Tactical Urbanism in Action: Bridging Theory and Community-Centric Design in Al Qalyubia

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ARTICLE INFO	ABSTRACT
	Tactical Urbanism (TU) is an innovative, community-driven approach to urban transformation that utilizes low-cost, temporary interventions to enhance public spaces and improve urban mobility. This research explores the theoretical foundations, historical context, and key principles of TU, emphasizing its role in fostering social equity and spatial justice. Case studies from Cairo and Medellín illustrate the effectiveness of TU in formalizing informal street activities, enhancing pedestrian infrastructure, and promoting inclusive urban design. By analyzing a site in Saad Zaghlul Square, Benha, through the lens of Jan Gehl' psychoanalytic and spatial theories, this study evaluates the psychological and physical aspects influencing urban experiences. The findings highlight TU's capacity to create vibrant, functional, and adaptable urban environments, demonstrating its potential for widespread application in cities facing socio-spatial challenges.

1. Introduction: TACTICAL URBANISM AS A COMMUNITY-DRIVEN APPROACH TO URBAN TRANSFORMATION

1.1. Definitions and historical background

Tactical Urbanism (TU) is a grassroots approach to urban transformation through low-cost, temporary interventions that empower communities to reclaim and reshape public spaces [1]. Lydon and Garcia define TU as "short-term action for long-term change," emphasizing scalable and participatory methods [2]. The concept has been further refined by scholars like Crawford, who categorized TU strategies into steps: defamiliarization, refamiliarization, decommodification, and alternative economies, each serving to reclaim urban space for community-driven purposes [1].

TU has been described as a flexible and evolving urban design strategy that complements traditional top-down planning approaches by introducing small-scale interventions to test potential solutions in real-time [1]. Camponeschi (2010) considers TU as an opportunity for citizens to act as initiators of urban improvements, enhancing engagement in local decision-making processes [1]. In Cairo, tactical urbanism (TU) has been proposed as a method to formalize

informal street activities through low-cost interventions, such as reorganizing vendors and adding pedestrian infrastructure, to reduce overcrowding and improve public space quality [3]. A study on urban interventions in Cairo highlights TU's potential in formalizing informal commercial activities, improving pedestrian safety, and fostering social interaction as shown in Fig 1 and 2 [4]. Similarly, Medellín has leveraged TU to address deficits in public space and mobility, employing both citizen-led and municipal-driven initiatives [5].

Fig 1. showing zone 1 and 3 in the case study of cairo before applying TU   Source: [1, Fig.7]
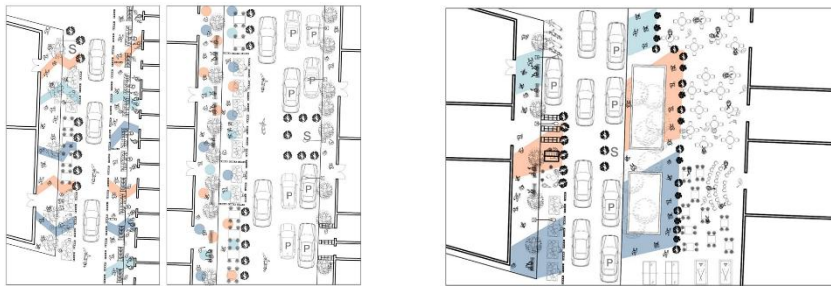

Fig 2. showing zone 1 and 3 in the case study of cairo after applying TU   Source: [2, Fig.10]

The origins of TU lie in grassroots activism and DIY urbanism, emerging as a response to rigid bureaucratic urban planning. Early examples include the transformation of parking spaces into temporary parks during Park(ing) Day, which emphasized reclaiming underutilized urban areas first occurred in 2005 [1]. TU also gained traction in response
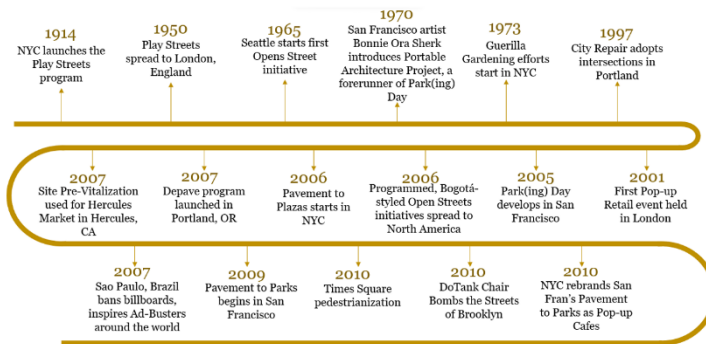

Fig 3. key examples of tactical urbanism projects carried out globally between 1914 and 2012.   Source: [5, Fig.6]

to large-scale urban challenges, such as the Great Recession and the increasing digital engagement of citizens in urban planning [1]. The timeline in Fig 3 below outlines key examples of tactical urbanism projects carried out globally between 1914 and 2012, reflecting efforts to reclaim urban spaces through community-led interventions [5].

