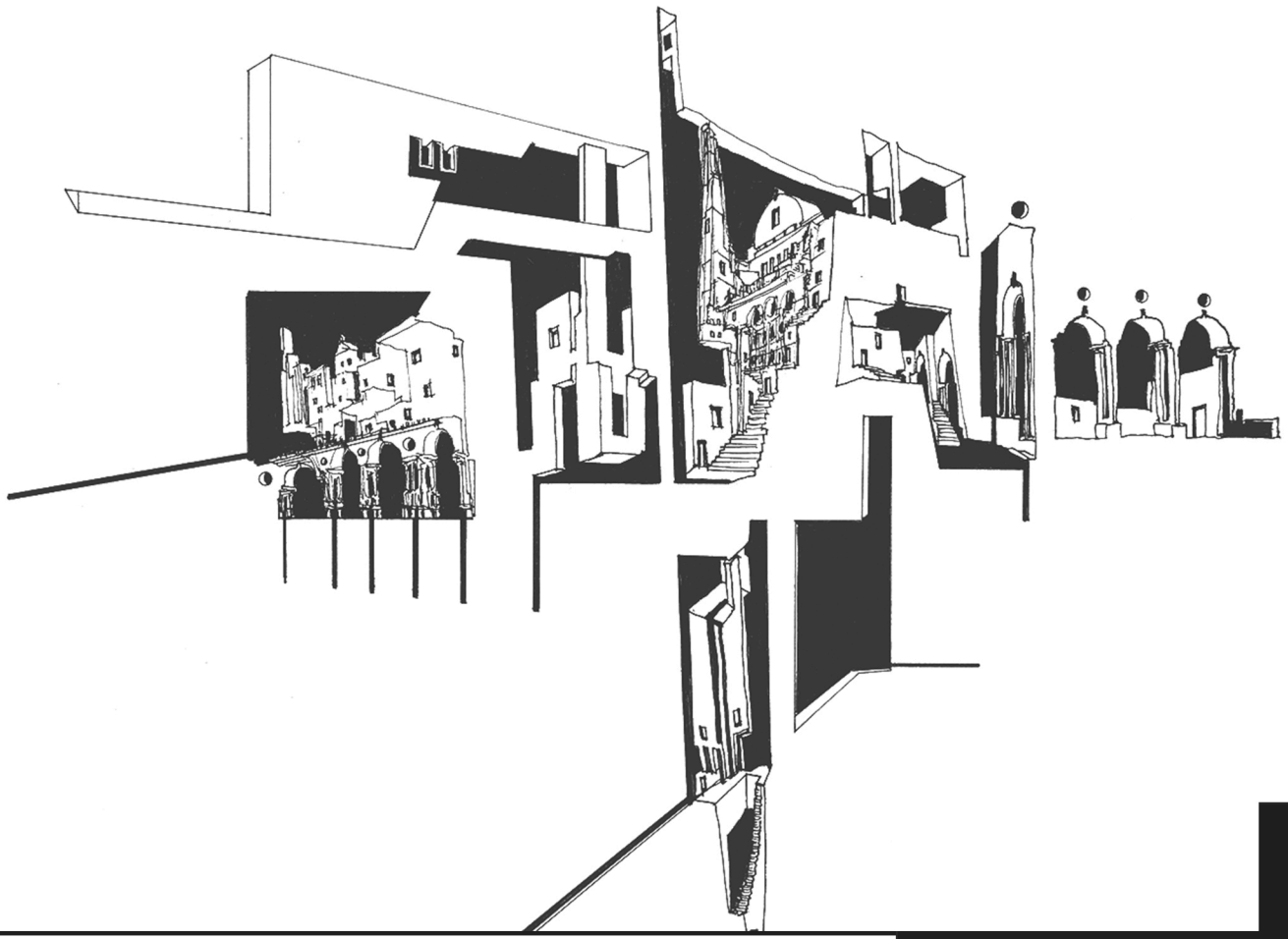
# BUILT FORM

Journal of Morphological Research and Practice
in Planning, Design and Architecture



