

Tactical Urbanism as an Approach for Reactivating Lost Urban Spaces in Developing Cities

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ABSTRACT

Lost urban spaces are sites of informal activities or areas which often become neglected, posing challenges to city management. However, they also hold significant potentials as assets for sustainable urban development by generating income and encouraging community participation, particularly in developing countries. Through tactical urbanism, lost spaces can be transformed into productive and community-serving environments. Tactical urbanism offers an effective approach for this transformation, relying on low-cost, flexible and service-oriented interventions. This paper explores the concept of lost urban spaces, their types and latent potentials, alongside with an overview of tactical urbanism, its definition, importance and mechanisms. An analytical study for different examples demonstrates how tactical urbanism can successfully reactivate lost spaces. Finally, the study proposes context-sensitive framework for integrating tactical urbanism into sustainable urban regeneration strategies that can be applied in developing cities and proposes recommendations at multiple levels.

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1. Introduction

Most cities contain lost urban spaces that directly benefits communities and can become sites of informal and undesirable activities, creating serious problems for urban management. Currently, the weakness of planning has led to the spread of urban voids and meaningless spaces on different scales over the city. Since these spaces are mostly noticed by the residents, they have become a safe place for crime and eventually the occurrence of social abnormalities. In addition, the lack of citizen's participation in the planning and designing process of spaces, causes stakeholders to not feel a sense of belonging to their surroundings and consequently, no sensitivity towards lost urban spaces and their

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revitalization. As a result, it is essential to inform citizens about lost urban areas and encourage them to reactivate them.

Despite these issues, such spaces represent untapped potential for fostering social interaction, economic activity and sustainable urban development, particularly in developing countries where strategic approaches to their activation remain limited or poorly integrated into planning frameworks.

Reactivating lost urban spaces is important because it helps to solve many problems. This can be achieved through various methods, one of which is clarifying the problem and spatial rearrangement commonly used in tactical urbanism. Tactical urbanism anticipates low costs with small interventions, produces site-specific and needs-oriented quick solutions, creates public awareness among users and it is considered as a participatory and a potential approach and a form of application particularly in contemporary urban environments in developing cities.

The study aims to bring attention to the potential and capabilities of lost urban spaces and encourage community residents, popular institutions and city authorities to reactivate them. Also, the study investigates tactical urbanism as an effective strategy for their reactivation. Additionally, examines the physical, social and functional characteristics of lost spaces while considering tactical urbanism principles, mechanisms and outcomes. The study proposes context-sensitive framework for integrating such interventions into sustainable urban regeneration.

Guided by four key research questions, what are the characteristics and types of lost urban spaces, what latent potentials do these spaces hold, how can tactical urbanism interventions effectively reactivate them, and what strategies can inform sustainable urban regeneration.

The study hypothesizes that lost urban spaces, if strategically activated, can generate social, economic and environmental benefits; that tactical urbanism, through low-cost, flexible and community-oriented interventions, can serve as a practical mechanism for such activation; and that context-sensitive application of these interventions can enhance urban sustainability and community engagement in developing cities.

To address these questions, the study employs a multi-method approach. It includes a comprehensive literature review that deals with the concept and typology analysis of lost urban spaces. It highlights the values and benefits of lost urban spaces on the community and its residents. Also, it presents the importance of tactical urbanism to reactivate the lost urban areas. Then, detailing the methodology, the study presents and analyses different international examples of tactical urbanism interventions and discussing the implication for sustainable urban regeneration. This is followed by various case studies from the Alexandrian context proposing framework for applying tactical urbanism in developing urban contexts. Finally, the study recommends and proposes actionable recommendations and practical guidelines for urban planners and policy makers (Figure 1).

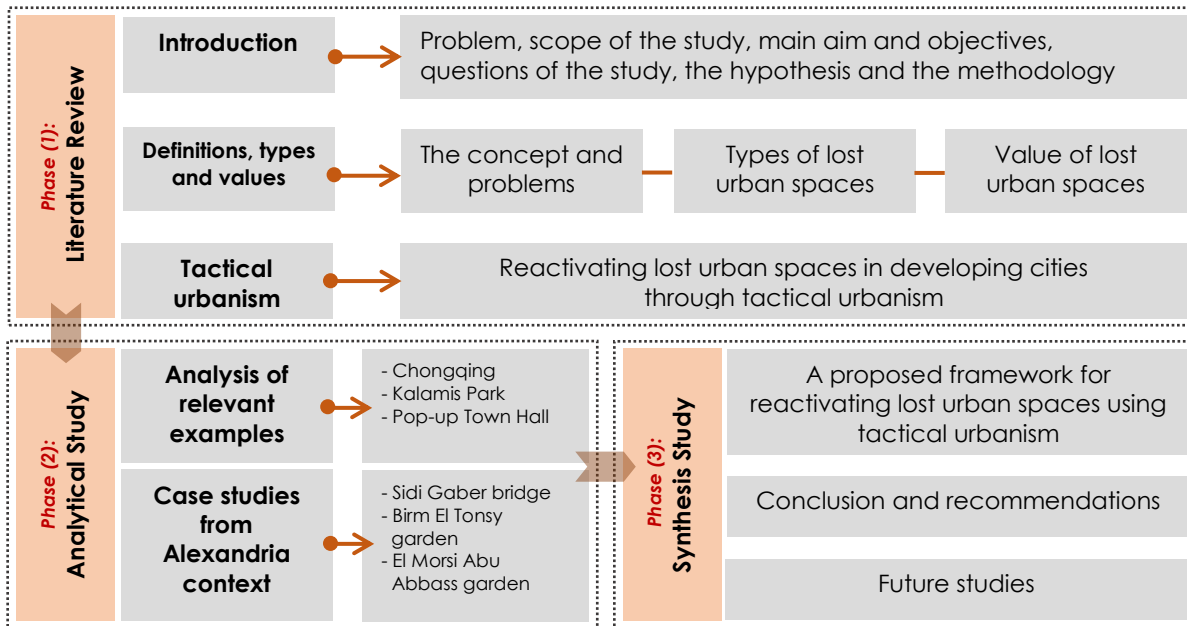


Figure 1. Structure of the study (Developed by the authors)

2. Lost Urban Spaces

2.1. Concepts and problems

Lost urban spaces refer to spaces that are neglected and have no clear function. "Lost urban spaces", the fundamental problem of the study, are defined by Trancik as "the undesirable urban areas that are in-need of redesign anti-spaces making no positive contribution to the surroundings or users". They are physically significant with low-flow rate of users (Trancik, 1986). Also, Yu Hui Sung states that "the absence of main users of spaces, the social purpose influence and the amorphous urban growth of the city may be the cause for the increase in the merging lost urban spaces" (Sung, 2009).

The term "lost spaces" is used to refer to settings and areas within the region of the city that are forgotten, unused and abandoned. These spaces are typically located between residential and commercial areas. Sometimes these spaces are created unintentionally due to the construction of multiple projects. It is important to manage lost urban spaces and revive them by using them to improve the quality of life, especially in developing countries (Hashem, Wahba and Nasr, 2022). Additionally, the composition of lost spaces changes from city to city based on urban expansion which can be negatively affected through environmental, social and economic challenges.

Furthermore, lost urban spaces can negatively affect the urban fabric directly or indirectly. Community degradation can result from widespread criminal activity that threatens the residents and visitors making the places undesirable (Demashkieh, 2022).

The majority of lost urban spaces are either occupied by planned structures or by spontaneous development. They always respond to shapes and dimensions according to their boundaries (walls, roads, natural barriers, etc.). The lack of maintenance in the lost spaces is more likely to affect specific interests such as sellers, temporary accommodation, parking and other factors which contribute to gradual deterioration of these locations (El Messeidy, 2019).

