TEMPORARY ARCHITECTURE
A STUDY OF REVITALIZING ALEXANDRIA'S URBAN VOIDS

E. K. ELMELIGY[1] , S. M. AL ARNOUTY[2] , S. EBRAHIM[3]

ABSTRACT

The creation of temporary spaces fosters new engagement and perceptions of surroundings, sparking spectators' imagination and leaving lasting memories after their removal. The ideas for temporary architecture offer ambitious potential, creating more dynamic and varied urban spaces and facilitating interactive experiences between initiators and users.

Strategies include exploring, revitalizing, and highlighting spaces, as well as establishing non-programmed areas and involving external actors. Although the meaning of temporary architecture is complex to define, it is a concept that deals with far more than solely time and urban experimentations. It is a versatile concept that also can include aesthetic, environmental and social aspects, traditional aspects of landscape architecture.

This research aims to explore the integration of temporary architecture as a supplementary tool for landscape architects and urban planners, particularly in large-scale urban regeneration projects. By reusing space on a short-term basis about the value and meaning of temporary urbanism, it seeks to develop design principles for public space redevelopment.

KEYWORDS: Temporary architecture, Urban transformation, public space, Urban Voids, Alexandria.

1. INTRODUCTION

Temporary architecture is an alternative urban planning concept which has been adapted in many cities worldwide during the last decade. It is presented in the guideline as a potential tool for exploring public spaces among other architecture related themes. It can be used for creating more dynamic and varied

[1] Postgraduate student at the Faculty of Fine Arts, Alexandria University, Egypt, Architecture Department. engyk97@gmail.com / engykhaled@alexu.edu.eg

[2] Vice dean for post graduate studies and scientific research, Professor, Faculty of Fine Arts, Alexandria university drsahar_elarnaouty@yahoo.com

[3] Assistant Professor at the Faculty of Fine Arts, Alexandria University, Egypt, Architecture Department sherif_farag@alexu.edu.eg

urban spaces. Temporary architecture offers more than just "experience tourism" or light entertainment. It is an ideal place to assess ideas, examine places, and promote new concepts and technologies [3].

Urban development depends on translating what already exists. Existing structures, unused areas can be reused. For vibrant cities, the focus is not on urban design, but on urban use [4]. Strategies for urban actions such as temporality, mobility, self-production, non-centralized planning, and urban catalysts are the key words. It is becoming a new way, supporting the informal attitude of urban planning. It also helps cities to be livable. Thus, this approach can be an effectual solution for many spots in Alexandria's built environment.

Moreover, Today's urban spaces are created in a quite different socioeconomic context. These urban spaces provide insight into new types of public space that are forming, as well as the need for more diversified and distinctive physical, social, and political articulations of public space figure (1) [7]. So, by examining public space through the lens of verticality it has been able to conclude how different planning interventions, urban development processes, spatial contexts and competing imaginaries produce hugely different and often hybrid forms.

Temporality can be provided by the space, use or both and even by the users. It leads to spontaneity and flexibility in the daily routines of the city. To see a sudden change on your way to work or to home makes you think about different options for the use of the place [4].
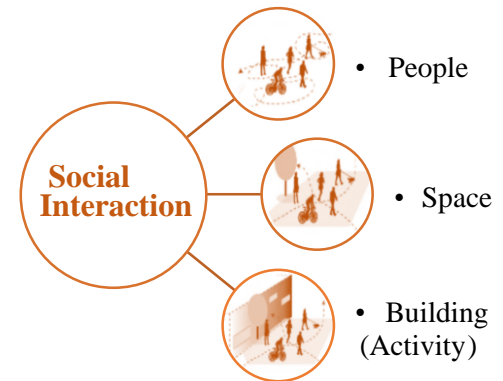
Figure 1: Public Space Needs to Achieve Social Interaction. Author

1.1 Problem Statement

The vacant areas have a negative impact on their environment. They attract undesirable activities and create an impression of neglect, causing negative feelings with the neighbors. Moreover, the presence of useless spaces is unacceptable, considering the strong demand for open and public spaces where people can meet, express themselves and take part in the life of the city [11]. Thus, it is important to use these spaces in a way to engage the community and change them into livable public spaces to engender a sense of place. In Alexandria, Egypt, like many other cities, there are numerous urban voids, mainly in the form of buffer zones. These voids present an opportunity for revitalization and creative interventions.

