

THE FACTOR DETERMINING EFFECTIVE MODELLING OF THE URBAN SPATIAL TRANSFORMATION PROCESS BASED ON TEMPORARY USE

Karolina SZATON-ORLIŃSKA ^{a*}, Szymon OPANIA ^b

^a PhD arch.; Institute for Ecology of Industrial Areas, Research and Development Department, Kossutha 6, 40-844 Katowice, Poland
ORCID: 0000-0002-3390-8774

*E-mail address: k.szaton-orlinska@ietu.pl

^b Assistant Prof.; Silesian University of Technology, Faculty of Architecture, Akademicka 7, 44-100 Gliwice, Poland
ORCID: 0000-0002-9801-6945

*Corresponding author. E-mail address: szymon.opania@polsl.pl

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Abstract

The research involves analysing strategic models of urban spatial transformation processes in cities using temporary use as a significantly supportive tool or as the core of the transformations. The scope of the research includes identifying effective transformation models through the verification of cases based on established criteria and conducting detailed studies of selected cases to highlight the process elements, analyse their relationships, and assess the role of temporary use. The research method relies on critically comparing and analysing chosen cases. As a result, we have identified fundamental criteria that indicate the application of temporary use as part of a broader transformation process, along with supplementary indicators and characteristics that impact the effectiveness of the conducted transformations. These indicators can help model transformation processes based on temporary use. The research holds particular significance in utilizing temporary use within a broader, integrated urban transformation process that goes beyond a one-time intervention.

Keywords: Temporary use; Tactical urbanism; Urban interventions; Urban sustainability; Urban regeneration.

1. INTRODUCTION

1.1. Introduction to the Concept of Temporary Use in urban space

This article focuses on examining contemporary urban transformation processes, which involve temporary land use. The concept of temporary use, the research subject, is based on a definition formulated by Bishop and Williams [1]. Temporary use involves the time-limited usage of space (development, usage, event organization), which signifies purposeful action in the area with the assumption of concluding a particular form of use. A correct understanding of the term “temporary use” is crucial for its effective implementation.

Temporary use differs from the concept of urban intervention, which denotes a spatial event that may be part of a broader process but can also be a spontaneous, singular action carried out without a wider context of spatial events. The described temporary use is significant as a strategic action in the whole context of urban transformations.

Many urban areas require transformation, changes in previous land use, or even new development. The planning approach to revitalizing areas has undergone a shift. Presently, there is a requirement for dynamic adaptation to evolving circumstances. As a result, the notion of durability and permanence, which have long been indicators of prosperity and excellence, has often

undergone a radical change [2]. Temporality, tested directly within the urban planning structure as a reflection of cultural transformations [3], has become a significant alternative to durability and permanence. Consequently, the phenomena occurring since the turn of the 20th and 21st centuries are now called “liquid modernity” [4]. Bauman employed this term instead of the commonly used “postmodernism”, which, in his view, implied “abandoning modernity and being on the other side” [5], failing to acknowledge the pursuit of modernity utilizing existing practices and achievements. In this way, Bauman attempted to confront what is original and continuous in the contemporary historical background. A characteristic feature of this phenomenon is the “lack of anchoring” and the lack of references to values such as identity, worth, or capital, as well as the “absence of boundaries”, including consumption, geopolitical, trade, and communication boundaries [6]. Temporality occupies the space created by these uncertainties at the intersection of what is now and what will soon be different. At the same time, it aligns with the need for flexible management and response and continuous adaptation of spaces to meet new economic, political, social, and environmental expectations and conditions. The design and urban planning aim to ensure resilience to contemporary dynamics of change. This requires an approach in which the implementation of new solutions is related to both spatial solutions and urban space management [7]. On the other hand, such a combination is a distinctive feature of a revitalization strategy that employs temporary use as a tool.

In modernism and postmodernism, urban planning was associated with creator’s vision; it strongly correlates with infrastructure aspects and strategic and multidisciplinary approaches [8]. Bernard Tschumi describes contemporary spatial design as a dynamic synthesis of diverse factors. He compares it to the creation of a film, where in addition to set design, actors, lighting, and plot are crucial [9]. Ewa Rewers mentions a similar concept, viewing urban events not only as experiences of urban space but as programmable and actively used spaces [10]. Temporary use of space enables the introduction of new variables: time, users, and programs [11].