These spaces come with many problems that affect the lifestyle and health of the city where residents and visitors unconnected socially with their surroundings. Lost urban spaces can become areas to issues such as homeless, crime and environmental deterioration (Figure 2). The common problems associated with these spaces are:

- a) Homeless
- b) They offer shelter for homeless individuals due to their isolated nature. Lack of proper sanitation and security can exacerbate the challenges faced by this vulnerable population.
- c) Safety concerns
- d) These areas may draw criminal activities such as drug dealing, vandalism and graffiti. The lack of visibility and oversight makes it challenging for authorities to monitor and solve these concerns effectively.
- e) Urban and Environmental degradation
- f) Lost spaces can affect the overall aesthetic and appeal of the surrounding urban environment, leading to perceptions of urban blight and degradation. This can impact local property values and prevent local investment. In these areas, pollution, trash accumulation and lack of maintenance contribute to environmental deterioration. Dumping of wastes and dangerous materials can further harm the ecosystem and the surrounding water bodies.
- g) Social isolation
- h) The presence of lost spaces can create physical and social barriers within communities, isolating residents from essential services, recreational areas and economic opportunities.
- i) Health risks
- j) Inadequate sanitation and poor hygiene in these spaces may increase the risk of diseases and health issues for both residents and visitors.

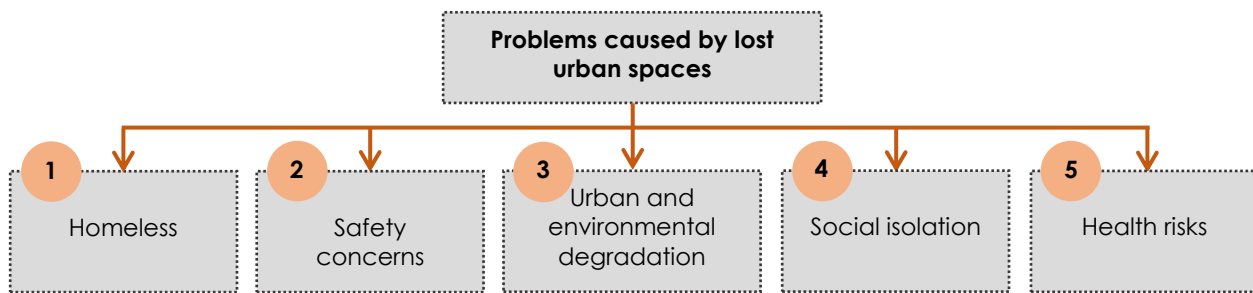


Figure 2. Problems caused by lost urban spaces in developing cities
(Developed by the authors)

In order to solve these problems, a comprehensive strategy involving collaboration government agencies, community organizations and residents is needed. Strategies may include regular maintenance and clean-up efforts, improved lighting and security measures, provision of supportive social services for individuals and initiatives to activate these spaces for recreational cultural activities (Figure 3). Additionally, tactical urban planning and design approaches can help transform neglected areas into vibrant and inclusive community spaces (Trancik, 1986 and Lak, Ramezani and Aghamolaei, 2019).

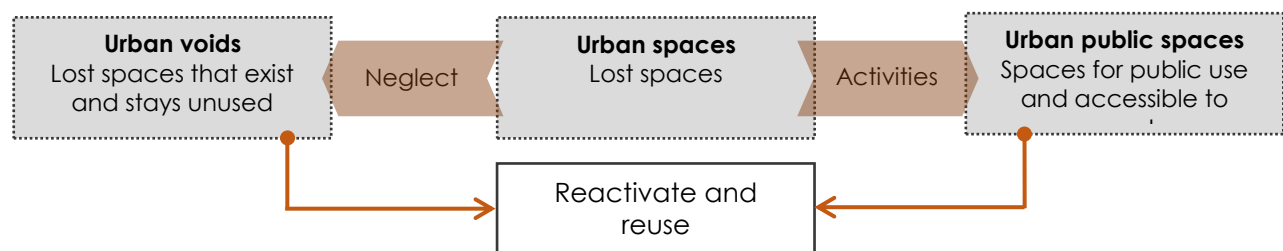


Figure 3. The transformation of urban spaces from urban voids to activated public spaces
(Developed by the authors)

2.2. Types and classification of lost urban spaces

There are various kinds of lost spaces such as isolated, disorganized, empty and purposeless areas. Abandoned lots such as parking lots, pedestrian walkways, spaces under bridges, parks, ... etc. are referred to as lost urban spaces. Additionally, Jacob (1961) defines lost spaces as buildings, infrastructure and vacant spaces that create physical and social boundaries in cities. Morales gives examples of dangerous residential communities and abandoned industrial areas in his book *Terra Incognita* (Bowman and Pagano, 2004). He also notes that these areas are potential areas for urban revitalization projects. Different forms of lost spaces that emerged in the urban fabric are discussed among various planners and architects (Figure 4). Some of these may be summarized as follows:

- a) Unused waterfronts: They are focused on the coastline and the shores of seas and rivers. They could be undeveloped lands or urbanized shores.
- b) Spaces under bridges: They are typically ignored, neglected or abandoned which lead to lost chances for community involvement.
- c) Socially inefficient green spaces: Land lots that are poorly designed mainly made as a green parks, but time and negligence led to their deterioration or areas where many plants grow uncontrollably.
- d) Oversized streets: Large streets that are made for cars with no human connections, no trees and even nowhere to sit, play and socialize.
- e) Parking lots: These are spaces where vehicles are parked temporarily creating unnecessary scattered voids between the buildings and the city or surface parking lots squeezed between two buildings.
- f) Industrial sites: Abandoned factories bordered by fences and disorganized areas where waste from factories is thrown away and are filled with polluted spaces.

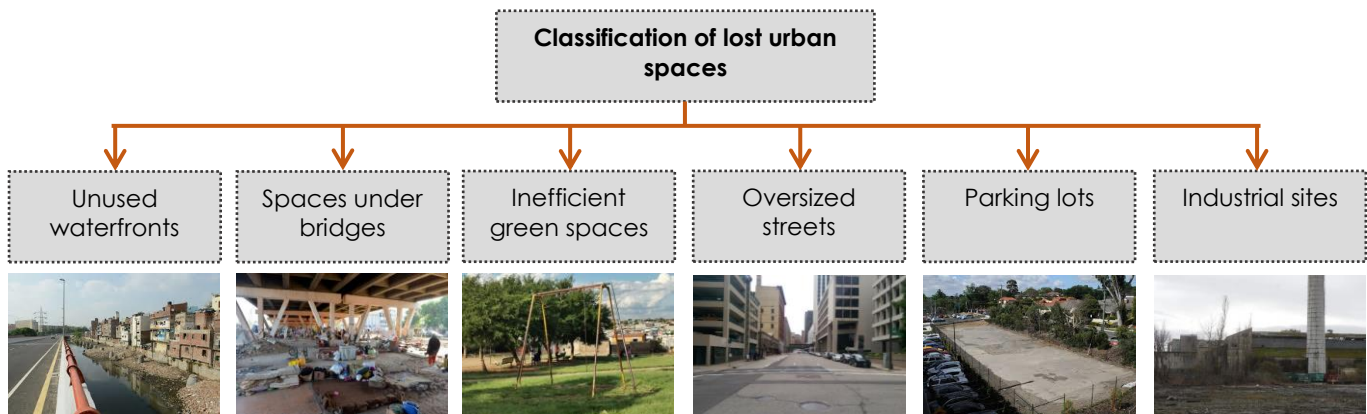


Figure 4. Different types of lost urban spaces (Developed by the authors)

Neglecting lost urban spaces can stay undeveloped due to ownership issues, physical conditions or lack of consideration during the planning process. As a result, they easily become trapped in a vicious cycle of decline that hinder the development of the area and cause it to be more neglected (Hwang and Lee, 2020).