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# BUILT FORM

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**Editor**

Muzaffer Ali Arat

**JOURNAL OF MORPHOLOGICAL RESEARCH AND PRACTICE IN PLANNING, DESIGN AND ARCHITECTURE**

**A PEER-REVIEWED OPEN ACCESS JOURNAL**

# About Built Form

## Aim and scope

Built Form, Journal of Morphological Research and Practice in Planning, Design and Architecture**,** is a scholarly international peer-reviewed journal that advances morphological theories, research, and practice in planning, design, and architecture. It publishes high-quality and innovative manuscripts. Released biannually in May and November, the journal welcomes submissions worldwide. The journal aims to foster global dialogue on built-form. It is an indispensable resource for urban morphologists, designers, planners, landscape architects, developers, and academic researchers.

The journal aims to disseminate academic and professional studies focusing on urban form, urban morphology, urban design, the structure and evolution of cities, preservation and conservation, urban regeneration, local identity, urban aesthetics and landscape, heritage protection and management, spatial continuity and integrity, urban growth management, space syntax, Conzenian urban morphology, spatial analysis, typology, characterising and managing the urban landscape, artificial intelligence and built form.

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# CONTENTS


Photograph: The Market Square in the historic English market town of Alnwick, Northumberland, UK. The photo was taken by Muzaffer Ali Arat on 30 April 2025.

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# EDITORIAL NOTE

**Why *Built Form***

Cities can be comprehended not only through their surface images but through the processes that shape them. Therefore, an approach that can analyse the forms, historical layers, production relations and transformation mechanisms behind the form is more substantial than ever. Urban form studies play a substantial role in promoting their requirements. Urban form studies have increased since the mid-20$^{th}$ century onwards. While the number of research on the physical form of cities show an increase, their dissemination was scattered in many journals. After the consolidation of urban morphological school of thoughts, an association has been established to gather all these research under an umbrella. The association was the International Seminar on Urban Form (ISUF). It also started to publish a journal: *Urban Morphology*. First edited by J.W.R. Whitehand, the journal has brought together studies on physical forms to a significant extent. The second journal is the *Urban Form and Design*, founded in 2014. This journal publishes in both English and Italian with a focus on built forms and their design. The third is *Forma Civitatis*, which was founded in 2021. The field of urban morphology has been expanded by an interdisciplinary discourse developed through these and other valuable initiatives for many years. During this process, these journals have played vital roles in the formation of the theoretical framework, the development of methodological tools and the discussion of urban morphology in different contexts. Built Form believes that the scientific contributions of these journals will maintain their value today and in the future by contributing to the growth of the field, its utilisation in professional practices and its inclusion in planning, design, and architectural curricula. As a matter of fact, it is clear that these disciplines are increasingly offering courses on morphological studies in their curricula.

*Built Form* aims to open a more inclusive field that will give voice to urban form studies from different scales, contexts and approaches, while building on this rich heritage. In addition to the valuable contributions of existing journals, Built Form aims to open space for studies with plural perspectives, different geographical and cultural backgrounds, and the participation of new generations of researchers, and to further diversify the literature on urban morphology. In this respect, our journal aims to undertake a complementary role to existing initiatives in the field. The *Built Form* aims to provide an open-access and completely voluntary platform that brings together substantial research focusing on the historical, cultural and spatial dimensions of built environment with practical experiences. In this period, when morphological studies are gaining momentum, it was impossible to remain indifferent to this momentum. *Built form* emerged at contributing to the acceleration of this momentum by researchers, practitioners and curious minds working in the field of built environment.

While a significant portion of academic publishing today operates through paid access models, authors and readers also face various financial barriers. This publishing policy creates a double barrier that limits both the production of and the circulation of knowledge. We would like to eliminate these barriers as much as we can through the establishment of *Built Form*. *Built Form* sets out with an open-access approach that does not charge any fees to either authors or readers. This approach aims to remove not only financial but also intellectual thresholds.