1.2. Key Pioneers

Key Figs in TU include Mike Lydon and Anthony Garcia, who laid the groundwork for TU principles through their work with The Street Plans Collaborative [2]. Their approach resonates with Michel de Certeau's (1984) conceptualization of urban 'tactics'—improvised, bottom-up actions by marginalized actors to reclaim space from top-down 'strategies' of institutional power. For de Certeau, such tactics counter the rigid masterplans imposed by authorities, a dynamic mirrored in TU's emphasis on temporary, citizen-led interventions. By operationalizing these ideas, Lydon, Garcia, and similar pioneers transformed theoretical critiques of urban power imbalances into tangible tools for grassroots urban change [2,6].

2. TACTICAL URBANISM: LOW-COST INTERVENTIONS FOR COMMUNITY-LED URBAN TRANSFORMATION AND PUBLIC SPACE ENHANCEMENT

2.1. Guiding Principles

TU is characterized by:

2.1.1. Low-cost, temporary interventions:
Low cost is a defining characteristic of tactical urbanism because it allows for quick, flexible, and accessible interventions that can be implemented with minimal financial resources. By relying on affordable, lightweight, and repurposed materials—such as tires, plastic cones, wood, and paint—these projects become more feasible for communities and local governments to execute [3].

For example, in Medellín, this approach is evident in the design of playgrounds made from recycled materials, as shown in Fig 4 [3].
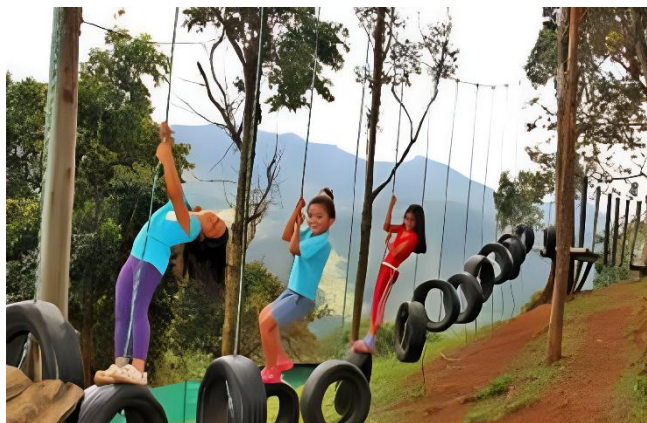

Fig. 4 using recycled products to make kids playground.   Adapted from:[3, Fig.13]

2.1.2. Community-led design:

A community-led design approach involves the active participation of local communities in shaping urban spaces through bottom-up initiatives. It emphasizes the integration of informal, citizen-driven interventions into the formal urban fabric, ensuring that the built environment evolves in response to the needs and aspirations of its users. This approach fosters inclusivity, adaptability, and a sense of ownership among community members. [3].

2.1.3. Scalability:

Scalability is a fundamental characteristic of Tactical Urbanism, allowing small-scale, temporary interventions to evolve into long-term urban transformations [1], Tactical Urbanism relies on low-cost, incremental actions that can be expanded, replicated, or adapted over time to influence broader urban planning strategies. These interventions serve as testing grounds for urban improvements, demonstrating their potential impact before being formally integrated into city planning [3]

The "Walking Networks" project in Medellín expanded pedestrian pathways near transit hubs as shown in Fig 5, demonstrating how TU can be scaled to improve urban mobility [5].

Fig. 5 the left: the area before TU.   the right: after applying TU. source: [5, Fig.27]

2.1.4. Iterative Design:

TU interventions are often tested and refined through community feedback, allowing for adaptive improvements in urban spaces and that is what iterative design means [1].

2.1.5. Placemaking and Tactical Experimentation:

TU is often used as a method to test urban design concepts before committing to large-scale transformations, reducing financial risk while increasing public engagement [1].