It is possible to recycle, empower, densify, modify and incorporate green technologies in lost urban spaces, especially in residential neighbourhoods (Omar and Saeed, 2019). However, if these areas are neglected, the city may have economic, social and environmental problems. Thus, it is crucial to

address and repurpose these spaces to keep them from becoming a burden on the community (Kasarabada, 2020).

2.3. Values and potentials of lost urban spaces

Over the past few decades, many studies have focused mostly on urban public spaces such as piazzas, squares and public areas without going into detail into lost spaces and how to use them perfectly to benefit the city.

Regardless of the negative impacts of lost urban spaces on the city, they may be an important resource that greatly enhances the community's quality of life. These values are divided in environmental, social, economic, cultural, historic and visual values (Tobias, 2018). The study will review these values and their impact on improving the city's life to be liveable, healthy and sustainable.

2.3.1. Environmental value

Lost urban spaces may have environmental benefits such as improving the quality of life in communities.

By reducing environmental degradation through restoring natural habitats for a wide range of living organisms such as (plants, birds, insects, mammals, ... etc.), promoting biodiversity and mitigating pollution and run-off through green infrastructure. Also, conserving resources by, minimizing energy use and implementing methods that reduce waste production and carbon dioxide emissions. Additionally, using design strategies and adaptive management techniques to increase resistance to climate change impact including heat waves, floods and sea level rise.

These unused spaces can be utilized as a green infrastructure and ecological resources to support the ecosystem health (Kim, 2016). Lost urban spaces can also have a significant impact on the storm water management. Furthermore, adding vegetation and greening in lost urban spaces can enhance air quality and reduce pollution, both of which have positive effects on the public health. These can also establish a green network of large or small open spaces that encourage climate change adaptation and play an important role in air cooling by reducing the urban heat island impact and can sequent reducing the use of air conditions and energy consumption (Girolamo, 2013 and Rahman and Jonas, 2011).

Additionally, lost urban spaces can be used as spaces to produce renewable energy (wind energy, solar energy, ... etc.) due to land can be rented to big power companies who will place their turbine or solar cells on these lands. Lost urban spaces can undoubtedly offer a variety of ecosystem services that promote sustainable urban regeneration.

2.3.2. Social value

Lost spaces represent a great chance to provide the society a variety of social opportunities and values that would enable them to compensate the lack of open spaces faced by many communities, particularly those in densely populated cities.

Open spaces play an essential role in achieving social advantages that enable people to behave and strengthen social relations and engaging communities. It facilitates various uses, purposes and events of social cultures such as public open spaces, pocket gardens, community gardens, parks, small gardens and public piazzas. These activities can increase the social interactions and sense of place.

Lost spaces can also give the ability to form a network of interconnected spaces capable of offering various levels of connections and different types of uses.

In addition, these spaces can be creatively used as social services such as entertainment activities, open-air restaurants, cafeterias, rickshaw, auto-stands, urban agriculture and education facilities

(Kushwah and Rathi, 2017). The regeneration of public spaces does not require high-cost or complex design, just comfortable, safe spaces where people can gather with one another enabling them to enjoy and interact (Kim, 2016). Furthermore, lost urban spaces can serve as venues for temporary uses such as seasonal celebrations, events, farmers' market. They can also offer housing for those in need or address shelter problems resulting from lack of housing.

By providing opportunities for recreation, cultural expression and civic participation, inclusive public spaces that are accessible to people of all ages, abilities and socio-economic backgrounds will promote social cohesion and community engagement.

2.3.3. Economic value

Lost spaces can provide a variety of strategic economic advantages to a community. It has a major effect on the economy to strengthening the city's economic infrastructure, contributing to further spending and creating more job opportunities. Also, they may include low-cost working spaces and areas for temporary usage which makes them urban catalysts for city development (Cirik, 2055).

Furthermore, such voids can create resources for small local economic sectors and support economic growth. These voids also create excellent chances for local communities to raise their income via small-scale businesses such as retail opportunities through kiosks, shops and markets. Moreover, job vacancies and skill improvement are also available (Rathi, 2017).

Simulating local economies by attracting investment, supporting small businesses and creating job opportunities through the development of lost spaces. Increasing property values and attracting tourism and visitors to the area through the provision of vibrant public spaces, cultural attractions and recreational amenities.

Regeneration and utilization of lost urban spaces through projects that aim to emphasize its qualities can give a power for these spaces and increase its value in the market.

2.3.4. Historical value

At the level of historical significance, these areas are crucial components of the city and represent its development overtime. Repurposing lost spaces while the city's history in mind, helps preserve the city's historical memory, identity and character. Sometimes lost spaces have a strong relationship with the city's history. It is important to improve the image of the city through reactivating these spaces which create a strong and connected urban fabric (Hashem, Wahba, and Nasr-Eldin, 2022).

2.3.5. Cultural value

From a cultural perspective, lost urban spaces offer a great opportunity to improve and promote cultural activities in the city. As a result, redesigning lost urban spaces as cultural spaces can foster a creative environment while also adding character and personality to a community. Besides, it can establish a temporary occupancy to permit arts uses and change existing structures to provide new cultural uses (Omar, 2019).

2.3.6. Visual and aesthetic values

Lost urban spaces are gap points in the urban tissue that disturb the urban context and are incomplete. These inefficient areas have a negative impact on the city's visual appearance and the connectivity of its urban structure. Furthermore, it lowers the economic value of the current assets (Wroblewski, 2015).

It is essential to enhance the identity and character of the city to create a cultural city center and to improve the education process and awareness through encouraging individuals and communities to

adopt more environmentally-friendly behaviors and practices in their everyday activities within the lost space (Lak, Ramezani and Aghamolaei, 2019).

The reuse and re-imagine of the urban lost spaces in creative attractive ways can solve the perception of these spaces and create better spaces and also contributes to the improvement of the visual connection with other parts of the city. Lost urban spaces have the ability to strengthen the urban fabric at the city level (Girolamo, 2013) (Figure 5).

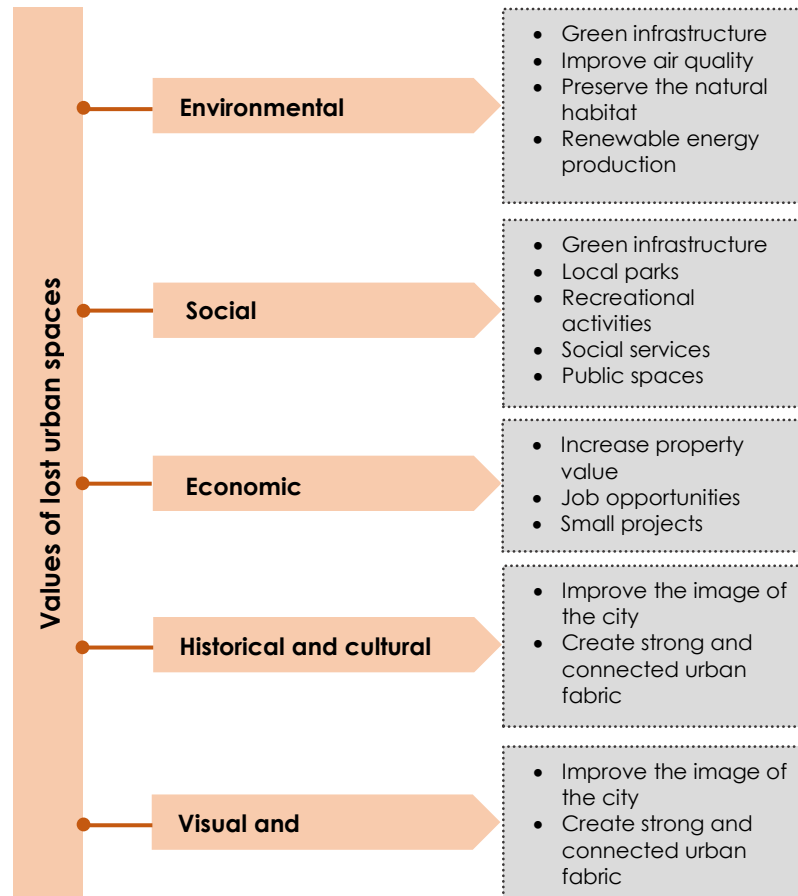


Figure 5. Values of lost urban spaces (Developed by the authors)