1.2 Objective And Research Scope

This paper aims to give exposure to temporary architecture through various definitions and applications and how it can regenerate a neglected void. And this is through a study of the temporary uses in underutilized public spaces as they are an essential element in the urban fabric of a city and a means of engaging the locals and people in the planning process by putting into consideration their needs. Additionally, expanding ideas and how this can help in making better use of public spaces.

Using considerations that had been devised from relevant examples from different countries, this research attempts to identify the common features of those experiences with a comparative analysis with the local case studies in order to find out the various considerations that accompany the process of rapid change in the these spots inside Alexandria's built environment, were these spots can be after development to be considered as a "Temporary Use" for different spots in Alexandria.

1.3 Research Questions

- What is temporary?
- Can urban transformations be influenced or guided by a temporary use of vacant urban areas?
- How Temporary architecture can be integrated as a supplementary tool for the urban planner or architect if it is to be implemented on a large scale.

2. METHODOLOGY

To achieve the research objectives and answer the research questions, the study combined two approaches. On the one hand, the characteristics and significance of urban vacant sites are explored through a literature study. This is combined with analysis of several alternative urban initiatives, including temporary use as a response to contemporary urban redevelopment challenges. On the other hand, the present situation, and existing opportunities for temporary use in the concrete context of Alexandria's vacant urban spaces.
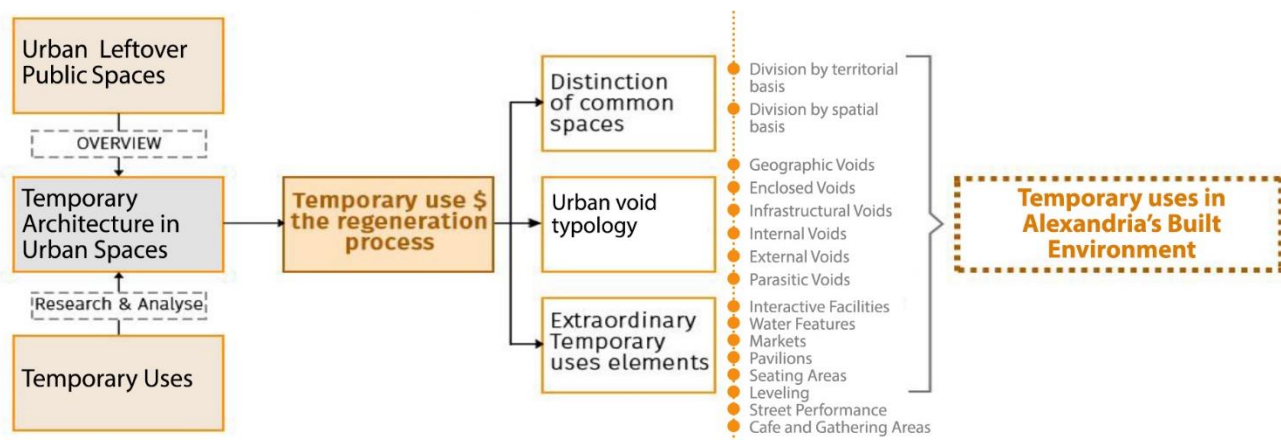
Figure 2: Research Design Framework. Author

After the problem analysis and diagnosis process, the solution to be developed by designing an intervention framework plan. Figure (2) shows the framework of the methodology of the research.

3. LITERATURE REVIEW

Two European studies (Bürginand Cabane, 1999; Urban Catalyst, 2001) initiated a new area of planning thinking and research by defining "TEMPORARY USE" in terms of economically marginal activities that temporarily transform abandoned urban sites, and examining the potential importance of these uses for bringing new economic and social activity, jobs, and investment to cities [12].

There is a growing research literature documenting empirical experiences of the temporary reuse of urban spaces in multiple international contexts (for example, Andres, 2013; Andres and Chapain, 2013; Colomb, 2012, 2017; Haydn and Temel, 2006; Oswalt et al, 2013). This research has focused on the prefigurative potential for temporary development to accommodate alternative or innovative uses which challenge existing developer orthodoxies or provide a voice to marginalized communities to influence the direction of future urban change (Andres, 2013; Finn, 2014). Studies introduced four added points to temporary use planning which are [12]:

1- **Economic and planning strategy** - Contributes to long-term physical and economic development outcomes.

2- **Creative Industries** - Plays an important role in undertaking these temporary reuses and transformations.
3- **Being acknowledged by city administration** - Important opportunities for attracting and nurturing creative industries.
4- **Planning Policy** - Support and promote short term uses as a mechanism for driving urban change.