2.1.6. Micro-scale and Macro-scale Applications:

TU spans micro-scale interventions, such as tactical bike lanes and pop-up parks, and macro-scale applications, including phased city-wide pedestrianization efforts [7].

2.2. Social Equity and Spatial Justice:

TU fosters inclusivity by addressing marginalized communities' needs. Similarly, in Medellín's Comuna 13 shown in Fig.6, activist-led TU initiatives transformed underutilized areas into safe play spaces, reducing spatial inequalities [5].

Fig. 6 playground in underutilized area. source: [5, Fig.21]

2.3. Diversity of Uses and Urban Vitality:

Mixed-use interventions enhance social cohesion by integrating commercial, recreational, and pedestrian activities. In Medellín, the "Días de Playa" initiative turned a car-dominated thoroughfare into a cultural and social hub as shown in Fig.7, attracting diverse demographics and fostering urban vitality [5]. Furthermore, the implementation of TU strategies such as guerrilla gardening, pop-up retail, and public art installations has been instrumental in activating neglected spaces and fostering vibrant urban environments [1].

Fig. 7 "Días de Playa" social hub [5, Fig.2]

3. SOCIAL STUDIES AS A FUNDMENTAL KEY IN TU

TU serves the shaping of urban public spaces, public spaces equal society, therefore, in this section we are talking about the importance of social studies in making design decisions.
A.   The rise of social studies concept
Critics like Jane Jacobs and Jan Gehl argued that mid-20th-century urban planning prioritized cars and efficiency over human interaction, leading to socially sterile environments [8]. Historically, cities evolved organically, integrating public life and space, but industrialization disrupted this balance. Modern planners now emphasize empirical social studies to revive vibrant public spaces, using observational methods to understand user behavior [8].

3.1. Social studies according to Jan Gehl's vision

Social studies have played a fundamental role in shaping Jan Gehl's vision of urban planning and design decision-making. Gehl relied on observing and analyzing human behavior in public spaces, which enabled him to develop

strategies that enhance social interaction and sustainability. His research showed that cities providing spaces designed according to pedestrian needs contribute to improving quality of life, reducing social isolation, and increasing urban activities. Based on these findings, Gehl made decisions to reduce reliance on cars and expand pedestrian-friendly areas, Furthermore, his studies confirmed that designing streets and squares in a way that considers human movement enhances urban sustainability and supports inclusive cities that meet the needs of all age groups. Therefore, social studies were not merely an analytical tool but served as a foundation for well-informed design decisions based on real data. By posing 5questions and attempting to answer them.

3.1.1. Question1. how many?

The question of how many or how few comes in several varieties in public life studies, such as before and after urban improvement projects. If we know how many people are staying in a square, and we then improve the square and count the number of people again, we can evaluate the success of the renewal project. If the objective was for more people to stay at the square, counting how many using the same methodology on comparable days will quickly reveal the degree of success or failure. Usually quite a number of counts have to be made in order to be able to compare different times of day, different days and different seasons [8].

3.1.2. Question 2. Who?

Jan sees gathering knowledge about people's behavior in public space as the cornerstone of a public life study. When we say 'people', we mean widely different groups of people measured by various parameters. It is often relevant to be more specific about precisely who uses various public spaces. While registration can be done on the individual level, it is often more meaningful to investigate more general categories such as gender or age basic knowledge about the behavior of various groups of people can be used to plan more precise ways of accommodating the needs of women, children, the elderly and disabled, for example. We emphasize these groups here because they are often overlooked [8].

3.1.3. Question3.Where?

It is vital to have basic and specific knowledge of where people move and stay in individual spaces. Studies of movement and staying can help uncover barriers and pinpoint where pedestrian paths and places to stay can be laid out if the study area is a delimited city space, it is often relevant to study where people stay: on the edges, in the middle or evenly distributed in the space? In public, semi-public or private zones? The where question allows observers to zoom in on positioning relevant to function or elements such as furniture, garden gates, entrances, doors, bollards, etc. If the study area is a neighborhood or quarter, it can be relevant to determine where people and activities are gathered or dispersed to a greater or lesser degree. On the city level this can mean registering or localizing numerous functions, activities, direction of pedestrian flow and preferred places to stay [8].