3. Tactical Urbanism as an Approach

In the past few decades and the beginning of the 21st century, many cities worldwide suffered from diverse challenges that include: population shifts, unpredictable economic conditions, rapid growth of technology and dissatisfaction of citizens. All these conflicts led to the rise of quick, low-cost, temporary, community-based, scalable and innovative projects to improve public spaces and the condition of cities, all of which developed the idea of tactical urbanism (Lydon and Garcia, 2015).

The tactical urbanism movement is credited to Mike Lydon, who led the Street Plan Collective. This movement gave rise to small-scale initiatives that made urban areas more liveable for local people. Tactical urbanism gradually made it possible for people to make changes to the urban environment without going through the conventional planning procedures. Tactical urbanism is a broad term that encompass a wide variety of inventions in urbanism that occur on different scales and are adaptable to different qualities (Marshall, Duvall and Main, 2016). It is a strategic approach to the field of urban

planning and design, characterized by the implementation of relatively small transient and frequent economical interventions within public spaces.

Tactical urbanism entails the installation of short, low-cost, small-scale projects in public areas. These interventions aim to include people in the design process, enhance the liveability and functioning of urban spaces fast and test prospective improvements prior to making long-term commitments (Nawzad and Ali, 2024).

These development initiatives have a variety of goals. Some seek the increase of economic recovery, while others seek to develop the general quality of life, enhance pedestrian safety, promote social contact and explore potential improvements before making any long-term commitments. They also seek to solve urban issues. Tactical urbanism projects frequently involve cooperation between local governments, organizations and local residents in order to improve environments in a creative way.

Tactical urbanism emphasizes on public participation, experimentation and the development of vibrant and safe spaces.

The design process of tactical urbanism involves a number of bottom-up interventions. In many cases, tactical urbanism design activities are carried out by local communities and social organizations to classify and solve the problems that local governments are unable to address. The design process of tactical urbanism is embodied in a cycle of "build-measure-learn" activities. From initially constructed a temporary, low-cost design concept and rapidly built out the design, launch it on the site for testing, learn and analyze the feedback data, then generating a further new design. These series of cycling processes are very important. Lost spaces can serve various purposes depending on the location and the community's needs. The following are examples to reactivate lost spaces through tactical urbanism (Table 1).

- a) Environmental conservation: Lost urban spaces, next to water bodies, can be used for environmental conservation projects, such as coastline restoration, wetland preservation or wildlife habitat development. These initiatives support to biodiversity protection and ecosystem health (Carmona and Wunderlich, 2012).
- b) A Network of Green spaces: These spaces can be transformed into vibrant green spaces such as small gardens, pocket parks or community gardens through the implementation of green infrastructure. This not only enhances the aesthetics of the surrounding area, but also contributes to environmental sustainability and biodiversity.
- c) Community engagement and participation: In order to make sure that efforts satisfy the needs and preferences of local communities, it is important to involve them in the planning and activation process of lost spaces. Participatory design processes can empower residents to contribute ideas and collaborate with stakeholders to create inclusive and vibrant spaces (Mathew, 2010 and Hashem, Wahba and Nasr-Eldin, 2022).
- d) Recreational areas: Lost areas can be used for recreational activities for activities such as skateboarding, biking or picnicking. These initiatives help realize unutilized urban areas and offer safe recreational spaces.
- e) Retail and commercial spaces: In some cases, lost areas are suitable for small-scale or commercial ventures, such as markets, cafes or craft shops. These businesses can help activate the space, attract visitors and promote economic growth.
- f) Art installation: Some cities have converted these spaces into outdoor art galleries or exhibitions that display local artists' work. This not only benefits the area but also encourages cultural engagement and revitalization.
- g) Infrastructure upgrades: Depending on the condition of the lost spaces and the surrounding infrastructure, there may be opportunities for improvements and renovations to enhance safety, accessibility and aesthetics. This could involve upgrades such as lighting installations, pedestrian walkways or graffiti removal programs (Table 1).

Table 1. The effect of tactical urbanism on the value of lost urban spaces (By the authors)

Tactical urbanism approach	The value of lost urban spaces
Environmental conservation	Enhance environmental value
A network of green spaces	Enhance both environmental and aesthetic values
Community engagement and participation	Promote social value
Recreational areas	Promote social value
Retail and commercial spaces	Promote economic value
Art installation	Promote cultural value
Infrastructure upgrades	Promote aesthetic value

4. Urban Reactivation of Lost Urban Spaces in Developing Cities through Tactical Urbanism

Urban reactivation describes local strategies and policies that deal with urban deterioration, decline or change. It is a comprehensive approach to social, environmental, cultural and economic challenges, including local participation, preservation of damaged sites and urban life (Rossana, 2005). This idea has evolved overtime from specific urban policies to a comprehensive approach that takes into account the cultural background and structure in different communities and cities. As a result, tactical urbanism is beneficial since it breaks down the deadlocks of extensive planning processes. This policy can be considered for progress while maintaining long-term and large-scale goals. Tactical urbanism is based on a low-cost, temporary and urgent approach (Graziano, 2021).

Scientists and community activists have praised the method of tactical urbanism a successful means of promoting development in urban areas (Hou, 2010). This opens up possibilities for flexible, creative, adaptable and collaborative planning. They emphasize their local community's plan to find out what people want, which is compatible with each urban space (McGuire, 2017). Although the axis of this method is community participation, it varies in different countries. However, for developing countries, this approach should be supported by governments or private organizations (Lak and Zarezadeh, 2020).

Tactical urbanism can support a bottom-up relationship between various societal groups and government authorities by encouraging innovative urban experiences, resource allocation, environmental preservation and democratizing urban resource utilization through social involvement in civil society.

There are many challenges concerning the reactivation of lost spaces. For example, what guidelines should be followed to promote the benefits of activating lost urban spaces? Who will be in charge of making use and assessing these spaces? Also, what kind of technological installations should be used to achieve sustainability and meet the city's potential and capabilities? The reactivation of lost spaces is a challenging complex problem.

In some countries, this issue is addressed by government programs that encourage investment. Other countries, deal with this issue by establishing an appropriate, effective framework and administrative system that allows for private initiative while requiring individual responsibility and corrective action plan like Malmö city in Sweden, Zaragoza in Spain, Kwan Tong Bypass in Hong Kong and Cleveland in USA.

Therefore, a national plan is necessary to support the government in resolving different concerns related to the reactivation and revitalization process. There are frameworks that involve all parties and ensure that regional strategies complement and are compatible with national strategies.

According to Jackson, J.B. and after studying and gathering data about lost spaces and its features and how to deal with them, the following three key pillars are the most important elements for reusing and reactivating lost spaces besides involving all relevant stakeholders (Jackson, 2006).