Since waiting spaces exist only temporarily but are a permanent fact in the city, their temporary use implies the possibility of creating a constantly changing network of alternate urban (public) spaces, a parallel city. Farone and Sarti [2008] speak of an 'intermittent city'. The temporary integration of waiting spaces in this so-called 'intermittent city' and their use by alternative and less clear users, can transform these sites into 'test beds for change' as described by Shane [2005] [11].

What is temporary?

In a dynamic world, some contend that everything is inherently temporary. Buildings emerge and decay, city dwellers relocate to accommodate newcomers, streets change course, and even tree-lined alleys experience seasonal transformations. The question arises: Aren't all urban functions already characterized by their impermanence?"

According to Peter Bishop, the challenge with identifying temporary activity lies in hindsight. Only when something disappears can we truly label it as temporary. "Temporary" is primarily defined based not on the nature of the use or its duration, but rather on the intention of those involved—users, developers, or planners—who design it with the explicit purpose of being temporary [16].

Temporary Architecture

Temporary architecture, refers to intentionally short-lived structures that serve as experimental sites for interaction and engagement. These structures vary in scale, from small structures to huge temporary ones, but share the common purpose of having a limited lifespan. They often embody experimentation and innovation, are designed for public use, and actively involve the public in their creation and performance [17].

4. URBAN LEFTOVER PUBLIC SPACES

There is a divergence of opinion on how to define public open space. It is conceptualized as a park and green space in active living studies, with less focus on other types of public open space [5]. For example, within urban design research, public open space is defined as: "Managed open space, typically green and available and open to all, even if temporally controlled" (Carmona, 2010, 169).

The distinction between "open space" and "public space" has evolved, particularly in urban contexts. This evolution extends beyond central areas to peripheral zones and even edge cities. These spaces - often neglected or abandoned - now offer opportunities for revitalization and new functions[18].

Looking through the lens of urban voids, cities are dynamic spaces filled with purpose and activity, accommodating various functions such as residential, industrial, cultural, and transportation. Despite the efficient use of limited urban space, urban voids - areas without clear functions - exist in different forms and sizes within city cores. Urban voids, often associated with city decline, present opportunities for developing and fostering dynamic connections." [17]. Following this, Vacant urban spaces play a crucial role in the urban development process, arising from both temporal and spatial fluctuations [17].

Therefore, studying urban voids is essential for built environment practitioners, particularly in developing countries. These neglected spaces offer significant potential for revitalization and new functions, contributing to the overall urban fabric as shown in fig.(3)
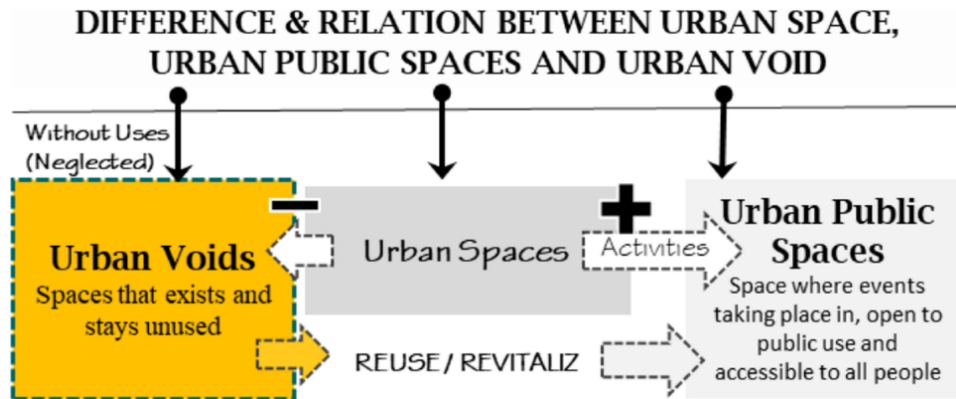
Figure 3: Difference and Relation Between Urban Space, Urban Public Spaces, And Urban Void [18].

4.1 Origin Behind Urban Voids

Following the initiative introduction of Trancik (1986), in his book "Lost Spaces", he categorized the reason behind the occurrence of urban voids into three different categories:

Planning Voids	Functional Voids	Geographical Voids
Voids are made because of inefficient planning processes. - Characterized by context and history	Dead empty spaces result when they are not used the way they were designed to be. - Defunct areas	Existing geographic features creating unused spaces around them such as: rivers, waterways. - Leftover spaces

4.2 Architectural Distinction Of Common Spaces

Common spaces are the intermediate spaces between buildings in the urban fabric providing a space where different activities or functions can occur. Carefully planned common spaces can mediate any kind of disorder and enhance the quality of the environment. Thus, it is necessary to analyze the inner characters based on different criteria which viewed in terms of the territorial basis, the spatial basis, and the user basis to redefine the definition of common spaces [10].