1.2. Introduction to the strategic approach of temporary use

In scholarly discourse, accompanied by political and societal interest, a distinct theme emerges that narrows down the range of described good practices of temporary use [12, 13] and focuses on its strategic purpose [14, 15]. The strategic approach goes beyond infrastructural spatial development and incorporates management, planning, social participation, and other elements used to achieve long-term results. A particular research area addressed in this article is the application of temporary use as a tool or element of spatial transformations in a strategic context. This means that it involves a context-bound and multidimensional process of spatial development. The key lies in actions that prepare the space for its intended function, harness its potential, interact with the surrounding environment, and capitalize on the advantages of its location to infuse it with operational potential, which, as James Corner suggests, is even more crucial than compositional design [16]. Strategies that utilize temporary use aim to harness this potential and convert it into a sustainable spatial, social, and economic element. Therefore, they can be pivotal in an integrated approach to comprehensive urban revitalization [17].

Pioneers of strategic thinking on temporary use include Philipp Oswalt, Klaus Overmeyer, and Philipp Misselwitz, who introduced a typology of urban strategies [18]. In the strategic context, the goals of temporary use and its connection to specific locations are also examined [19]. Urban policies and operational actions reflect the significance of the topic. However, more research on strategic approaches is necessary regarding assumptions and their progression, fundamental effects, and effectiveness in achieving the intended objectives. A systemic approach to processes and examining the broader impact of temporary use on space over the long term is necessary [20].

2. MATERIALS AND METHODS

Based on the literature review, we can conclude that analysing temporary use cases beyond one-time temporary interventions, which encompasses the entire transformation process, needs to provide a comprehensive and systematic research approach [21]. This approach formed the basis for initiating the research described in this article, which is based on the analysis of temporary use within the context of broader urban transformation processes. On the one hand,

research justifies the necessity to examine and assess methods related to theoretical assumptions and the application of temporary use as a means for broader transformation. On the other hand, we need to take into account the implementation of these methods in specific locations, assess fundamental changes, and examine the relationships and dependencies among the stakeholders representing different sectors [22, 23]. The research described in the article focuses on the first aspect mentioned: the analysis of methods to apply temporary use in complex spatial transformation processes in cities.

2.1. Research Objective and Method

The purpose of the conducted research was to examine the structure of urban transformation processes in which temporary use is one of the elements. The design of an effectively functioning spatial transformation process, which achieves its goals and impacts the environment over time and space, was referred to as a model. The research task involved: identifying the elements of the process in selected cases, determining the intermediate and long-term goals of temporary use and its role in the process, and analysing the connections between temporary use and other elements of the transformation process. The research findings can guide planning, constructing, and managing urban transformation processes with effective temporary-use applications.

The research method employed for this study involved a critical expert comparative analysis of implemented or ongoing processes using deductive research. The cases were selected according to established criteria, allowing for preliminary selection and identification of practices potentially effective in achieving sustainable urban transformations and long-term outcomes.

As a result, the study identified characteristic indicators of the processes contributing to the effectiveness of the transformation. These indicators aim to identify elements of management, strategy, design, and planning the course of change to:

- Maximize the positive effects of the conducted actions after the completion of temporary interventions within the area;
- Increase the scope of impact of the initiatives by fully taking advantage of opportunities of temporary use's potential during and after its end of duration;
- Implement solutions that are in line with current needs and adapted to the site conditions, with

strong social support;

- Make full use of each implementation stage for action (avoiding unfavourable interruptions in using the transformation area).

The temporary use of spaces presents significant challenges for empirical research due to its limited duration. Therefore, based on the analysis of existing data, case studies were conducted using a desk research method [24, 25]. Both during the initial case selection and in-depth analysis, we primarily utilized available scientific literature, as well as journalistic texts, descriptions provided on the websites of designers or contractors, and internet forums. Data were verified by consulting diverse sources. The data particularly focused on describing specific events, stakeholders involved in the process, and spatial implementation descriptions. Based on this information, we established the chronology and details of each process stage. While some cases had more data, to ensure comparability, we employed defined data criteria illustrated in graphical representations of the processes (Fig. 1).

2.2. Case selection criteria

An essential assumption of the research was to analyse cases with high potential for effectiveness in long-term spatial transformation outcomes. To achieve this purpose, we made a selection based on general theoretical criteria - the essential criteria (C) derived from the assumptions arising from the synthesis of critical scientific discussions on the effectiveness of strategic temporary use in urban transformations:

- C1: Temporary use is a significant (influencing the course of the process) element within broader transformations.
- C2: Spatial transformations are staged processes where elements occur in a structured sequence with specific objectives.
- C3: Actions are coordinated, and the process is managed.
- C4: Transformations are carried out as an iterative process in a cause-and-effect manner.
- C5: Stakeholders representing diverse social and professional groups are involved in the activities, pursuing broad public goals.