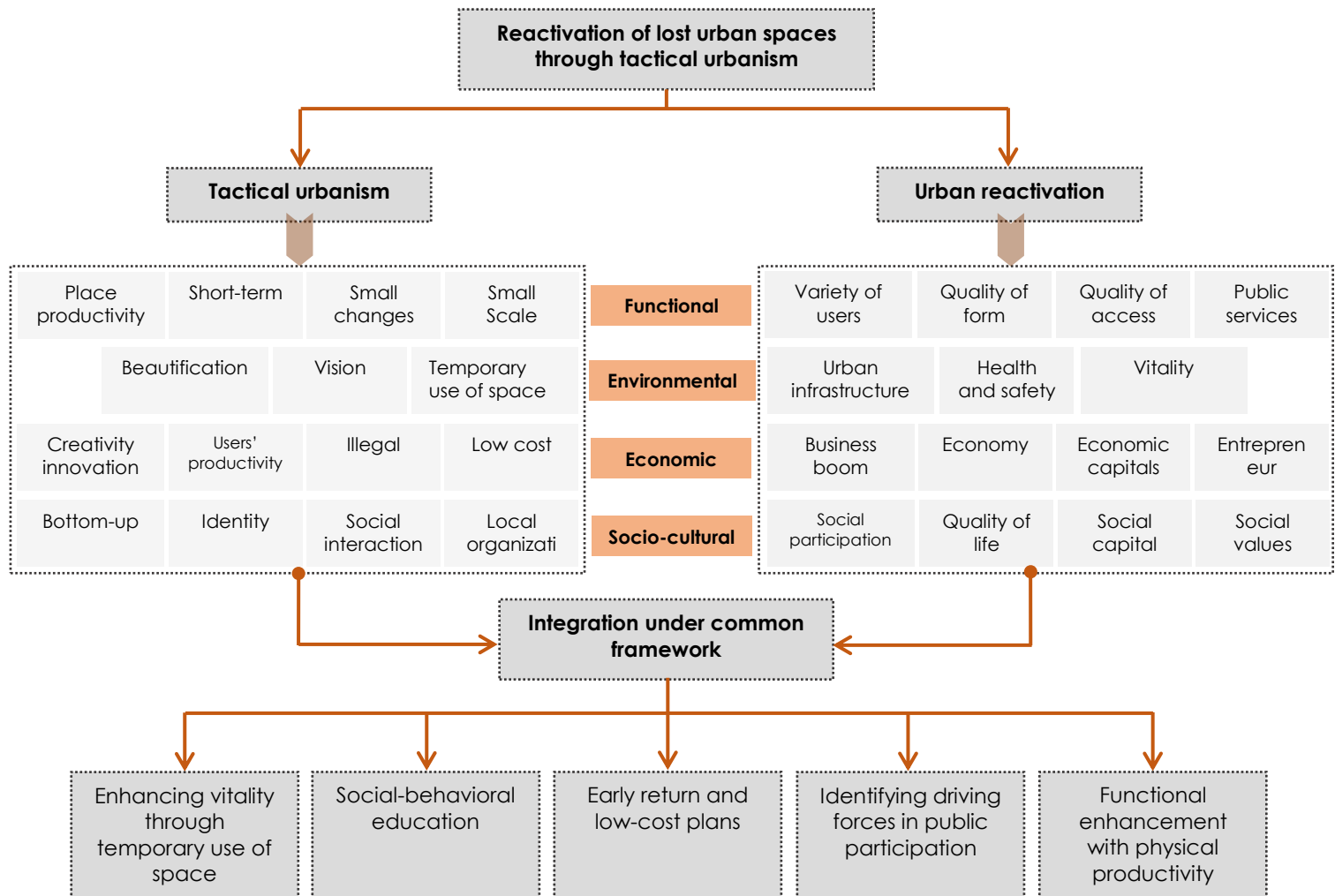


Figure 6. The conceptual framework and the relationship between the concepts of reviewing the literature on urban reactivation and tactical urbanism (Developed by the authors)

4.1. Functional strategy

The section highlights that successful reactivation of lost urban spaces depends on three key principles: form and vitality, accessibility, and design quality. Comfortable spatial form, diverse activities, and attractive design elements encourage continuous public use and social interaction. Safe, inclusive, and well-connected pedestrian access, supported by lighting and clear pathways, ensures usability for all users. Design should reinforce local identity while incorporating contemporary features, landscape elements, and interactive public art. Finally, climate-responsive planning, such as providing shade in summer and sunlight in winter, enhances user comfort and the overall quality of the revitalized space.

4.1.1. Form and vitality

Space form and scale play an essential role in making users feel comfortable and relax. Moreover, while reactivating lost urban spaces, a variety of activities should be provided and the hours of use extended to attract local residents and visitors. For example, a café, play areas or community apps can improve the revitalized space. Adding some components in designing the space can increase its efficiency, for instance a large shade tree, a sculpture or water feature, artwork, play or performance area or any other elements.

4.1.2 Accessibility

While dealing with urban lost spaces and implementing a reactivation process, it is important to enable easy and secure access for all users through the lost space. This could be achieved through connecting the reactivated space to the surrounding pedestrian network. Also, the entrances should be located with direct views to the users with continuous pedestrian walkways. Moreover, it is essential to place lighting elements to indicate paths and areas for night-time use facilities for services in a designated area away from the local pedestrian walkways and recreational facilities.

4.1.3 Design and visual preferences

Designers, architects and developers should encourage a strong feeling of place and local character even while reflecting the contemporary urbanization such as creating modern facades and adding new design features and achieving uniqueness.

Moreover, achieving richness of environment even in buildings or in landscape is an essential issue by selecting planting and landscape elements that support the area's existing character and preferred future character. In addition, some successful projects that integrated locally relevant urban art that people can interact with is widespread and can attract residents and visitors to the area. It is crucial to begin with the design of roads, seats and essential locations to capture the winter sun and be shaded in the summer in order to make sure of creating a comfortable and enjoyable space.

4.2 Environmental strategy

The reactivation of urban lost spaces should prioritize safety and security by providing essential public amenities that enhance users' sense of comfort and confidence. The integration of technological and sustainable solutions can improve environmental performance and user experience. Furthermore, the redevelopment of lost spaces contributes to economic growth. These interventions also enhance the marketability and functionality of urban areas through the promotion of mixed uses.

4.2.1 Safety and security

Feeling safe in the space is an essential concern. It is preferred to find public bathrooms, ATMs and recreational facilities that can be situated in lost spaces that users avoid because they feel unsafe.

4.2.2 Technological installations

The principles of reactivating urban lost spaces can be combined with technological advancements to create an interactive public space that encourages social interaction. This means that, creating enjoyable and sustainable places which can reduce energy consumption and minimize waste material and save time. Also, there is an opportunity to turn lost spaces into green areas. Lost urban spaces are typically paved with non-permeable materials, but it could be turned into breathable spaces to reduce solar heat gain and improve underground water resources. Also, the technological innovations could appear in lost spaces like interactive installations which are used in walkways, street furniture, lighting elements and public art installations.

4.3 Economic financial benefit

Urban lost spaces reactivation increase city investment, a broader tax revenue and job creation. Furthermore, by attracting as many prospective users as possible, the lost spaces offer to all users an additional opportunities of marketing the site and developing connections between diverse uses (FBRA, 2007).

Furthermore, because lost spaces are typically found more in developing cities, the reactivation of these sites can solve these issues. Some urban lost spaces offer better redevelopment chances, where usually the fair market is higher than the cost of redeveloping the space (Columbia, 2014). On the other hand, it is important to make sure that the urban lost spaces are appropriately used and maintained to keep it attractive for users and investors.