4.2.1 Division by territorial basis

Analyzing the distinguishable characters within the common space by distinctive boundaries and divisions. As common space is a transitional space but with dividable sub-territorial boundaries within it, based on spatial differences each activity can take place within the boundary [10]. The below figure is based on the territorial differences and clear differentiation between the public and private.
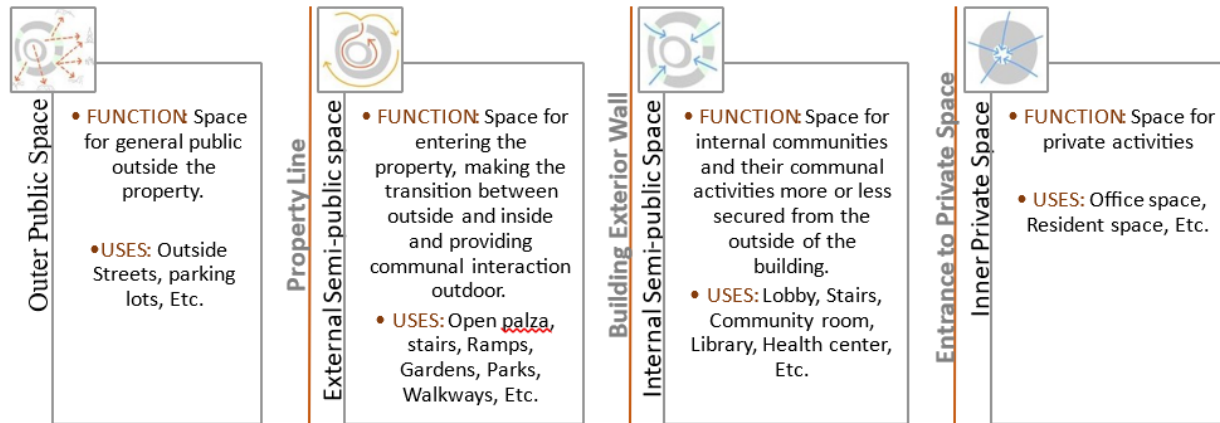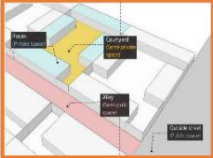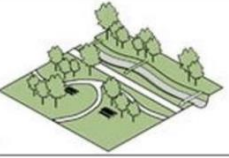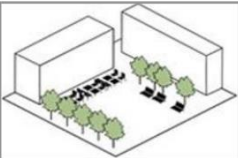
Outer Public Space
- FUNCTION: Space for general public outside the property.
- USES: Outside Streets, parking lots, Etc.

Property Line — External Semi-public space
- FUNCTION: Space for entering the property, making the transition between outside and inside and providing communal interaction outdoor.
- USES: Open palza, stairs, Ramps, Gardens, Parks, Walkways, Etc.

Building Exterior Wall — Internal Semi-public Space
- FUNCTION: Space for internal communities and their communal activities more or less secured from the outside of the building.
- USES: Lobby, Stairs, Community room, Library, Health center, Etc.

Entrance to Private Space — Inner Private Space
- FUNCTION: Space for private activities
- USES: Office space, Resident space, Etc.

Figure 4: Differentiation Between Public and Private Spaces. Author Based On [10].

4.2.2 Division by spatial basis

The architectural and physical character of each sub-common space, as well as its functional requirements, are emphasized by the spatial basis [10]. The table below of public and semi-public uses categorized by their NECESSARY SPATIAL REQUIREMENTS.
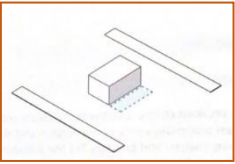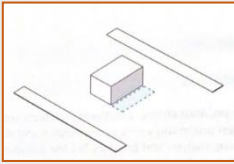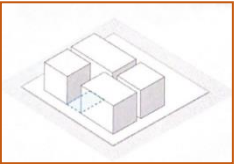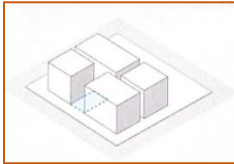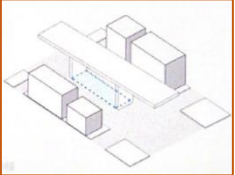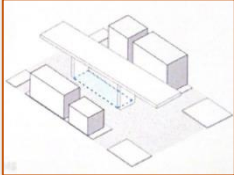
Table 1: Categorizing the Spaces by Their Spatial Requirements. Author Based On [10].