Table 1.
Description of the essential criteria for case selection

NO.	DESCRIPTION	JUSTIFICATION
C1	The selected case should represent a strategic approach where continuity and coherence of actions are essential, and temporary use plays a significant role. The steps should form a logical sequence and be implemented in various forms.	The criterion excludes temporary one-time interventions not part of spatial transformation strategies or transformations where temporary use plays a marginal role.
C2	Transformations should be shaped as a process consisting of elements ordered in a logical sequence, interconnected, and coherent. The transformation goals and the vision of the intended outcomes are defined.	The criterion excludes interventions carried out as one-time actions without temporal and spatial connections to other activities.
C3	Transformations are carried out in response to existing problems, following a vision and a goal. The local conditions and the area's potential influence how transformation management methods are determined. Although individual actions may be implemented from the bottom up, the process is controlled.	The criterion minimizes bottom-up actions contrary to the public good, reduces the risk of chaotic actions in random locations, and ensures that actions are aligned with long-term goals rather than short-term objectives.
C4	The effects of actions are monitored and analyzed to understand ongoing changes. The outcomes of individual activities serve as the basis for making further decisions. A detailed action plan is developed for the immediate timeframe, referred to as an iteration. Subsequent iterations are planned based on the analysis of previous results. The long-term goal is defined in a framework and may evolve based on the gradually achieved effects.	The criterion conditions an alternative approach to the classical planning and management of spatial transformation. It requires conducting actions flexibly and dynamically. It enables the experimental and prototype-based application of temporary use.
C5	Transformations are implemented through the collaboration of various stakeholder groups as a cohesive implementation that combines bottom-up and top-down actions.	The criterion minimizes the risk of actions based on individual interests prioritized over the concern for sustainable, inclusive, and equitable access to space.

Table 2.
Fragment of the classification matrix for selecting cases for further research used in the study.

P1: Granby Park, Dublin, Ireland [26]; P2: Allen and Pike Street, New York [27]; P3: Plug N Play, Copenhagen, Denmark [28]; P4: Canning Town Caravanserai, London, UK [29], P5: Carlsberg Brewery, Copenhagen, Denmark [30], P6: Tempelhofer Feld, Berlin, Germany [31, 32], P7: 100 Union Street, Southwark, London [33, 1]. The indicated cases were selected based on the general theoretical criteria described above (C1 - C5)

CASES	C1	C2	C3	C4	C5	RESULT
P1	o	o	+	o	+	o
P2	+	+	+	+	+	+
P3	o	o	+	o	+	o
P4	o	+	+	o	+	o
P5	+	+	+	+	+	+
P6	+	+	+	+	+	+
P7	+	+	+	+	+	+
P(n)	x	x	x	x	x	x

We based the case qualification for further study on fulfilling all criteria. To select practices for in-depth analysis, we examined approximately fifty temporary spatial interventions for fulfilling essential criteria C1, C2, C3, C4, and C5. These criteria enabled us to exclude or classify cases as part of a broader transformation process, indicating their potential effec-

tiveness in achieving sustainable spatial transformation outcomes. A standardized process model is challenging to identify because it is continuous and often unfinished, and the evaluation of results may vary depending on the priorities adopted. The conditions present in a specific space also vary. The selected processes for in-depth study do not represent exemplarily conducted cases but exhibit essential characteristics for initiating and sustaining the process. Their potential often depends on external factors such as funding, legal, political, or social situations. Therefore, the further case studies did not find and construct a repeatable process but identified mutually supportive elements that reinforce effects or lay the foundation for subsequent spatial interventions.

3. RESULTS

As a result of the classification, we selected four cases that met all the criteria for further study: (P2) Allen and Pike Street in New York, (P5) Carlsberg Brewery in Copenhagen, (P6) Tempelhofer Feld in Berlin, and (P7) 100 Union Street in London. We subjected these cases to further analysis in line with the research objective.