4.4. Socio-cultural

The successful reactivation of lost urban spaces should preserve place identity by respecting their historical and cultural significance while responding to users' needs. Community participation is essential to ensure that redevelopment enhances social interaction and provides recreational, educational, and public amenities. Furthermore, reactivated spaces should support diverse activities and events to promote an active, vibrant, and inclusive urban environment.

4.4.1 Homogeneity and place identity

The concept of reactivating lost spaces currently looks impossible, if not simply acceptable. Nonetheless, they should be viewed as spaces with history and memories and so working on developing them to give the city a new image. So, applying the required design components followed by achieving users' needs, reflected from the space identity, can generate useful spaces for users and the city.

4.4.2 Social interaction/Sense of community

Measurability, which is especially challenging to measure in social components like aesthetic values, security and community involvement, is the core problem in evaluating the reactivation process. This is why, while reactivating lost spaces, decision-makers should consider the demands and requirements of users, engaging community members to promote the final product advantages to the community. The redevelopment of lost spaces can create potential advantages for the area, such as health and recreation facilities, sports grounds, entertainment, recreation and social and educational facilities.

4.4.3 Active and vibrant lifestyle

Reactivated lost urban spaces should support various events (entertaining, sport, work, etc.) and promote uses at the boundaries of the space.

5. International examples: reactivating lost urban spaces in selected cities

This part of the study represents international examples that has experimented new ways of dealing with particular challenges or reuse of lost urban spaces as a potential source for the city development and the analysis of these experiments to take advantage of their positives and disadvantages in order to develop a framework to improve the way of development and reuse of lost urban spaces. This part focuses on three examples.

5.1 Chongqing (Southwest China)

The "Bridge Capital of China," Chongqing boasts over 10,000 bridges of all kinds. However, the areas beneath them are often neglected, either planted with bushes or used as parking lots. In many cases,

the space is simply unused. There was only a dilapidated wharf under the bridge where it was full of weeds and the road was too rugged to walk on.

Chongqing's innovative use of under-bridge spaces demonstrates how urban lost spaces can be repurposed to serve the community, improve urban aesthetics and provide functional public spaces in a densely built environment. Chongqing puts spaces under bridges to good use of China daily life. This approach can serve as a model for other cities facing similar challenges.

Chongqing has effectively utilized the spaces under its bridges, turning these areas into vibrant and functional parts of the landscape. Chongqing has creatively repurposed new designs under bridge spaces in several ways (Figure 5). Some spaces under bridges in Chongqing have been transformed into public parks and recreational areas. These green spaces provide residents with areas for relaxation and leisure helping to improve the urban environment and offering much-needed open space in a density populated city.

Chongqing has utilized some under-bridge spaces for cultural and community activities. These spaces host events, markets and performances, contributing to the cultural vibrancy of the city and fostering a sense of community.

The design of these spaces often incorporates elements of the bridges themselves, blending infrastructure with public amenities. This integration helps maximize the use of space while maintaining the functionality of the bridges. Green walls, vertical gardens and other environmental features have been added to improve air quality and beautify these under-bridge areas, contributing to the city's overall sustainability.

The transformation of under-bridge spaces has also created economic opportunities by attracting small businesses, vendors and tourism activities to the areas. The city has also developed facilities under its bridges, including basketball courts, badminton courts and skate parks. These facilities provide accessible recreational opportunities for residents. Under the bridge now sits the newly-built Jiulongtan Square, where locals can experience intelligent work-out facilities powered by solar energy or take a leisurely stroll along the riverside walkways (Figure 7).



Figure 7. The reactivation of Chongqing in Southwest China (Source: <http://chinedaily.com.cn>)

5.2 Kalamis Park Collective Transformation Project (Kadikoy, Istanbul)

The project was initiated to increase the functionality of Kalamis Park, improve problematic uses and enable users to engage in various activities together and comfortably included the design of a skateboard track, basketball court, beach volleyball court, running track and the surrounding landscape. Additionally, to enhance the park's functionality, a bicycle rack, skateboard repair stand, lockers, recycling bins and picnic tables were also incorporated into the landscape.

Seating areas constructed parallel to the skate track provided both recreational opportunities and demarked the boundaries of sporting activity areas. User needs were analysed before selecting the features. The Kalamis Park Collective Transformation Project also uses recycled materials for the flooring and seating units on the basketball court and running track flooring and seating units.

The project meets numerous of the criteria of tactical urbanism. By emphasizing concepts like functionality and comfort, it transforms the project into a need-based practice. This initiative was implemented with residents and established a participatory framework. Also, the project raises the awareness of the concept of sustainability through the use of inexpensive materials with recycled products (Figure 8). It can be argued that the aim is to revitalize the area with diverse colours, thereby encouraging the use of this previously lost urban space (Altunok and Erkan, 2026).



Figure 8. The reactivation of Kalamis Park Collective Transformation Project
(Source: <https://www.onaranlarkulubu.com>)

5.3 Pop-Up Town Hall

It is nestled between two existing buildings, the structure shelters a courtyard studio that is open to the street at both ends. The laboratory hosts free exhibitions and concerts and conducts urban studies and workshops. Through these activities, the area gained a public character. There is a wooden cabin that serves a café for visitors with picnic benches covered by a fabric canopy. Residents, experts and volunteer organizations participated in the tactical intervention implemented, creating a participatory discussion environment with range

of stakeholders. The space, with its functionally flexible and adaptable design approach, is notable for its ease of building and dismantling as well as risk-free implementation. The laboratory was built in a lost area that was destroyed in the first half of the 20th century and the land was left unoccupied for many years (Figure 9).

A lost urban space has been reopened for use in an original way. These efforts have led to the implementation of a tactical urban planning program that has a strong potential for increasing public understanding of urban concerns (Altunok and Erkan, 2026).



Figure 9. The reactivation of Pop-Up Town Hall (Source: <https://www.archdaily.com>)

Table 2. Comparative analysis of international examples (By the authors)

Examples and the design approaches	Functional			Environmental		Economic	Socio-Cultural		
	Safety and security	Accessibility	Design and visual preferences	Safety and security	Technological installations	Economic Benefit	Homogeneity and place identity	Social interaction	Active and vibrant lifestyle
Chongqing		✓		✓	✓	✓	✓	✓	✓
Kalamis Park Collective				✓		✓	✓	✓	✓
Pop-Up Town Hall	✓	✓	✓					✓	✓

6. Case studies: observations in the Alexandrian context

6.1 Criteria of selecting lost urban spaces

The three case studies have been selected as hub sites in Alexandria city and due to their convergence of socio-spatial importance and intervention potentials. These lost urban areas act as critical areas between residential, commercial corridors and car traffic, maintaining daily interactions between residents. Furthermore, the three case studies are characterized by being part of the cornice overlooking the sea. Also, initial field observations revealed ongoing deterioration of these spaces. These problems provide opportunities for prototyping low-cost, high-impact solutions that address community design principles.

6.2 Problems

Unfortunately, Alexandria has one of the lowest green spaces per-capita statistics in the world and suffers from a lack of open spaces, since the city's urban open spaces have not kept up with the city's population increase. By walking in Alexandria city, one can overserve the scarcity of open spaces and the availability of underused lost spaces.

In Alexandria city, urban lost spaces emerged as a result of spontaneous actions like random growth in informal areas or sudden collapse of old buildings or emergence of deliberate actions such as public open spaces that are poorly designed and don't meet users' demands, or designing for highways and bridges which often produce lost spaces beneath them.

The following part is a reflection for the derived theoretical findings. Miscellaneous case studies are analysed and discussed. Then, qualities of these spaces are to be identified and the reactivating interventions upon these spaces based on the researcher's observations and physical inspection, which further elaborates the space's potentials.