3.1.4. Question4.What?

Mapping what happens in city space can provide specific knowledge of the types of activities in area, such as staying, commercial or physical activities [8]. public space activities can be divided into two categories necessary and optional necessary activities could include shopping, walking to and from a bus stop, or working as a parking enforcement attendant, police of postman optional activities comprise strolling or jogging, sitting on a stair step, chair or bench to rest, reading the newspaper, or simply enjoying life while walking around or seated activities that are necessary for some people may be freely chosen by others [8]. It is important for public life studies to define and record social activities in order to support the function of public space as meeting place [8].

3.1.5. Question5.How Long?

Walking speed and the amount of time spent staying can provide information about the quality of physical frameworks [8]. It is often the case that people walk slower and stay longer in places relative to the qualities and pleasures offered. The time dimension is essential to understanding life in public spaces the time spent by

individuals is often easy to influence through careful planning and design as a rule, it does not take a major expensive initiative to invite people to stay longer. However, if they do stay longer. an invitation can significantly influence their perception of whether or not a place is vibrant and worth a stay, or if they would rather move on as quickly as possible to something better [8].

Tactical urbanism, grounded in grassroots action and participatory placemaking, offers a framework for transforming urban spaces. This case study of Saad Zaghlul Square, Benha, demonstrates how temporary installations and citizen-led initiatives bring these principles to life, turning underused areas into vibrant social hubs and bridging theory with practice.

4. CASE STUDY

4.1. Criteria of selection

Rationale for the case study: Saad Zaghlul Square, Benha
The area has been selected as a hub site due to its convergence of socio-spatial importance and intervention potential:

4.1.1. Multifunctional knot:

The arena acts as a critical crossroads between residential and commercial corridors and car traffic, maintaining daily interactions between passengers, vendors and entertainment users. Its inherent role as a social channel - not a single-job space - is therefore consistent with the social aspects of Jan-Gill's work to analyze the place.

4.1.2. Documented safety risks:

Initial field observations revealed ongoing conflicts between pedestrians and pedestrian vehicles, uneven pavement conditions and fragmented walking capability. These problems provide opportunities for prototyping low-cost, high-impact solutions (e.g., identifying tactical footpaths, standard seats) that address safety while testing community-responsive design principles.

4.1.3. Symbolic and visible value:

As a historical milestone and central gathering point, the prominence of the arena ensures that interventions receive public and institutional attention, which is critical for assessing the societal perception of tactical urbanization.

4.1.4. Convertible lessons:

The field classification - a transit point adjacent to heritage - reflects the challenges faced by similar sites throughout Benha. Successful results here can benefit a citywide framework to extend tactical work to other places in or outside Benha.
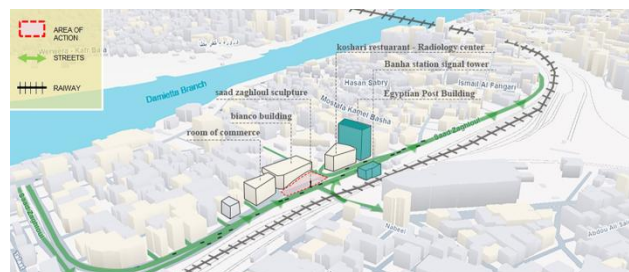

Fig.8 shown the location of selected area and transportation network.   Source:By author

4.1.5. Methodology of analysis

By applying aspects of psychoanalysis by Jan Gehl, we note that the first question is: What are the problems that exist in the place? This becomes clear through two aspects: a psychological aspect and a physical aspect, in order to determine what factors this urban space needs.

Table 1 and 2 shows the missing aspects in the study area.

Table 1. The most important points of psychological aspects

Psychological Aspects	
Safety and Protection	*Provide plenty of suitable light sources*
	Provide a comfortable microclimate
	Provide sense of enclosure
Sensual human Attributes	*Provide interpersonal distance for every user*
	Provide a clean environment with a periodic maintenance
	Provide a friendly environment for people
	Provide a friendly environment for people
	Provide a clean environment with a periodic maintenance
	Provide different opportunities for eat and drink

Source: adapted from [4]