3.1. Identification of the spatial transformation process complexity

The analysed cases displayed similarities and differences in the organization of the process. The similarities pertain to the logical construction of process chronology and the staging of activities following similar patterns. The activities of the studied processes can be grouped thematically and include:

- (1) Area research (AR): including assessments of historical value and technical condition of objects and areas, social research, environmental assessments, potential pollution evaluations, and assessments of economic, business, and functional value.
- (2) Protection and revitalization (P+R): encompassing the protection of fauna and flora, renovations, repairs, and revitalization efforts.
- (3) Vision creation (V): involves architectural and urban design competitions, expert advisory services, formulation of detailed objectives, conceptual designs, and broadly understood social participation [34].
- (4) Coordination (C): includes process management, managing social inclusion management, progress evaluation, goal implementation, financial management, facility leasing management, event organization, investor and funding acquisition for performance, and more.
- (5) Activation (A): comprising the realization of events, introducing new functions and social groups that utilize the area, providing new possibilities for area use, temporary area use, and continued social activation.
- (6) Utilization (U): involves temporary and permanent use, phased implementation of infrastructure plans and projects, and grassroots area usage, transforming temporary solutions into permanent ones or continuous changes in function and usage type.
- (7) Complementary actions (CA): including external consultancy, project promotion, media discussions, preparation of strategic and planning documents, object demolitions, technical infrastructure construction, area security measures, and supporting usage activities such as lighting, temporary security, urban furniture, and more.

A characteristic of processes in which temporary use plays a significant role is the continuous intermingling of stages, parallelism of actions, and process management. Differences include the intensity of

interconnections between activities, duration of individual scenes, sequence of implementation, repeatability of stages, direct or indirect utilization of obtained results for shaping subsequent steps, proportions between permanent and temporary solutions, and soft versus infrastructural actions, methods of achieving set goals, the form of management focusing on top-down coordination or leaving decision-making within grassroots movements, and the combination of both management forms. A common element is unpredictability or inability to entirely subordinate the process to a rigid planning or design structure. At the same time, a differentiating factor is an openness to this unpredictability or utilizing only selected developed outcomes while disregarding the rest. The manner of social participation also dramatically influences the course of the process. Solutions based on grassroots decision-making require greater flexibility from coordinators and introduce more dynamism in the chronology and planned structure of the process. Still, they may result in ineffective financing and excessive prolongation of certain stages or the absence of permanent solutions. Top-down coordination introduces the risk of missing the opportunities of the potential of temporary use. Effective, sustainable, and coherent integration of grassroots and top-down solutions, temporary and permanent, is the key to building effective transformation processes.

3.2. The role of temporary use in transformation processes

Temporary use adds a new dimension to the chronology of transformation processes, bringing in multidimensional activities that stem from long-term activation and the initiation of service before the end of the duration of the spatial transformations. Vibrant activation necessitates the simultaneous implementation of multiple actions and a flexible and tactical approach to managing and coordinating the transformation process. By analysing the progress of the studied spatial transformation processes, we can observe that critical factors, such as the purpose of temporary use, timing, duration, or systematic repetition, control the impact of temporary use on planning and strategic changes in land use, as well as the method of initiating and managing temporary solutions, significantly influence the course and form of these processes.

Each of the examined cases represents a unique approach from different challenges, transformation goals, and local economic, social, and spatial condi-

