Articles

A bibliometric review of tactical urban planning strategies as a sustainable planning tool in Ecuador

Una revisión bibliométrica de las estrategias de planificación urbana táctica como herramienta de planificación sostenible en Ecuador

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ABSTRACT

Tactical urbanism, understood as a set of temporary, low-cost, and highly participatory urban interventions, is presented as a promising strategy to transform degraded public spaces and promote local development. This study carries out a systematic and bibliometric review focused exclusively on the Ecuadorian context, with special emphasis on the Mapasingue sector of Guayaquil, one of the most densely populated neighborhoods with the greatest socio-spatial challenges in the city. The research uses the PRISMA 2020 protocol to analyze indexed literature (2015–2025) in Scopus, Web of Science, and SciELO, identifying trends, research gaps, and potential applications of tactical urbanism in this context. The results reveal an almost total absence of systematic empirical studies in Ecuador, which limits the capacity to generate evidence-based urban policies. It is concluded that tactical urbanism, if integrated into inclusive and participatory governance frameworks, can be a key driver for improving the quality of life in Mapasingue and other vulnerable sectors of Guayaquil.

Keywords: Tactical urban planning, local development, bibliometric analysis, urban planning

RESUMEN

El urbanismo táctico, entendido como un conjunto de intervenciones urbanas temporales, de bajo costo y altamente participativas, se presenta como una estrategia prometedora para transformar espacios públicos degradados y promover el desarrollo local. Este estudio

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realiza una revisión sistemática y bibliométrica centrada exclusivamente en el contexto ecuatoriano, con especial énfasis en el sector de Mapasingue de Guayaquil, uno de los barrios más densamente poblados y con mayores desafíos socioespaciales de la ciudad. La investigación utiliza el protocolo PRISMA 2020 para analizar la literatura indexada (2015-2025) en Scopus, Web of Science y SciELO, identificando tendencias, brechas de investigación y posibles aplicaciones del urbanismo táctico en este contexto. Los resultados revelan una ausencia casi total de estudios empíricos sistemáticos en Ecuador, lo que limita la capacidad de generar políticas urbanas basadas en evidencia. Se concluye que el urbanismo táctico, si se integra en marcos de gobernanza inclusivos y participativos, puede ser un factor clave para mejorar la calidad de vida en Mapasingue y otros sectores vulnerables de Guayaquil.
Palabras clave: Imagen urbana, arquitectura tradicional, desarrollo local, sociedad y cultura

INTRODUCTION

The concept of tactical urbanism emerged as a response to the rigidity and slowness of traditional urban planning models, which are often conditioned by lengthy administrative procedures, high budgets, and low citizen participation in decision-making (Reifs Jiménez et al., 2025). Unlike large infrastructure projects, which require years of planning and execution (Lotfipour and Mohtavipour, 2024), tactical interventions are characterized by their immediacy, low cost, adaptability, and high level of community participation.

This approach seeks to experiment with small-scale solutions that, if successful, can be consolidated and integrated into permanent urban plans (Balsas, 2021; Mendes et al., 2020). Their importance lies not only in the physical transformation of space, but also in the participatory dynamics and strengthening of the social fabric that they promote. By implementing temporary interventions, opportunities arise to evaluate the use of space, observe citizen behavior, and collect data to support evidence-based urban decision-making (Awasthi et al., 2018; Gréhaigne et al., 2001).

In Guayaquil, the most visible urban transformations have historically been linked to large-scale projects, such as the regeneration of downtown areas, the construction of highways, or the creation of iconic spaces. These projects have contributed to improving certain strategic sectors of the city, but have generally not extended to peripheral neighborhoods with high levels of vulnerability.

Mapasingue, located in the northwest of Guayaquil, exemplifies this territorial divide. Its irregular topography, combined with informal land occupation and high population

density, creates significant challenges in terms of mobility, accessibility, and the provision of basic services (De Murzi and Orejuela, 2023). Added to this is the scarcity of green areas and quality public spaces (Lauria, 2023; Paül i Agustí and Guerrero Lladós, 2022), as well as the perception of insecurity among its residents. Existing parks, squares, and recreational areas are often underused or in poor condition due to a lack of ongoing maintenance and limited public investment in the area (López et al., 2021). This scenario makes Mapasingue a place with high potential for the implementation of tactical urban planning strategies that not only activate the social use of public spaces but also foster economic, cultural, and recreational dynamics capable of strengthening neighborhood identity and community cohesion (Zambrano-Monserrate et al., 2023).