Table 2 .The most important points of physical aspects

Physical Aspects	
Design Attributes	*Provide wide sidewalks.*
	Create a Buffer Zone.
	Place utilities in the furniture zone.
	Provide different services and facilities like seating, kiosks, Wi-Fi & restrooms.
	Create a nearby bus stop shelters that are furnished by seats and swings.
	Create playground and kids' area for children.
Functionality	*Plant annuals and perennials plants.*
	Provide trees, flowers and palms.
	Provide plenty of Seating opportunities
	Organize social events, different activities and usages inside the Urban space.
Place making	*Provide high Image-ability*
	Size of the space should be with a reasonable size not too large and not too small
	Provide Transparency to allow people to see or perceive what lies beyond the edges
	Provide complexity which depends on the variation of the physical environment

Source: adapted from [4]

These previous points are analysed through a visual analysis of the place through pictures of the place and an analysis of the current situation "Fig 9", in which several other analysis questions are clarified.
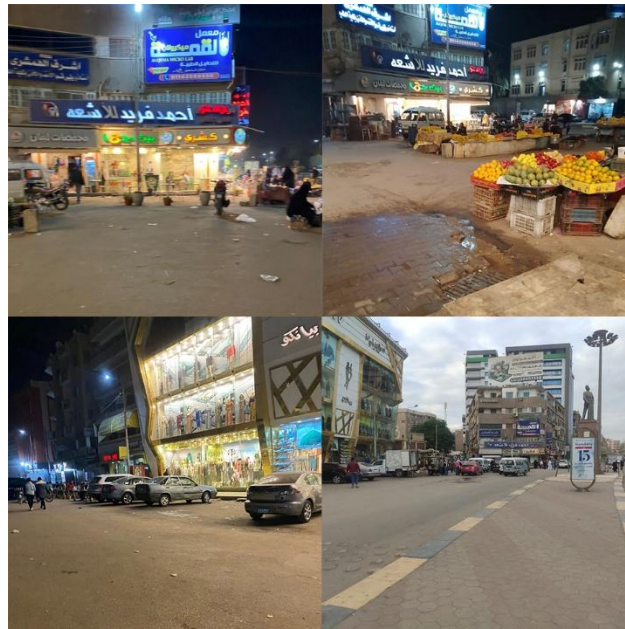
Fig 9. Analysing the current situation with pictures.   Source: By author

4.2. Conduction social studies and analysis

4.2.1. We started the analysis with a questionnaire to the users of the place and the questions were the following:

4.2.1.1. Do you feel safe walking on Saad Zaghlul Street?

4.2.1.2. Is it easy to navigate the street as a pedestrian?

4.2.1.3. Do you think more green spaces would improve the area?

4.2.1.4. Would you prefer more seating areas and shaded zones to rest?
All of them were analysed into diagram as shown in Fig 10.
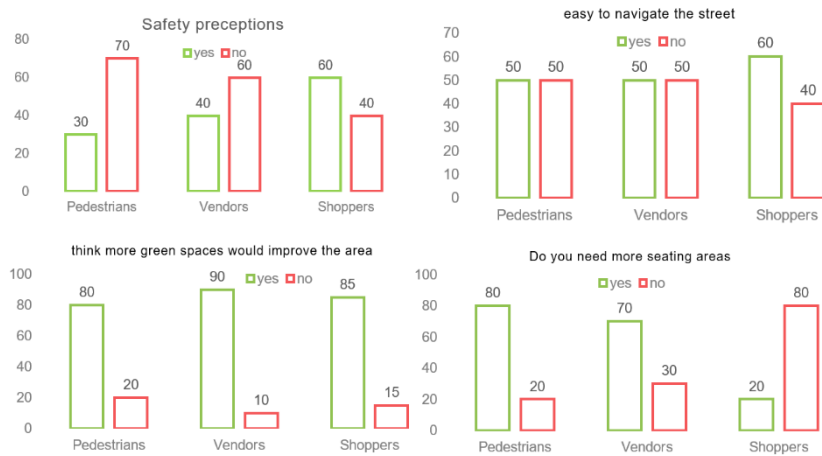
Fig 10. questionnaire results as diagram.   source: by author.

4.2.2. Applying Jan Gehl's social analysis questions
   By analyzing the current situation, Jan Gehl raised several questions as mentioned in Sec.III and it was applied as following:

4.2.3. where?
   Where is the place? Where are the pedestrian paths? "Fig 11" Car tracks? "Fig 12" Where do they intersect? "Fig 13" this is to know the positive and negative aspects of the location and movement of pedestrians, as well as the separation between them and car traffic. And the different movement paths of shoppers and passing pedestrians This is to know the positive and negative aspects of the location and movement of pedestrians, as well as the separation between them and car traffic. The movement paths of shoppers and passing pedestrians differ to solve the problem of the intersection of different uses of the place.