6.2.1 Sidi Gaber Bridge

Sidi Gaber Bridge area in Alexandria is a crucial urban space with significant potentials for redevelopment and reactivation. It is a modern landmark on the sea that connects Sidi Gaber and Roushdy areas. It is distinguished by being part of the development of the upper cornice overlooking the sea. The area around the bridge includes several touristic and entertainment projects making it an important attraction point. However, the area under the bridge faces several problems such as the lack

of lighting elements which leads to unsafety and insecurity in the area. Also, the spread of homeless people which lead to health problems as well as the presence of commercial areas that do not work with the efficiency required (Figure 10).



Figure 10. Lost urban spaces under Sidi Gaber Bridge (Photos captured by the authors)

6.2.2 Birm El Tonsy Garden

It is one of the small city green spaces that once provides residents with a simple place for relaxation and social life. It is located in El Shatby area. However, it is suffering from noticeable deterioration overtime. This decline is often linked to poor maintenance, lack of cleanliness and insufficient facilities where neglect leads to broken seating, damaged pathways and reduced plant diversity. In addition to weak security, inadequate lighting and limited public awareness about preserving such spaces contributed to its gradual degradation, turning what was once a pleasant community area into an underused and sometimes unsafe environment (Figure 11).



Figure 11. Lost urban spaces in Birm El Tonsy Garden (Photos captured by the authors)

6.2.3 El Morsy Abu Al Abbass Garden

The garden is located in front of Al Mosry Abu Al Abbass Mosque which is a part of the wide mosque square (Midan El Masjed). While this area was originally designed as a spacious and attractive urban setting, the garden today shows signs of deterioration. Poor maintenance, worn-out greenery, damaged seating and lack of regular care have reduced its aesthetic and functional value. In addition, overcrowding, littering and insufficient supervision contribute to its decline making the space less inviting despite of its prime location in front of a major historical and religious site (Figure 12).



Figure 12. Lost urban spaces in El Morsy Abu Al Abbass area (Photos captured by the authors)

Thus, a SWOT analysis can explore the importance of these areas and how it will be integrated to evaluated its potentiality for sustainable development (Table 3).

Table 3. SWOT analysis for lost urban spaces in Alexandria city (By the authors)

Strengths	Weakness	Opportunities	Threats
Strategic location	Accessibility challenges	Community engagement	Funding constraints
High traffic flow	Noise and air pollution	Economic development	Maintenance and sustainability
Potential for innovation and creativity	Deterioration	Cultural and recreational uses	Stakeholders resistance
Proximity to key areas	Safety concerns	Enhanced connectivity	Environmental degradation
Environmental enhancement	Lack of maintenance	Environmental improvements	

7. A proposed framework to reactivate lost urban spaces

Through the theoretical study and analysing the previous international projects that experience the reuse of lost urban spaces and reviewing the advantages and disadvantages for these experiments, the research concludes a proposed framework for reusing and reactivating the lost urban spaces in the city in order to enhance its functions and to assist planners and designers to improve its functions and urban voids to optimize their utilization. The proposed framework contains many stages:

a) Project identification and goal setting

This stage determines the responsible parts and the stakeholders of the process, through recognizing the property of lost urban spaces, the users' needs and providing financial resources for the reactivation process by public or private sectors.

b) Inventory and data collection

It is the initial stage of the reactivation process through utilizing urban lost spaces. Significant progress towards the redevelopment and regeneration of lost urban spaces depends on the availability of accurate information and comprehensive database.

c) Analysing stage

The third step of the reactivation process involves analysing the inventory data and identifying how to use the information to determine the high priority for development through identifying the land suitability on which the process of planning specific criteria is based on the current conditions of the city and the goals of future development.

d) Reactivation and planning stage

In this stage, it is important to set up comprehensive strategies of urban development of lost spaces to achieve the best use of lost urban spaces. It is necessary to establish a strong vision for the reactivation of lost urban spaces which is identifying the opportunities and using full potential of space. In this stage some considerations should be taken into account such as:

- The design and planning of urban lost spaces should be integrated into the urban context since lost urban spaces are an essential component of the urban fabric.
- Planners and designers can maximize the environmental, social, economic, historical and aesthetic benefits of reusing these areas by understanding the typology of lost urban spaces.
- Redefining lost urban spaces with new functions by studying the economic, social, historical, culture and environment aspects, in addition to studying laws and legislations and finding design solutions to enhance the space components and conditions such as safety, accessibility, visibility, ... etc. and fulfilling the users' needs.
- Large lots may be developed as neighbourhood parks, whereas small lots along the roadway may be developed as pocket parks, depending on the size of lost urban spaces and the reuse of services throughout the planning process.
- Considering the contextual and cultural dimension of the urban lost spaces and the conservation of historic value.
- Redeveloping of the lost urban spaces should support the city's sustainable growth.

e) Implementation stage (through tactical urbanism)

In this stage, it is necessary to establish policies to support flexible and sustainable management approach in the development of lost urban spaces process to deal with challenges in an integrated way. In addition, it is important to establish a horizontal collaboration of all stakeholders on all levels and vertical coordination between the regulatory agencies to ensure coherent development and an effective use of resources. This can be achieved through creating pop-up seating areas, lighting elements, a network of green spaces, ... etc.

f) Post-occupancy stage

In this stage, it is crucial to provide tools that are used in the assessment of lost urban spaces reactivation projects and provide a pilot project to the regeneration of lost spaces. In order to evaluate the outcomes and avoid the mistakes in future projects. Also, represent evidences to citizens that positive changes can happen.

g) Maintenance stage

Establish maintenance program of different types of urban lost spaces by city government and multiple agencies. Also, providing financial resources for the maintenance through funding supplied from multiple resources (Figure 13).