	Open Space	Semi-open Space	Enclosed Space
CONFIGURATION	● Opened to natural surroundings to promote outdoor activities.	● Half opened and half closed with more territorial boundary.	● Enclosed for internal activities and privacy.
USES	● Streets / Outdoor Plaza / Garden / Jogging track...	● Entry way / Bicycle storage / Pavilion / Covered walkway...	● Community rooms/ Library / Health Care...
USER	● Space open to general public (Common space)	● Limited group space	● Space for interest groups or community members.

4.3 Urban Void Typology

Typology plays a crucial role in urban design. It involves studying and classifying different types of objects or phenomena. By examining similarities and distinctions, typology help in understanding the underlying principles and patterns within a given context. Thus, in reference to the research and findings when analyzing urban voids in the context of Egypt's urban history, we can identify six primary categories based on their size and ownership. These categories help explain the different types of urban voids and their relationship to the public realm.

Table 2: Six Main Categories of Urban Void Typology According To [17].

Diagram	Typology	Diagram	Typology
	Geographic Voids Voids formed because of existing geographical features or.		**Internal Voids** Voids that exist inside buildings, whether it is an empty floor or an abandoned industrial warehouse.
	Enclosed Voids Includes any bounded urban spaces from in-between building, backyard, and pocket parking spaces to privately owned enclosed out-door spaces.		**External Voids** Defines the spaces that are like oversized curbs, wedges in streets and parklet areas.
	Infrastructural Voids A beneficial asset for activating unused spaces. It encompasses spaces under flyovers, inside tunnels or on the road.		**Parasitic Voids** Describe the undefined spaces as rooftops, building walls, or bridges walls. It describes either horizontal or vertical voids.

5. TEMPORARY USE

5.1 Temporary Architecture In Urban Spaces

"Temporality" - To be defined as temporary, something must be related to something that is known to have a permanent character, and the temporary must thereafter disappear or change. The concept of temporality expands the possibilities for spaces (Stevens, 2018). The 'learning by doing' strategy helps in determining what is ideal for the place. This approach focuses on the space's potential, if the use, user, or the space does not fulfil the aim then it can be removed. On the contrary, if all the elements work together to achieve the goal, it can be relocated to a similar place [10]. Festival and event-based architecture are central to the discussion and development of temporary architecture. What would happen if we abandoned ephemeral architecture in favor of permanent architecture?

This type of intervention has a limited life span and can be used as an excuse for highly speculative ideas. Certain interventions are free from conventional conventions and open meaningful discussions about the future of architecture, urban planning, and urban design [3]. In the twenty-first century many international exhibits, design festivals, and other events launched a new generation of temporary designs, especially in new cities development. This is now being acknowledged as a profession. The power of temporary architecture as inclusive public-engagement spaces, and cultural laboratories, as well as the role it can play in helping to vision the future of our cities.

5.1.1 Role of Temporary Architecture

Placeholders
- In some cases, temporary structures can be employed as temporary replacements. The concept of design for disassembly or adaptive reuse is brought to light by this specific purpose and timeframe.
- Ex: The Shengli market, a temporary market created by Luo Studio in China.

Exploring New Technologies
- Temporary architecture offers a unique opportunity to showcase new technologies and construction methods, Without the limitations of commercial design or building regulations.

Urban Interventions: A vehicle for urban intervention
- Temporary interventions in the urban environment are a potential precursor to traditional development processes. They can be used to test the validity of urban renewal strategies and help define the potential for regenerating neglected spaces, strengthening the social infrastructure of a town, or improving the public's perception of different sites.
- Ex: Carlo Ratti Associati created temporary urban interventions to explore different methods of reclaiming public spaces as part of a framework of participatory urbanism.

Play is a valuable asset
- Rule-breaking structures can often be used to engage communities and enrich the public realm.
- Ex: Plastique Fantastique, a Berlin-based design studio, specializes in temporary architecture. They create performative urban environments.

Figure 5: Role of Temporary Architecture on Spaces. Author Based On [3].

5.2 Temporary Use And The Regeneration Process

Temporary use of space has emerged as a major urban trend, generating growing public and academic interest. This tended to be positive, with people seeing it as a chance for regeneration and renewal [6]. "**Temporary use**" refers to the usage of an urban space - whether directed or planned - in anticipation of a "permanent" use of the space in the medium or long term [11]. Moreover, Temporary use of space has been recognized as a critique of the status quo and a catalyst for change, a progressive force that empowers local communities and activists to play an active role in urban transformation. It is known for providing new development methods and alternative spatial experiences [6]. The "power of temporary use" can transform vacant and dereliction-plagued urban areas into a livable space.