Fig 11. Pedestrian movement analysis. Source: By author.

Fig 12. Car movement analysis.   Source: By author.

Fig 13. Pedestrian intersection with cars.   Source: By author

4.2.4. Who?

 Who are the users of the place and we see that Most users are about 60% adults, 30% bigger, 10% children Among them are pedestrians, enthusiasts, street vendors, and employees? Children here are accompanied by adult shoppers and very little. Gender: 60% female/40% male. "Fig 14"
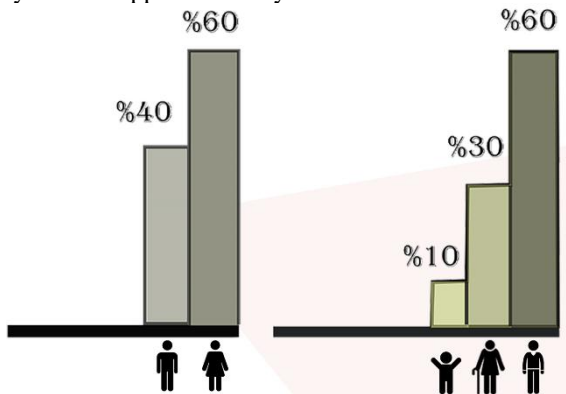

Fig 14. Illustrative ratios for users of the place.   Source: By author.

4.2.5. What?

   What are the activities in the place? From the zoning, we note that the area is mixed in use by the different users as shown in "Fig 15" that we showed previously. There are intersections of

activities that can be highlighted as problems. Most of the existing activities are commercial activities shown in shops and street vendors, as well as administrative activities shown in the Chamber of Commerce building and the post office building, as well as recreational activities through restaurants, food carts, or cafeterias.
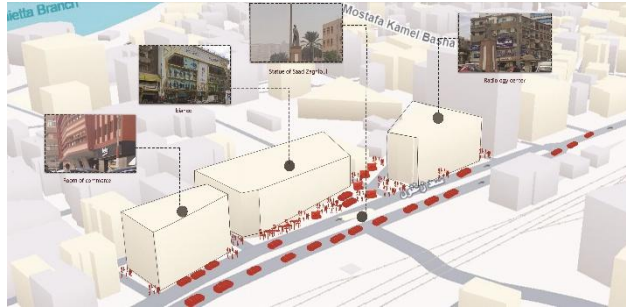

Fig 15. Explaining the basic activities in the buildings surrounding the place.   Source: By author.

4.2.6. how many?

Through which we determine the density of users in the place with their locations depending on their activities, this density "Fig 16" also varies according to time, as it increases during the day and decreases at night, and the density also increases at certain times of the year such as Ramadan and Eid.
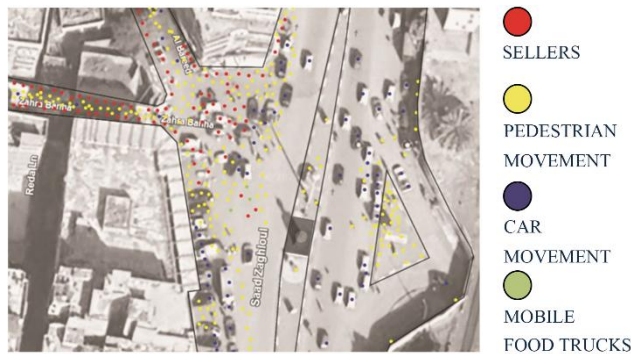

Fig 16. Analysing user densities depending on their activities.   Source: By author.

4.2.7. when?

