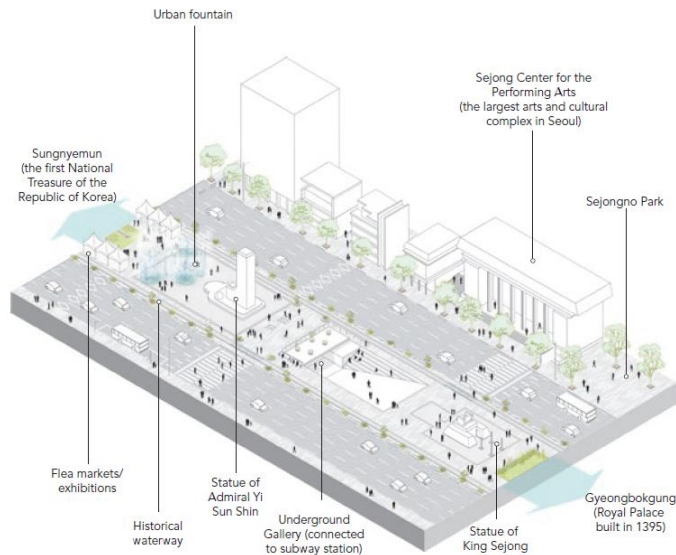

Figure 3 shows Rehabilitation of Gwanghwamun Square, Seoul, to Connect Cultural Attractions, 2018
Source: ©World Bank. Further permission required for reuse.

The Egypt People of Walk project (https://mhuc.gov.eg):

The People of Egypt Walk project is a civilized project that will change the face of civilized Egypt on the Nile River.

The People of Egypt Walk project is represented in three phases, the first phase from the 15th of May Bridge to the Imbaba Bridge, with a distance of 1.9 km, at a cost of 585 million pounds, and the second from the Imbaba Bridge to the Rawd al-Faraj Bridge, and from the 15th of May Bridge to the Qasr al-Nil Bridge, with a length of 3.2 km, at a cost of 800 million pounds. As for the third stage, it is from the Rawd Al-Farag Bridge to the Long Live Egypt Bridge, and from the Qasr Al-Nil Bridge to the University Bridge.

The importance of the People of Egypt Walkway project comes because it is part of Egypt's national vision for sustainable development 2030, and it also aims to raise the level of urban quality in Egypt, increase per capita green spaces and open spaces in cities and promote social integration, as well as provide tourist attractions for Egyptian cities.

The New Urban Communities Authority had announced its contract with the Consult Masters Company to manage and operate the commercial part of the People of Egypt Walk project, which is considered a new park that crowns the beauty of the eastern banks of the Nile, and enriches its immortal history, with an integrated development project for a period of 9 years, which begins with the completion of the first phase. With a length of 1.9 km, it overlooks the hotels area, which is located between the Imbaba Bridge and the 15th of May Bridge.

The contract between the New Urban Communities Authority and the Council Masters Company includes the management of the People of Egypt Tourist Walkway, which includes commercial, touristic, recreational and service activities such as restaurants, cafeterias, shops, recreational places, garages, and seating areas for receiving visitors to the walkway, in addition to many other activities such as entertainment theatre, Parking spaces, a river marina, and an open service area, in addition to a group of advertising spaces along the walkway on both levels, and screens to display the most important national and sporting events, so that the project includes entertainment, national and international events throughout the year.

Figure 6 shows Egypt People Walk Project. Source: https://www.elmadar.com/egypt-news/

Urban spaces below bridges:(https://mped.gov.eg)
The Egyptian government tended to exploit the urban voids below the bridges that are widely spread in the city of Cairo to solve problems and traffic jams, as these voids in the past represented places for garbage collection, which affects the civilized appearance as well as affects the construction elements of the bridges, as neglecting these voids and not exploiting them represents a waste of resources The state, therefore, the state was interested in exploiting these spaces in a civilized manner that serves the Egyptian citizen and supports the state's economic resources by establishing restaurants, cafeterias, and parking lots.

Figure 7 shows Urban spaces below bridges- Cairo- Egypt. Source: https://www.kuna.net.kw/

5- Results and Discussion:

The case studies make it abundantly evident that a wide range of players will always be involved in defining activities and investments in the public sphere, as well as coordination between these actors at various phases of the project execution cycle.

The level of local community and private sector participation during the planning, financing, and management of public spaces is a crucial factor that will affect the effectiveness and long-term viability of these initiatives.

If done correctly, this method may enable public-space interventions better meet community needs and increase civic pride and ownership, which inspires people to actively assume control of public places as "owners."

Involving a wide range of stakeholders improves social networks as well.

The case studies that were chosen to be included in this collection demonstrate that municipalities frequently possess a substantial share of public spaces and will continue to be important players in the design, implementation, and administration of these urban areas.

More than half of the public-space initiatives in these situations were planned, carried out, and partly overseen by local governments.

In several instances, local governments started and funded urban development pilot projects that ultimately drew support from and investments from the private sector.

Local governments were more actively involved later to sustain these efforts in the long run when communities took the lead in developing public-space initiatives (with minimal public backing).

To make sure that cities had well-designed, well-managed urban environments that support a good quality of life, in many circumstances, strong political leadership, agency coordination, and capability for urban planning were needed.

The management of public areas with a mix of ownership types, such as a streetscape with private buildings along a public roadway or private street vendors on public grounds, frequently determines

the viability of these locations.

The research indicates that through this strategy, urban spaces, whether on the streets or within the places of infrastructure and public utilities, or in open and green areas, can achieve returns on investment that far exceed the monetary cost and financing periodic maintenance and operation to the maintenance and development of these facilities without forming No burdens. Finance on the general budget of the state or users**.**

Achieving sustainable urban spaces within cities helps enhance social cohesion and a sense of place, enhance the health and well-being of cities, build cities' resilience, support the local economy and livelihoods, stimulate urban modernization and entrepreneurship, and attract more investment in urban neighborhoods**.**

By raising the value of the nearby land and properties, public spaces can boost a city's economy. Cities require financial tools to be able to realize such returns, whether a property tax system based on current cadaster and property valuation databases or an asset management plan to produce revenue from the sale or leasing of government-owned land and real estate. The improved service delivery and public spaces can be funded by reinvesting the increased municipal income.

6- Conclusion:

- Stakeholders and actors: Successful public spaces are frequently the result of interdisciplinary cooperation rather than being the responsibility of municipalities, which frequently have limited financial resources.
- Strategy & Approach: There are many various ways to design and implement public spaces, each concentrating on a distinct combination of stakeholders, sizes, and necessary resources.
- Process information and planning: Effective public space initiatives must be founded on evidence to guarantee that they are fairly distributed, of high quality, well maintained, and satisfy the requirements of local communities. Cities are increasingly figuring out novel methods and cutting-edge technology to gather and use data in order to improve planning, design, and management.
- Financing and provisioning: Given the obvious trend of public spaces becoming collaborative facilities between the government, the private sector, and the community, governments are less likely to be the only funders and implementers in many cities. Governments can also construct public spaces through the private sector with the use of efficient finance and planning instruments.

- Management and Governance: Cities perform best when they take into account sustainable management of the entire life cycle of public spaces. A sound regulatory framework, an economical ownership structure, and sustainable management and control arrangements are examples of good governance components that are ingrained in the life cycle.

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