5.2.1 Extraordinary Temporary Uses Elements

Figure 6: Various Temporary Activities Done in Public Spaces. Author

5.3   Temporary Use Practices In Alexandria

In Alexandria, many temporary urban practices take shape in different forms. These include traditional and weekly market events contribute to vibrant street life. Beyond these, youth and association initiatives play a role in urban and socio-economic development, organizing recreational activities, and fostering cultural movements.

5.3.1   Flea Market at City Center Alexandria Parking

Purpose: Economic and Social
Location: Carrefour City Center, Alexandria, Egypt
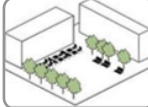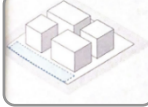**Temporal Type:** Event-based
Duration: Weekends

Figure7 : Carrefour City Center Parking Space.

SALE BAZAAR
2-3-4 FEB 23
Parking city center Alexandria
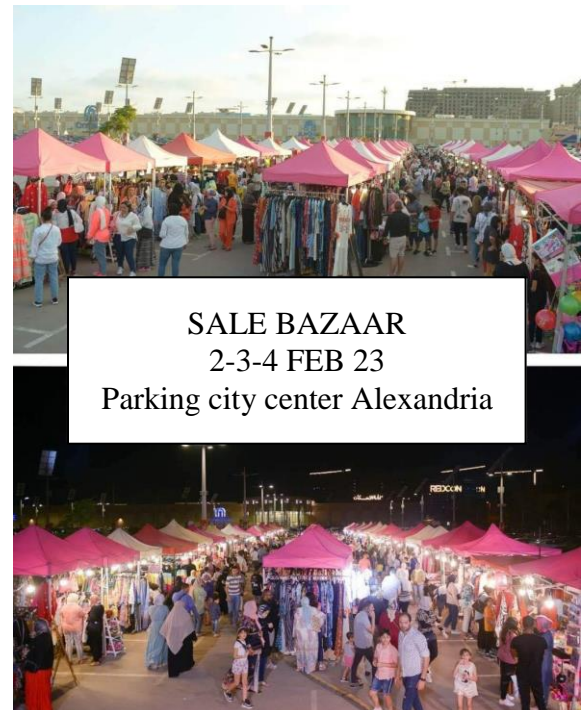
Figure8 : The Temporary Use of The Parking Space.

The Carrefour City Center in Alexandria utilizes its parking space as a bazaar and market on weekends. This transformation exemplifies a temporary architecture intervention, where the large, typically underutilized parking area is temporarily repurposed to host vendors, artisans, and small businesses, creating a vibrant market atmosphere. This initiative not only optimizes the use of available urban space but also fosters community engagement, supports local commerce, and provides a dynamic public space for social interactions. The temporary nature of the market allows for flexibility and adaptability, catering to the needs of both the community and the commercial center.

Table 3: Analysis of The Temporary Intervention in Carrefour City Center Parking Space. Author

| CATEGORIZING		DESCRIPTION
Division By Territorial Basis:		External Semi-Public Space
Division By Spatial Basis:		Semi open Space
Urban Void Typology:		External Void
Temporary Use Elements:		Flea Market

5.3.2 Family Cafe at Ahmed Hassanein Street

Purpose: Economic and Social
Location: Ahmed Mohammed Hassanein street, Alexandria, Egypt
Temporal Type: Interim
Duration:
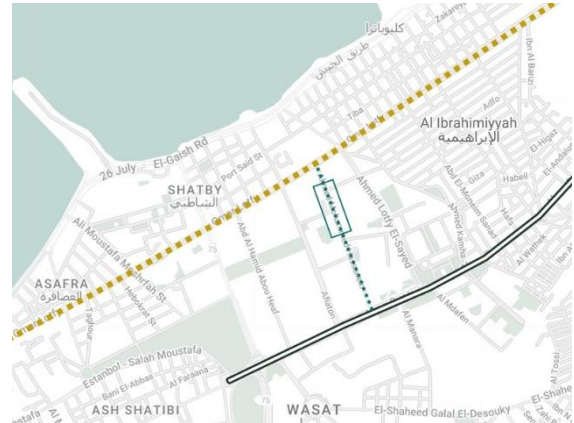
Figure9 : Ahmed Mohammed Hassanein Street, pop-up Café Location. Author
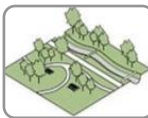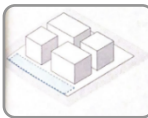

Figure10 : Pop-Up Temporary Kiosk / Family Cafes, with the surrounded street.