This research is based on the premise that tactical urban planning can become a strategic tool for addressing Guayaquil's immediate needs, allowing for rapid, low-cost interventions that, in turn, serve as a basis for larger-scale, long-term urban projects. Mapasingue offers an ideal environment for testing models adapted to its physical and social reality, involving its residents in all stages of the process: diagnosis, design, implementation, and evaluation (Vallejo-Robalino et al., 2024).

Therefore, this study seeks to generate an evidence-based framework for action to guide local authorities, community organizations, and academic actors in the application of tactical urban planning in Guayaquil, prioritizing citizen participation and the sustainability of interventions.

MATERIALS AND METHODS

The research is carried out through a systematic review of high-impact articles in the Scopus and ScienceDirect scientific databases, structuring an interrelational graph of the gaps and influence on urban planning at the neighborhood level, known as tactical interventions in informal human settlements, such as the case of Mapasingue. This data was systematized in AnalizeSearch and Analitics to obtain the annual impact of publications and determine the indicators that contribute to the development of spatial learning in student performance. The hermeneutic method was used, in which a 10-year regression of the emergence of artificial intelligence in educational models was performed. To this end, texts by representative authors in the global context were selected, along with their impact, type of contribution, and relevant contribution by authors. This data was relevant for analyzing their citation index and impact, generating a correlation of variables such as planning, urbanism, and local development. Two phases of bibliometric analysis of the information were carried out on the PRISMA 2020 and VOSViewer platforms to generate a checklist and impact graphs for the abstraction of relevant results from the application of urban design in informal human settlements.

Systematic review

A systematic review design was followed according to the PRISMA 2020 protocol (Page et al., 2021), which guarantees the traceability and reproducibility of the process. The methodology was structured in the following phases:

Definition of the research question
What scientific evidence exists on the application of tactical urbanism as a tool for local development in Guayaquil, particularly in Mapasingue?
Search strategy
Combinations of keywords in Spanish and English were used: ("tactical urbanism" or "tactical urbanism") and ("local development" or "local development") and ("Guayaquil" or "Ecuador").
Searches were conducted in Scopus, Web of Science (WoS), and SciELO, restricting publications to between 2019 and 2024.
Inclusion criteria:

- Peer-reviewed articles.
- Studies conducted in Ecuador or that serve as a direct reference for similar urban contexts.
- Research analyzing interventions in public spaces and their relationship to community participation. Exclusion criteria
- Technical documents not peer-reviewed.
- Projects without evaluation or follow-up.
- Publications outside the established deadline.
- Study selection

From a total of 316 initial records, duplicates were removed and inclusion/exclusion filters were applied, leaving 14 studies for detailed analysis, in order to subsequently apply a bibliometric analysis. VOSviewer was used to map the relationships between authors, institutions, and keywords (Morales Castro et al., 2025). Recurring themes and the lack of scientific production focused on Mapasingue were identified, thus creating an analysis matrix with author, year, methodology, location, type of intervention, actors involved, and results obtained.

Table1 . *Specific review of literature*

Authors and year	Title	Magazine/Source	Approach / Method
(Ríos-Mantilla, 2022)	Itinerant Tactical Urbanism Laboratories (LIUTS) in the "Lucha de los Pobres" in Quito, Ecuador	Island Press	Theoretical and methodological essay
(Balsas, 2021)	Sustainable urbanism: riverfront greenway planning from tradition to innovation	Urban Planning	Critical review + case studies

(Mendes et al., 2020)	Adverse climate change caused by urbanization without environmental planning and assessment in Santiago, Chile	Cities	Regional comparative study
(Poli & Imbesi, 2022)	Green Infrastructures and Water Management. Urban Regeneration Strategies to Face Global Change	INVI Magazine	Qualitative case study

Note: Scopus (2025).

RESULTS

The analysis reveals a significant gap in the scientific literature on tactical urbanism in Ecuador. No published studies were found that systematically document the interventions in Mapasingue, and the few existing national studies address tactical urbanism (Silva Duarte et al., 2022) theoretically or in relation to neighborhoods in similar contexts in Guayaquil. There are isolated interventions to improve public spaces in vulnerable neighborhoods, but without an explicit tactical urban planning approach or a formal bibliographic record (Urbina, 2021).