 In which the density of people is analysed throughout the day, week, month, year, or on normal days" Fig 17" and weekends "Fig 18". This is to determine the times of crowding daily, weekly, and seasonally, and this question is closely related to the previous question.
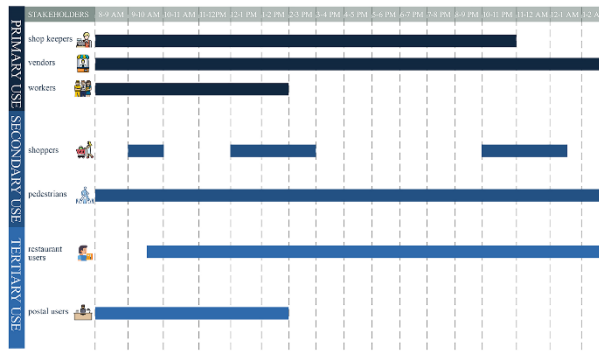
Fig 17. Analysing users' times during weekday hours.   Source: By author.
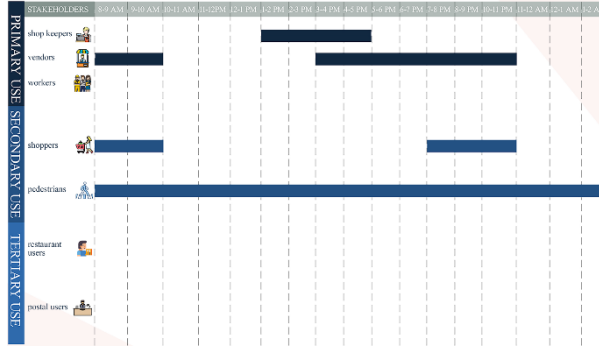

Fig 18. Analysing users' times during weekend hours.   Source: By author.

Through all the previous analyses and the questions set by Jan Gehl from his social analysis, some tactical solutions are made to make all the physical and psychological aspects achieved for the users of the place under the framework of tactical urbanism.

4.3. Identifying the problems

Through analyses monitored in accordance with the principles and questions of Jan-Gill, a number of strong points, including the differentiation of users and the presence of a commercial movement in the place and that it is one of the most important fields in Benha. There are also weaknesses to be seen, including the intersection of motor vehicles with mantle movements. When looking at the opportunities in the place, there are local materials that can be exploited and places that are not exploited. The most important points of opportunity are the statue in the field, but the place directs a number of risks, most of which are the waste generated by street vendors. "Fig 19"

Fig 19. Shown the SWOT analysis results of urban space.   Source: By author.

4.4. Tactical techniques applied

4.4.1. Local ores have been exploited to make simple ideas that can be applied anywhere and ores available in many places, including working stalls in an orderly manner for selling fruits and vegetables from discarded or untapped wooden boxes or making simple seats from the same wood and adding some additional wood to them "Fig 20". Use water vials and recycle them to be rushed as flower tubs for optical separation between user tracks and other users. Use fruit boxes and recycle them so they are flower basins that increase the amount of vegetation in place and visual comfort "Fig 21". Use colors in the floors to separate in the movement paths in cheerful colors "Fig 22".Use of discarded fabrics so that they are shaded places of place and provide climate comfort to achieve one of Jan-Gill's psychological aspects "Fig 23".

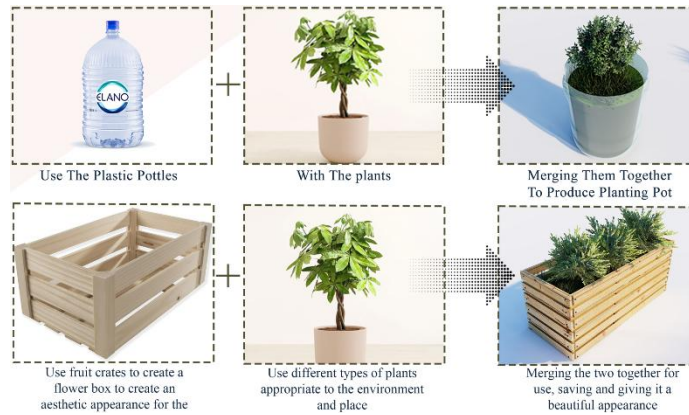**Fig 20.** Re-exploit wooden fruit boxes in design elements.   Source: By author

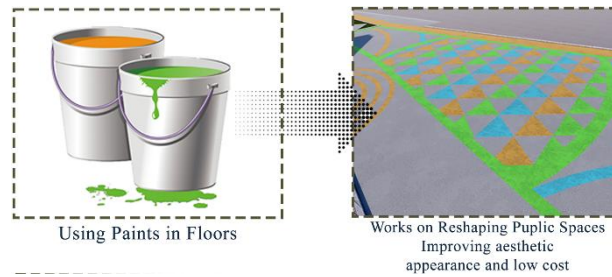**Fig 21**. Recycle simple materials to make flower tubs.   Source: By author.