Ahmed Mohammed Hassanein Street, located near Alexandria University's stadium, was previously a dark and unsafe area, discouraging people from moving through it at night. This street serves as an important connection between Abou Quer Street and Omar Lotfy Street (Tram Street), two significant thoroughfares in Alexandria. The introduction of pop-up cafes along Ahmed Mohammed Hassanein Street brought about a transformative change. These cafes provided additional lighting, enhancing safety and security in the area. Moreover, they created a vibrant and lively atmosphere, attracting more foot traffic and fostering a sense of community. As a result, the street became a more welcoming and safer environment for residents and visitors, improving its overall livability and reinforcing its role as a crucial link between key parts of the city.

Table 4: Analysis of The Temporary Intervention in Carrefour City Center Parking Space. Author

CATEGORIZING		DESCRIPTION
Division By Territorial Basis:		Outer Public Space
Division By Spatial Basis:		Open Space
Urban Void Typology:		External Void
Temporary Use Elements:		Family Café (pop-up)

6. CONCLUSION

Temporary architecture can promote development, and function in pre-development to engage in participatory design. Thus, they can be accessed by the community for as short as a day or as long as necessary with the intention of being disassembled for a permanent solution. Through creating a compelling space and interacting with the public with the intent of transparent partnerships for a desired development. Eventually, people can make a change and make a place. Additionally, this bottom-up approach can complement top-down bureaucratic mechanisms in Alexandria City for fostering upgrading and development of the urban spaces, as the built environment of Alexandria encourages experimentation that can be given more impact rather than waiting for municipality development programs and plans.

Implementing temporary use within Alexandria's municipal planning requires coordination between stakeholders and government agencies, offering a flexible approach to activating underutilized spaces and supporting community development. The focus of this study was on determining the context of the situation and developing appropriate strategies. It is essential to recognize the potential of the current situation to establish the conditions and be more open to the necessities of people.

This research has laid an exploratory baseline for Temporary Architecture in Alexandria, highlighting its potential benefits, as it can play a good role in shaping and utilizing these urban spaces, either in Alexandria or other cities in Egypt. However, further research incorporating policymakers' perspectives is essential to make these findings realistic and feasible. Alexandria's urban environment is ideal for Temporary Architecture, which can effectively shape and utilize urban spaces.

Key findings:

- **Temporary Architecture** refers to intentionally designed open spaces with a limited duration. These spaces serve specific purposes for a defined period.

- There are **Six Main Categories of Urban Void Typology** within urban spaces classifications. They are Geographic Voids, Enclosed Voids, Infrastructural Voids, Internal Voids, External Voids, and Parasitic Voids.

- Temporary architecture fosters transparent partnerships between the public and developers, empowering communities to influence and transform their urban environments.

- Implementing temporary architecture within Alexandria's municipal planning can activate underutilized spaces, supporting community development and enhancing urban vitality.

- Alexandria's urban environment is particularly suited for temporary architecture, offering a conducive setting for these flexible and innovative interventions.