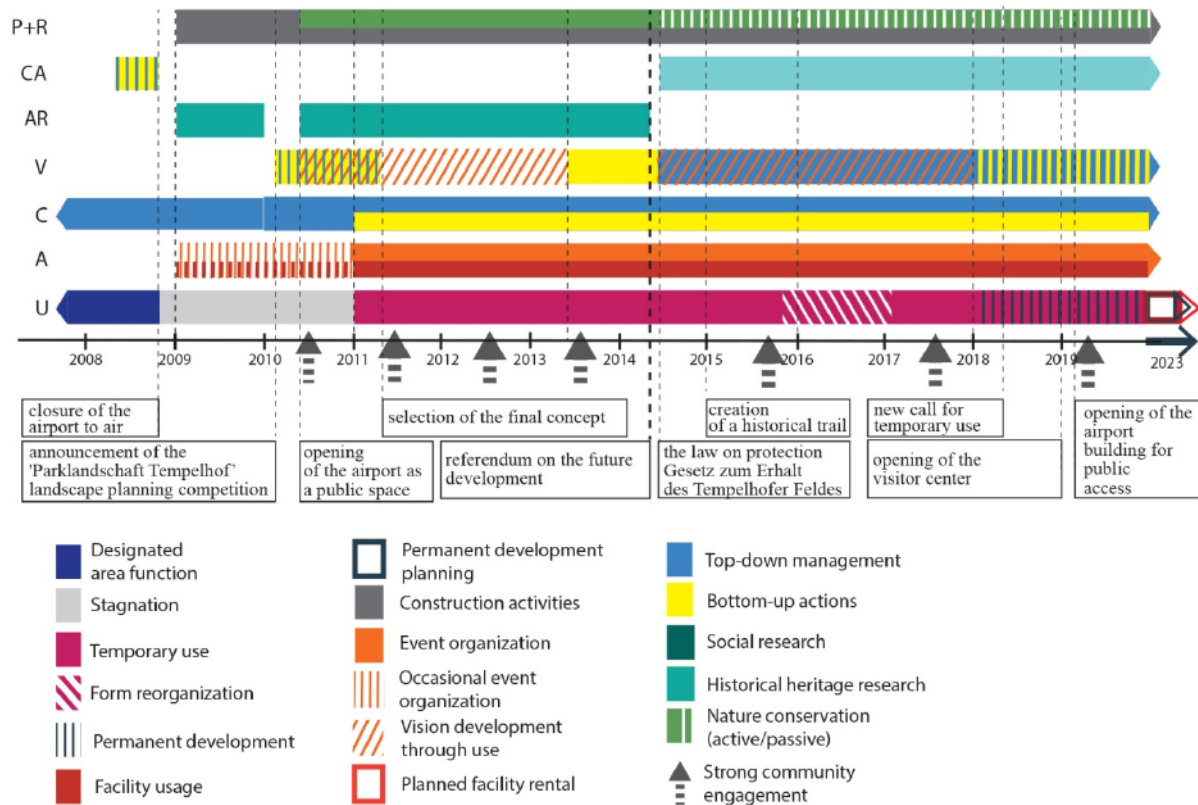


Figure 1. Stages of the macro transformation process of the former Tempelhofer Feld airport in Berlin. The diagram presents a graphical method of illustrating the steps and elements of the transformation process. The chart has been prepared for all four selected cases

tions. For the Allen and Pike Street process, temporary use is a primary determinant and the core of transformations. It plays a crucial role in shaping the desired spatial and functional changes. The process begins from the bottom up, driven by solid social engagement that aims to improve the safety and functionality of the road corridor and its surroundings. Temporary use, in the form of prototypes of planned spatial-organizational solutions, results from the initial stage of activation and vision creation and directly preceding permanent development. It is implemented twice - the first use introduces low-budget solutions and tests the effectiveness of the intended directions, such as narrowing the road or applying street furniture in the median. The second phase introduces prototypes of specific spatial solutions that closely resemble the final development and are systematically enhanced or transformed into permanent solutions, such as enduring infrastructure with the intended design. Temporary use is applied as a testing method, and prototyping developed solutions directly influences the final form. The firm reliance on temporary use as the foundation and progression

of the process is also characteristic of the Tempelhofer Feld transformations in Berlin. However, its function is different and evolves. In the initial period lasting several years, temporary use entails the free utilization of space while introducing a new quality - pioneering projects in the form of small spatial structures used by residents according to their ideas and intentions [35, 36, 37]. These grass-roots initiatives are created within predetermined frameworks and based on an established strategy that involves collaboration between city authorities and experts. They have been shaped in response to immediate needs and evolving circumstances. In this case, temporary use is not to test solutions that will assume a permanent final form but to establish land-use principles and possibilities. Initially, temporary use is a solution to bridge the gap between the expired function and the new development. Later, it becomes a permanent collaboration between the local government and residents [38, 39, 40]. In the Berlin case, temporary use directly influences the final form and can result in changes to infrastructure plans due to significant social effects [41, 42, 43].