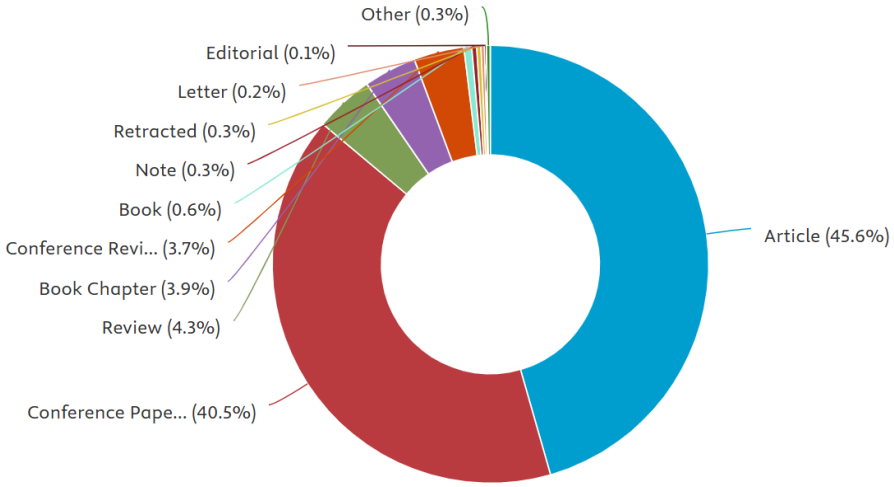
Municipal assessments identify problems of insecurity, deterioration of street furniture, and lack of green spaces in Mapasingue, but do not propose experimental or participatory strategies to solve them.

There are no metrics for evaluating the impact on space use, social cohesion, or economic activity linked to tactical actions.

- Possible indicators for future studies in Mapasingue:
- Increase in pedestrian use of the areas involved.
- Changes in the perception of safety.
- Creation or strengthening of local micro-enterprises.
- Level of community participation in the design and maintenance of spaces.

As part of the literature review, typical and atypical data were generated from research on urban planning in the context of informality (Valdez, 2019), indicating that computer science leads the development of generative models in higher education, while social sciences, as atypical data, have expanded their influence from urban planning to land use planning, leading to the recognition that the search for general cultural information or basic knowledge is also being influenced by urban design (Xin, 2023).

Figure 1. Types of scientific documentation related to urban planning in informal settlements.



Note: Own elaboration.

PRISMA 2020 analysis

To systematize and obtain final results from the scientific article review process, the PRISMA 2020 statement was used (including lists of indicators and variables within the search flow); which included all review articles from the complete search list comprising 9,324 items, some of which included subtopics corresponding to the study indicators defined by the keywords "urban planning" and "local development." Structured abstracts of systematic reviews presented in journals and conferences were included (Page et al., 2021). This yielded the following results:

VOSViewer analysis

In the second stage, a bibliometric analysis was conducted to examine research trends in urban planning and local development correlated with design and informal human settlements during the period 2015-2025. To this end, the Scopus and ScienceDirect databases (Wu et al., 2024) were used, selected for their broad scope and recognition in the academic community. Specific keywords related to urban development were defined to retrieve relevant documents, so that the search was divided into two concurrent fields that allowed for a better visualization of the field of knowledge of urban planning (Dutto & Dighero, 2019). For this purpose, a sequence data table was structured for the process (see Table 1).

Table 1. Search strategy

urbanism AND human settlements	Urban development AND impact

(TITLE-ABS-KEY (urbanism AND local development) AND TITLE-ABS-KEY (design model AND human informal settlements)) AND PUBYEAR > 2015	(TITLE-ABS-KEY (urbanism AND development) AND TITLE-ABS-KEY (good use AND impact)) AND PUBYEAR > 2015

Source: Own elaboration

The graph was handled as a chain of interrelationships around scientific searches and two groups of variables, namely urbanism and its influence on human settlements, and urban development and its impact.

DISCUSSION

The lack of research focused on Mapasingue means that urban policy decisions are made without local empirical evidence, based on generalizations or experiences from other contexts. This gap is particularly worrying because it limits the possibility of designing interventions adapted to the physical, social, and economic reality of the area (Rinchumphu et al., 2024).

A tactical urban planning program in Mapasingue should:

Incorporate neighborhood participation from the design phase to ensure community ownership of the space.

Include ongoing evaluation mechanisms that track changes in the use, safety, and perception of the space.

Establish public-community partnerships, in which the municipality provides materials and technical advice, and the community takes on maintenance tasks (Dharmadiatmika et al., 2023).

Adapt to the unique topography and accessibility of the area, integrating lightweight but functional solutions such as modified stairways, lookout points, and modular green spaces. Furthermore, it is essential that these actions are not limited to isolated interventions but are part of a comprehensive urban strategy linked to housing, transportation, and social development policies.

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