REFERENCES

1. bizuneh, t. (n.d.). Principle of urban design. Retrieved from ACADEMIA: https://www.academia.edu/4929234/Principle_of_urban_design.
2. ElBaser, A. (n.d.). CHAPTER TWO KEVIN LYNCH MAPPING METHOD: Physical & Spatial Characteristic of Environment. Retrieved from cpas-egypt: https://www.cpas-egypt.com/pdf/Abd_ElBaser/M.SC/003.pdf
3. jioix. (2021, November 23). Temporary Architecture: Innovation, Testing-Ground and Entertainment. Retrieved from jioix: https://jioix.com/temporary-architecture-innovation-testing-ground-and-entertainment/40723/
4. KARAKÖSE, E. (2014). Strategies for urban actions: informal city and participation. Retrieved from semantic scholar: https://www.semanticscholar.org/paper/Strategies-for-urban-actions%3A-informal-city-andKarak%C3%B6se/ca757e10900bccf0030e5b50d9ba9607680ef118.
5. KOOHSARI, M. J. (2015). Public open space, physical activity, urban design, and public health: Concepts, methods, and research agenda.
6. Madanipour, A. (2017). Temporary use of space: Urban processes between flexibility, opportunity and precarity. press in Urban Studies.
7. March, L., & Lehrer, U. (2019). Verticality, Public Space, and the Role of Resident Participation in Revitalizing Suburban High-rise Buildings. Canadian journal of urban research.
8. Parakh, J., Gabel, J., & Safarik, D. (2017). The Space Between: Urban Places, Public Spaces & Tall Buildings: An output of the CTBUH Urban Habitat / Urban Design Committee. Chicago: Council on Tall Buildings and Urban Habitat.
9. Salingaros, N. A. (2016). Geometry and life of urban space. In In 11th Virtual City & Territory International Monograph Book (pp. 13-31). Barcelona, Spain: Centre of Land Policy and Valuations.
10. Shim, J.-H., park, S., & Park, E.-J. (2004). public space planning of mixed-use high-rise buildings - focusing on the use and impact of deck structure in an urban development in Seoul. Council on Tall Buildings and Urban Habitat (CTBUH). Seoul: CTBUH.
11. Smet, A. D. (2013). The role of temporary use in urban (re)development: Brussels Studies. Retrieved from https://journals.openedition.org/brussels/1196.
12. Stevens, Q. (2018, November). TEMPORARY USES OF URBAN SPACES: HOW ARE THEY UNDERSTOOD AS 'CREATIVE'?
13. Archnet-IJAR: International Journal of Architectural Research, (90-107). Retrieved from http://dx.doi.org/10.26687/archnet-ijar.v12i3.1673.
14. Tuncbilek, G. Z. (2016). TRANSFORMATION OF EXPOSITION. 17th IPHS Conference. Volume 06, p. 136. TU Delft: In Carola
15. Hein (ed. International Planning History Society. doi: http://dx.doi.org/10.7480/iphs.2016.6.1326
16. R. Fox, (2015) "Creating a Typology of Temporary Landscapes,"
17. Nouran M., (2019) " Pop-up Architecture and its Role in Regenerating Urban Voids,"
18. Hashem, O.M., Wahba, S.ME. & Nasr-Eldin, T.I. Urban voids: identifying and optimizing urban voids potential as a revitalization source in enhancing developing countries' city income. J. Eng. Appl. Sci. 69, 6 (2022). https://doi.org/10.1186/s44147-021-00053-5

العمارة المؤقتة
دراسة حول إحياء الفراغات الحضرية في الإسكندرية

انجي خالد المليجي [4] , أ.د. سحر الارناؤوطى [5] , د. شريف فرج ابراهيم [6]

الملخص

يؤدي إنشاء مساحات مؤقتة إلى تعزيز التفاعل والتصورات الجديدة للمناطق المحيطة، مما يثير خيال المتفرجين ويترك ذكريات دائمة بعد إزالتها. توفر أفكار العمارة المؤقتة إمكانات طموحة، مما يؤدي إلى إنشاء مساحات حضرية أكثر ديناميكية وتنوعًا وتسهيل التجارب التفاعلية بين المبادرين والمستخدمين.

وتشمل الاستراتيجيات استكشاف المساحات وتنشيطها وتسليط الضوء عليها، بالإضافة إلى إنشاء مناطق غير مبرمجة وإشراك الجهات الفاعلة الخارجية. وعلى الرغم من صعوبة تعريف معنى العمارة المؤقتة، إلا أنه مفهوم يتعامل مع أكثر بكثير من مجرد التجارب الزمنية والحضرية. إنه مفهوم متعدد الاستخدامات يمكن أن يشمل أيضًا الجوانب الجمالية والبيئية والاجتماعية والجوانب التقليدية لهندسة المناظر الطبيعية.

يهدف هذا البحث إلى استكشاف تكامل العمارة المؤقتة كأداة تكميلية لمهندسي المناظر الطبيعية والمخططين الحضريين، وخاصة في مشاريع التجديد الحضري واسعة النطاق. ومن خلال إعادة استخدام الفضاء على أساس قصير المدى حول قيمة ومعنى العمران المؤقت، يسعى المشروع إلى تطوير مبادئ التصميم لإعادة تطوير الاماكن العامة.

الكلمات الدالة: النسق، المقدمة، الخطوط، العناوين، الأشكال، المعادلات.

---

[4] طالب ماجستير – قسم العمارة – كلية الفنون الجميلة – جامعة الاسكندرية

[5] وكيل الدراسات العليا والبحث العلمي – أستاذ دكتور – قسم العمارة - كلية الفنون الجميلة - جامعة الإسكندرية

[6] دكتور – قسم العمارة – كلية الفنون الجميلة – جامعة الاسكندرية