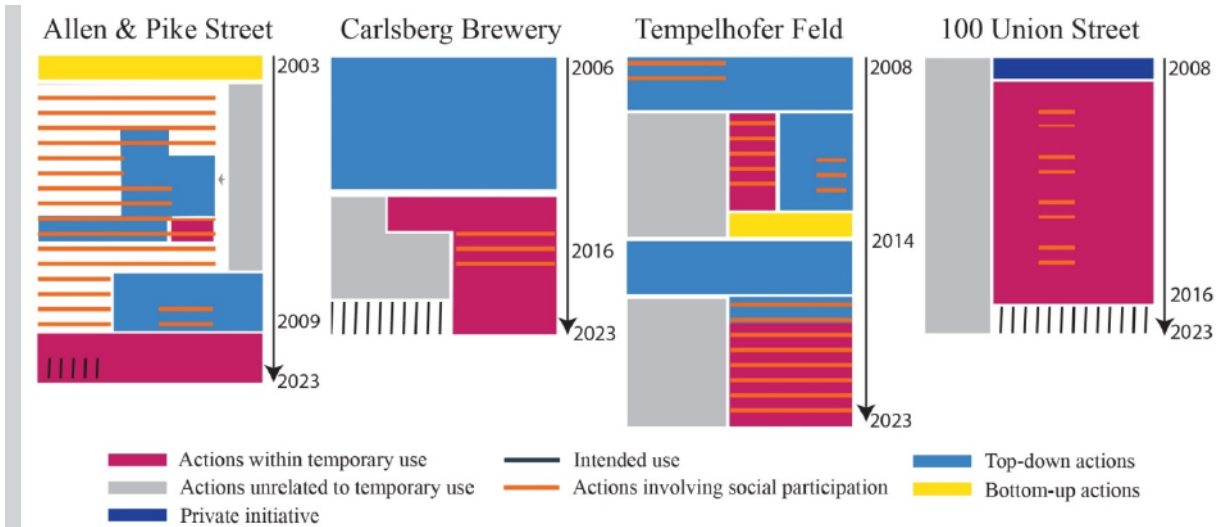


Figure 2.
Comparison of simplified process models of selected cases

Carlsberg Brewery in Copenhagen and 100 Union Street in London differ. Temporary use is applied there to activate the area in the long term, where the ultimate spatial form is determined during the initial stage of the transformation process. In both cases, the ultimate spatial form needs to be deferred or requires a long implementation phase. Leaving the area unused for an extended period could result in its deterioration. However, temporary use in these two processes extends beyond mere activation and fills the gap between the expired and the ultimate form of development. Temporary use is an internal, managed micro-process involving elements such as temporary allocation of formal spaces, event organization, facility rentals, and collaboration with residents. The goal is to create a vibrant area that revitalizes the neighbourhood and transforms its negative image into a new quality and brand [44]. To accomplish this, temporary use is organized and structured through meticulously planned stages. The results of previous activities are used to reinforce the impact of subsequent actions, the forms of which depend on the earlier results. The planning and management process is dynamic and flexible. Despite the absence of a direct link to the final development, temporary use is a crucial element of the transformation process and plays a vital role in achieving the desired transformation goals.

In the case of Carlsberg Brewery, temporary use is implemented through a series of sequentially executed projects that develop various public spaces within the adjacent area transforming. The temporality of these spaces is based on the assumption of a defined

finite duration in a given location. The participation of the community in shaping the vision and implementing the development is crucial [45].

The 100 Union Street model represents a scenario where temporary use takes the main stage in the transformation process. While it may not directly influence the final spatial form, temporary use enables the successful realization of investments and activates the neighborhood, thus supporting a broader revitalization process. In the case of 100 Union Street, the initiative is driven by the private sector, which facilitates intervention on private land and provides necessary support and infrastructure for the initial temporary implementation. The initial implementation sets a chain of cyclic temporary spatial projects dynamically supported by accompanying events. Subsequent interventions build upon and complement the established network of connections.

The role of social network analysis on participation and placemaking leveraging the positive effects of previous implementations. The process consists of short-lived but highly dynamic stages that follow one another annually. Each step prepares the groundwork for future actions and consumes the potential of previous interventions. The chain of events creates a coherent process coordinated by experts and activists. Social involvement in this process does not primarily focus on determining spatial forms, as this responsibility lies with specialists [46]. Instead, it focuses on project implementation and creative utilization [47].

3.3. Factors characteristic of the processes that evolve into their effectiveness

There are many strategies for shaping processes, but we can divide the characteristics of processes that determine their effectiveness into necessary (essential) factors aligned with the adopted selection criteria (C1-C5) and complementary factors (F1-F19). The essential factors are fundamental and common to all temporary use processes. Instead, we must tailor the complementary factors to the existing conditions and defined goals. Based on examining four cases, we have identified the following complementary factors:

- (F1) Multiple focal points of action: At different stages, the process is supported or organized by various stakeholders, government bodies at multiple levels, multidisciplinary expert teams, neighbourhoods groups, residents, and users. Collaboration and cooperation are the basis for action.
- (F2) Bottom-up initiated process: The process is formed, for example, by a neighbourhood group pursuing common goals relevant to the community.
- (F3) Repetition of process stages: Selected stages of the process or individual actions are repeated to verify previous assumptions, test developed solutions, implement new solutions, and monitor their effects. Continuous modification of final premises and transformation methods is possible.
- (F4) Creation and connection of focal points: Temporary spatial interventions, due to their nature, usually occupy a small area. Multiple activating points must be applied to activate a larger size. The connections between attractors require diversification of their functions and forms to complement the functional offer of the area mutually.
- (F5) Independent coordination: Temporary use should be shaped as a micro-process characterized by an individual strategy for coordination and management concerning the entire transformation process. Temporary implementation requires continuous, intensive supervision and dynamic response driven by constant control.
- (F6) Temporariness due to assumption: Some spatial forms implemented as temporary interventions could be a permanent element of the public space (constructed with durable materials). Their temporariness stems from the assumption of using and developing the given place in a different form in the future.
- (F7) Process orientation towards one form of use at a specific time - permanent or temporary: Temporary use of the area is an episode in the context of the entire process and serves a strategic purpose or serves as a form of temporary land use in the meantime before the intended use.
- (F8) Process orientation towards multiple forms of use - permanent and temporary: Temporary use is implemented concurrently with permanent development throughout the entire process or for a specified period.
- (F9) Simultaneous planning and use of the area: The area or a part of it is made available for use during the planning and implementation of the vision. Interventions and plans can be adjusted in real-time based on needs and conditions, and users continuously test them. The use process is developmental and flexible. At the same time, a new brand for the area and the necessary infrastructure are created.
- (F10) Planning and use based on spatial sectors: The area is divided into sectors developed concurrently or in a predetermined sequence. Sector division facilitates the coordination and staging of the process, reduces the risk of developing mono-functional zones, allows for more flexible spatial planning, and mitigates the risk of ineffective actions.
- (F11) User-supported process through capital contribution: Users implement their concepts using their own or acquired financial resources from various sources (e.g., crowdsourcing). They support the process through their labour and resources.
- (F12) Infrastructure created based on existing activities: The area's development is based on existing or developed formal or functional patterns that have emerged during the use of the space. The intended outcome is built to continue the progress initiated by temporary use.
- (F13) Multiple temporary projects simultaneously within the transformation area: Using multiple "attractors", or activation spaces, enables mutual reinforcement and broadens individual intervention's impact. There is a lower risk of interrupting the process in case of a single unsuccessful initiative.
- (F14) Flexible approach to spatial outcomes: Elements of the process are multiplied, branching out into diverse actions and encompassing a broader range of tools. The aim is to maintain specific characteristics of the area and enable its further development in a generally defined direction

Table 3.
Supplementary factors shaping the transformation process in the examined cases

	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18
P2	x	x	x	x		x	x		x	x		x			x	x		x
P5	x				x	x	x	x		x	x	x		x		x		x
P6	x	x		x	x	x	x		x	x	x	x	x	x	x	x	x	x
P7			x			x	x	x				x	x			x	x	x

rather than striving for a particular spatial form.

- (F15) Variable involvement of stakeholders in different process stages: The process unfolds over time, with actions taking on a linear cumulative form or representing independent parallel development paths, each evolving according to its dynamics. The process is divided into stages where stakeholders fulfil diverse functions. The approach assumes the consumption of previously achieved results in subsequent actions.
- (F16) Multidimensional temporality: Temporary use is realized in multiple ways. It applies to both spatial projects and the unrestricted use of existing elements of the area, the organization of events and outdoor activities, and the renting of facilities.
- (F17) Temporality as a continuous process: Temporary use persists continuously throughout the entire development cycle of the area and represents a 'permanent' intended form of land use. It changes over time in terms of both form and function. It can apply to the entire area or a designated zone within it.
- (F18) Pulsating and intensive temporary use: Temporary use alternates with periods of stagnation in a recurring cycle. The repetitive activation period, despite time intervals, establishes a coherent axis of transformation. The generated potential remains dormant during stagnation, only to be enriched with new values in the subsequent activation period, such as a broader network of connections, new sponsors, and a wider user base.
- (F19) Centrifugally built potential: Potential is made through complementary temporary implementations. Small-scale projects electrify the surroundings with activity and positive energy, which lingers long after the end of the intervention. Having a permanent location or several performances nearby is a condition for generating a lasting and impactful potential.

4. DISCUSSION

Research indicates that there is no universal methodology for applying temporary use that ensures the effectiveness of the implemented transformation process. The results suggest we can employ multiple methods to achieve successful transformations through temporary use. The choice of procedures depends on the goals, funding opportunities, initiator's ideas, and other factors that require individual consideration. However, effective models share vital characteristics that are effective when combined in various configurations depending on the circumstances. Other complementary studies also address critical factors for implementing an integrated approach to transformation processes applying temporary use. Focus on conditions that ensure stability, while this research examines explicitly factors that can contribute to modelling an effective transformation process [21].