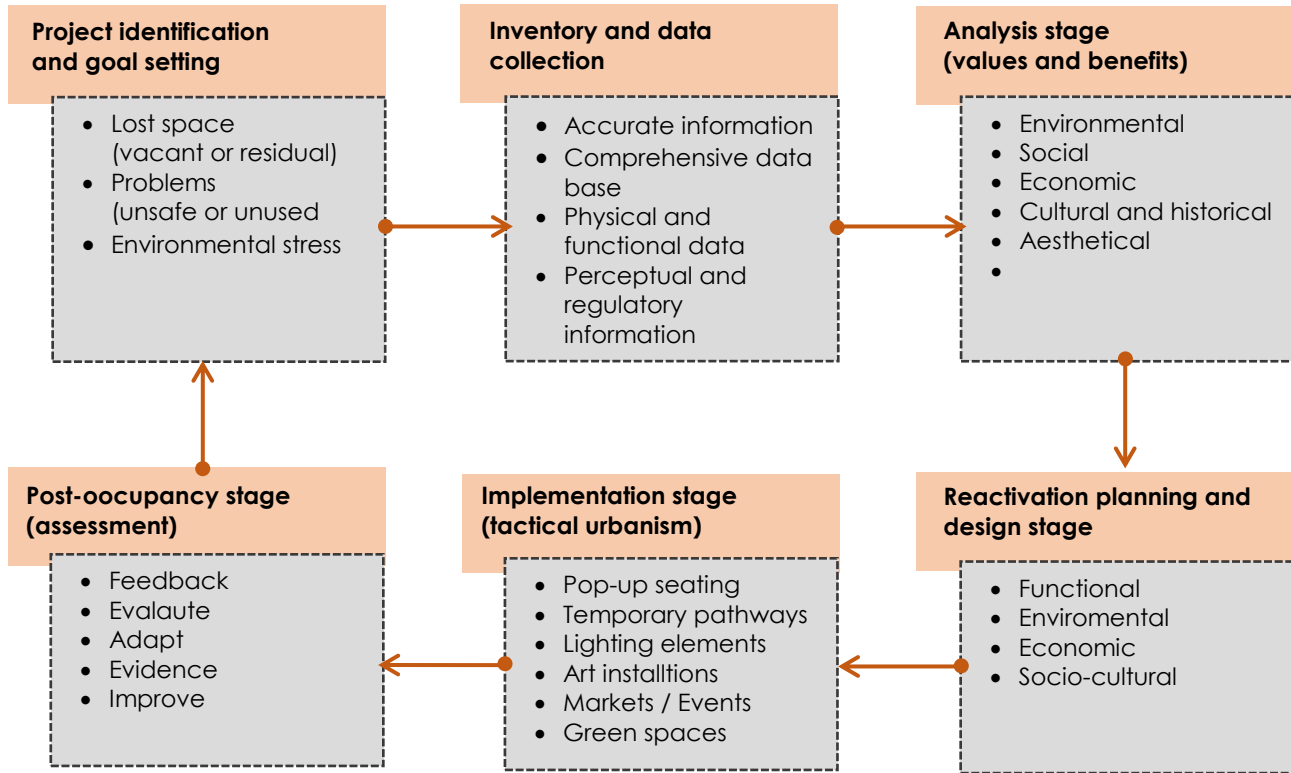


Figure 13. A proposed framework for the reactivation of lost urban spaces in developing cities (Developed by the authors)

8. Conclusion

Lost urban spaces are considered as great opportunity and potential to develop the city and enhance the quality of life of its residents particularly in developing cities. It is also regarded as a potential resource due to its value and benefits for urban development program. From reviewing of literature studies about urban lost spaces, the study offers understanding the meaning of urban lost spaces and the negative effect of the existing lost urban spaces on the city quality of life.

Through a theoretical study and an analysis of existing examples that have experimented the reuse of urban lost spaces, as well as an evaluation of the positives and negatives of such projects, the study explains the meaning of lost spaces and how they are formed, shed light on the importance of lost spaces as a resource and explore their environmental, social, economic, cultural and aesthetic values and benefits.

The study provides an understanding of urban lost spaces and the processes in which they evolve and develop and the negative impact on the city's quality of life. Based on studies of literature review studies about lost urban spaces. The study presents the value of lost urban spaces, concluding that the reactivation of lost spaces provides social and economic values by performing a variety of functions, including the use of technological installations in lost spaces as green infrastructure and improving air quality.

The reuse of lost spaces can provide environmental value by offering several ecosystem functions such as using lost urban spaces as green infrastructure, improving quality of air, preserving natural habitat and producing renewable energy. Lost urban spaces provide social values by reusing it as a community gardens, pocket gardens, entertainment activities, social services and public areas for community

gathering and interaction. These spaces also provide economic value by reusing it as small local businesses which promote economic revitalization for example temporary uses, raising the value of the nearby properties creating jobs opportunities through small-scale projects. Reusing of urban lost spaces takes into account the city's historic value and identity which support the city's identity and character, cultural events and educational process. In addition, re-imaging the urban lost spaces in creative attractive ways improve the visual appearance of the city and creates a strong urban fabric.

The research also represents international examples that has experience with new ways of dealing with particular challenges of reactivation of lost urban spaces as a potential resource for city development. The analysis of the examples takes advantages of their positives and disadvantages in order to create a framework to improve the way of development and reuse of lost urban spaces.

Through the theoretical study, analysis of international examples and the lessons learned of the Alexandrian case studies, the study proposes guiding reactivation framework to help designers and planners to develop a method of reusing lost spaces to maximize their values and benefits. The study concluded that the efficient use of lost spaces requires considering them as an integrated part of the city's urban fabric through coordinating cooperation between all parties who are involved in the development process to revitalize voids and increase city income.

The research concludes that the effective reuse of urban lost spaces requires:

- Strong vision and comprehensive strategies of urban lost spaces as a part of integrated development strategies.
- A flexible planning method which have some areas to unexpected changes.
- Design of lost urban spaces can be seen as ongoing process that continues beyond implementation.
- Long-term benefits can be achieved by providing a comprehensive city plan that identifies the location of lost urban spaces and defines appropriate uses for each location.
- Enable temporary uses which play a crucial role in cities growth because they can adopt the needs and capacities to available resources.
- Public- private partnerships are important to the process of redeveloping lost spaces.

Based on the analysis conducted, here are some recommendations for creating sustainable areas in lost spaces through tactical urbanism:

- Community-centred approach

Prioritize community engagement and participation throughout the planning and implementation process. This can lead residents to shape the vision for lost spaces and actively involve them in decision-making and programming efforts.

- Inclusive design

This means that to ensure that urban lost spaces are accessible and welcoming to people of all ages, abilities and backgrounds. Also, incorporate universal design principles to accommodate diverse needs and promote social inclusion. Flexible planning system with some areas susceptible to unexpected events. The design of lost spaces is a continuous process that does not end with the implementation phase.

- Long-term management and maintenance

Developing sustainable management and maintenance plans to ensure the ongoing viability of lost spaces. Establish dedicated funding mechanisms, maintenance schedules and community stewardship programs to support ongoing upkeep and programming efforts. Also, maintenance is an essential issue to keep the project in a good condition

- Government and public authority

Urban lost spaces often offer a potential alternative to the scarcity of open spaces. This alternative should be seriously considered by governments instead of depending completely on vacant plots of land - which are usually a scarce resource. This could be used by governments in drawing guidelines for the future on how to reactivate lost spaces in a way that appeals to the community and meet their needs. The public sector appeals to the community and meets their needs. The public sector should connect all groups and develop new policies to balance all parties involved in the process. A clear vision and appropriate strategies for developing urban voids as part of integrated urban development.

- Environmental stewardship

Integrate sustainable design features and green infrastructure elements to enhance biodiversity, manage rainwater and mitigate negative environmental impacts.

- Creative placemaking

Embrace creativity and innovation in the design and activation of lost spaces. Use public art, cultural programming and interactive installations to create memorable and engaging experiences that reflect the unique character and identity of the community.

- Multi-stakeholder collaboration

Foster partnerships and collaboration among diverse stakeholders, including local governments, community organizations, businesses and environmental groups.

Further research could reveal the roles and conflicts in the relationship between the different parties involved in the process, government, designers and users. There is a need for further investigation of patterns relating intervention preferences to space qualities. This might greatly influence the government's strategic visions for reactivating urban lost spaces. Moreover, this is expected to have its positive impact on the process of urban regeneration in general. Also, implement monitoring and evaluation mechanisms to track the performance and impact of sustainable areas in lost spaces over time. Collect data on key indicators such as usage patterns, economic benefits, environmental outcomes and social cohesion to inform decision-making and adaptation.

By embracing the mentioned recommendations above, communities can realize the full potential of urban lost spaces as catalysts for positive change, resilience and sustainability in urban environments. Through collaborative action and shared commitment, environmental responsible and inclusive spaces can be created that can enrich the lives of the present and future generations.

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Studies involving animal subjects: No animal studies are presented in this manuscript.

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The author declares no conflict of interest.

Contribution to the field statement

This study enhances urban regeneration research by establishing a context-sensitive framework that integrates tactical urbanism into the reactivation of lost urban spaces in developing cities. Unlike studies that primarily document tactical urbanism initiatives, this research synthesizes the characteristics, potentials and mechanisms of lost spaces with evidence from international case studies to formulate an adaptable approach for sustainable urban regeneration in Alexandria city, Egypt. The proposed framework provides both a conceptual foundation and practical guidance for planners, designers and policymakers to implement low-cost, participatory and incremental interventions that enhance social, economic and environmental sustainability while strengthening community engagement and urban resilience.

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