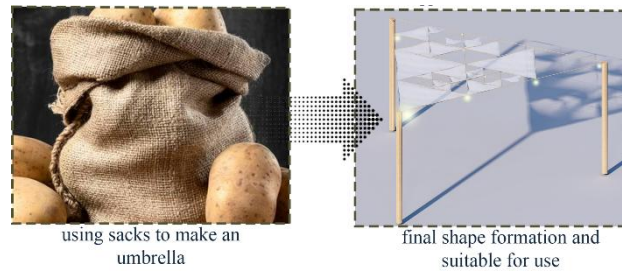**Fig 22**. Using colors in the floors to separate the movement paths

Fig 23. Use it to cover from simple ores such as discarded fabrics.   Source: By author

4.4.2. After applying these simple ideas, the final product appeared on the project site and the solution to all the problems that appeared in the analysis of the data and questions of Jan Gehl. Results show the separation of movement paths "Fig 24", the placement of homemade kiosks of simple wood for fruit boxes "Fig 25", the

placement of water vials and flower boxes to separate movement paths "Fig 26", the placement of seats for eating and drinking to serve on food carts in the place "Fig 27".

Fig 24. shown the separation of movement paths.   Source: By author.

Fig 25. shown kiosks of simple wood for fruit boxes.   Source: By author.

Fig 26. showing water vials and flower boxes to separate movement paths.   Source: By author.

Fig 27. showing seats for eating and drinking to serve on food carts.   Source: By author.

4.4.3. We also suggested placing additional places for the restaurant located in the place to separate the movement of each part and each user "Fig 28", confirming the place of the statue by drawing on the floor "Fig 29", making some drawings of the items used to know the width and height "Fig 30". There is an IEEA demonstration of the location until the movement paths, displays and vacuum ratio are displayed for the surrounding buildings "Fig 31".

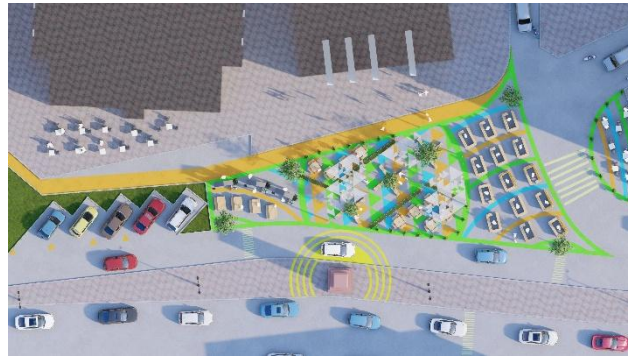**Fig 28**. showing additional places for the restaurant.   Source: By author.

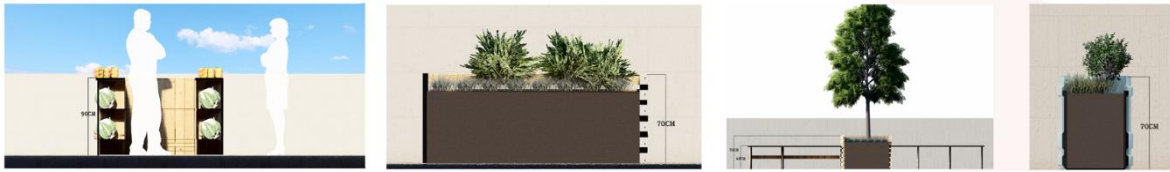**Fig 29.** showing confirming the place of the statue.   Source: By author.

Fig 30. showing the details of elements.   Source: By author.

Fig 31. showing the section of urban space.   Source: By author.

5. CONCLUSION

Tactical Urbanism is one of the most transformative approaches to urban development, particularly in the context of community engagement and the revitalization of public spaces. By leveraging low-cost, temporary interventions, Tactical Urbanism empowers residents to actively participate in reshaping their environments, fostering a sense of ownership, and belonging. The case studies from Cairo and Medellín exemplify how such grassroots initiatives can effectively formalize informal activities, enhance urban mobility, and promote social equity. Moreover, the iterative nature of Tactical Urbanism allows for continual refinement based on community input, ensuring that the interventions remain relevant and effective. As cities face increasing socio-spatial challenges, the principles of Tactical Urbanism offer innovative solutions for creating inclusive, vibrant, and adaptable urban environments that respond to the needs of diverse populations. Therefore, incorporating Tactical Urbanism into urban planning practices is essential for fostering resilient communities and achieving sustainable urban transformation.

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