All four examined cases demonstrate spatial stability through gradual development, repeated temporary interventions in the same space, increasing events, and adaptation to conditions. They all have a wide range of impact and support from the city and various stakeholders. However, not all cases have remained anchored in formal spatial forms. Only in the case of the permanent adaptation of temporary solutions into the Allen and Pike Street urban development did the continuous transformation occur, culminating in a final form powerfully and directly linked to earlier elements of the process. In the other cases, temporary use did not influence the final state, despite achieving spatial stability for a certain period. The lack of continuity, the interruption of a continuous process, was not due to poorly assessed risks or improperly conducted operations but rather to the intended investment plans. Despite the debatable spatial outcome, such as the risk of disproportionately benefiting private investors from seemingly pro-social activities [48], temporary use in all cases resulted in lasting consequences in terms of changing narratives and perceptions of place, which are difficult to achieve through traditional methods of modelling transformation processes. The lack of permanent

anchoring in these examined cases does not necessarily indicate a lack of effectiveness. These cases serve as good practices in building the process and can be considered models for the conditions in which they emerged.

Key to evaluating the outcomes of temporary use and assessing its sustainability is the proper understanding of the “positive results” that it brings about. Temporary use interventions are often evaluated solely based on spatial outcomes, such as permanent development or quantitative measures like generated income or total expenditures [2]. The concept of stability [21] as an alternative understanding of the effects involve occupying a place for an extended period, secured by property rights or recurring place rentals. Furthermore, the evaluation of value depends on the perspective of specific space users, considering that the goals of stakeholder groups can be conflicting. In this context, it is equally important to consider the distinctness of political, economic, or financial goals that ultimately influence the final spatial form when assessing the effectiveness of the temporary use planning process [49]. We can change and redefine goals while also replicating well-functioning models. During the critical discourse, scholars such as Cian O’Callaghan and Philip Lawton [14] highlight the occurrence where temporary use enables municipal authorities to facilitate urban transformation that appears both innovative and nonconventional while simultaneously contributing to the process of capitalist accumulation and the conventional business model of spatial development. Another threat is the replacement of permanent effect with temporary use in areas that require infrastructure interventions, masking the degeneration of urban fabric under the guise of “sustainable urbanism” [50] or “low-budget urbanity” [51].

5. CONCLUSION

Critical scientific debate and observations from practice indicate that temporary use does not always lead to positive outcomes [52, 53]. A new and vital contribution to research on urban strategies using temporary use is an approach that emphasizes the role of temporary use as part of a broader, complex process of urban development that brings about tangible transformations in space with measurable value [54], not necessarily solely in quantitative and economic terms [2]. The state of knowledge on the city’s complexity of urban processes and causal relationships suggests that temporary use can be considered ade-

quate and an actual tool for urban transformations only within such a framework. It ceases to be a one-time intervention and gains strategic significance. Therefore, we increase the potential effectiveness of urban transformations when we apply temporary use in conjunction with other process elements, such as it requires a comprehensive context, management, and the creation of a long-term vision for area development [55]. Modelling the process requires an in-depth examination of the conditions and adaptation of action strategies to them. Every transformation process differs and can develop in various ways but contains similar elements. There is a constant interplay and creation of dependencies between components. The proportions and relationships between them change, as well as the timing and chronology of their occurrence. The described method of classifying cases as those yielding lasting results (not necessarily spatial) is based on the assumption that these cases must meet the essential criteria (C1-C5). Meeting these criteria is necessary but not sufficient. Additional criteria demonstrating the effectiveness of the process are complementary factors (F1-F19). The sequence of their application over time or the quantity of these factors is entirely dependent on the individual conditions of the place and city. It is essential to plan processes tailored to the conditions, taking into account complementary factors and their mutual relationships, based on knowledge of their role in the process described in this article.

The models of the four identified and analysed transformation processes are adaptable, represent different approaches, and can be applied in other conditions if these conditions fulfil the necessary assumptions for realizing the developmental potential of a particular method. Space characteristics such as size, location within the city structure, technical state, historical significance, previous development, and function are crucial for shaping or renewing the space and determining the method of organizing the process. At the same time, the form of temporary use depends on the creativity of users, experts, and investors. When applying temporary use, factors such as ensuring social activity, maintaining interest in the area, building relationships, and enabling free creativity play an increasingly important role. Temporary places are created by filling space with urban and immaterial content – as places that emerge in the user’s consciousness [56].

DECLARATION OF INTEREST STATEMENT

The authors report that there are no competing interests to declare.

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