As urban morphology presents a substantial basis to planning, urban design, architecture and so on, it is necessary to open space not only for academic texts but also for practical knowledge and actions produced in the field to realise its potential. In this regard, *Built Form* not only publishes research-based articles but also practice-oriented articles. Moreover, it proposes a flexible structure that goes beyond the classical academic format for articles. Practice articles, which can be constructed on maps, drawings, visual narratives, and conceptual

sketches, creates a platform for practitioners to contribute to the production of scientific knowledge while employing their own language.

*Built Form* aims to be not only a publication but also a ground of thought. The basis of this ground is based on a collective effort. Every stage from the editorial board to referee processes, from web design to copy editing, is carried out by volunteers who mobilise their labour for the city and scientific knowledge. The first issue is the starting point of the journey of the *Built Form*. The texts in your hands are the product of studies produced from different geographies and with different methods, but carrying a common curiosity. Our aim is to continue this diversity and to make the journal a platform for thoughts open to both local contexts and global discussions.

Finally, we have a call for everyone who reads these lines. This journal will exist not only with the contributions of editors or writers, but also with the contributions of readers and thinkers. We wish to grow with new questions, forms and contributions.

**Muzaffer Ali Arat**

BUILT FORM

# Artificial Intelligence and City-Making: The Potential for New Synthesis

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**Abstract**

Since urban morphology was first established as theories and methods in the 1950s and 1960s, architects and planners have sought to apply it to urban regeneration. The Italian school of urban morphology led Aldo Rossi to develop a typological approach to city-making in the late 1960s. Giancarlo De Carlo built on urban morphology's methods of analysis and sought to the community participation it called for in his work in the 1970s through the 1990s. De Carlo, a founder of Team X, hoped to use urban morphology to transform urban regeneration, demonstrating this possibility in projects at Urbino and Genoa, and establishing the International Laboratory of Architecture and Urban Design (ILAUD) as a vehicle for making this happen. Despite these efforts, urban morphology proved difficult to apply in the real world of urban regeneration. In the 1990s, Space Syntax emerged as an offshoot of the British school of urban morphology, focusing on urban analyses of cities that could be carried out using data analytics. In 2003 and 20l5, respectively, urban acupuncture and tactical urbanism were put forward as ways to simplify urban morphology's methods and focus on interventions at different scales as the medium of its application. Today, artificial intelligence (AI) has the potential to make urban morphology actionable and transform urban regeneration, as De Carlo hoped. This article reviews this history and offers a prognosis.

## Introduction

Urban morphology's two most important schools—British and Italian—sought to pay systematic attention to cities' deeper contexts as a sound basis for urban regeneration. The Italian school, of which La Sapienza University of Rome is a leading center, built its teaching and research programs around urban morphology's methods of analysis, including building typological studies. The Italian school soon attracted the attention of prominent Italian architects. These first-generation pioneers included Aldo Rossi, who made his own contribution to its theories by focusing on typological analysis. (Rossi, 1984) His contemporary, Giancarlo De Carlo, sought to

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apply it to urban regeneration projects. His decade-long work in Urbino, discussed below, is a particularly good example of a comprehensive attempt to make urban morphology actionable and, in the process, transform urban regeneration itself. His efforts, while contributing to urban morphology's methods, fell short of proving its usefulness under real-world conditions.

In the late 1990s, the ability of Geographical Information Systems (GIS) to connect geographic and typological with socio-economic data led some urban morphologists to believe that this could produce the data needed to make city-making a real-time process (Moudon, 1997, pp. 9-10). This in turn would make urban morphology actionable. GIS does generate data that cities use to track trends in local 'micro-economies,' for example, but it did not produce the larger transformation Moudon and others saw in it.

This led a second generation of architects and planners to propose to simplify urban morphology, refocus it on intervention projects, and tie it pragmatically to urban regeneration. Starting in 2003, Jaime Lerner in Brazil, and Mike Lydon and Anthony Garcia in the USA, made complementary efforts to shift the focus to intervention at different scales, aware of context but not foregrounding it. In roughly the same period, Bill Hillier in the UK developed Space Syntax, an extension of the English school, using graph theory and mapping to analyze the complexity of cities at different scales.

This article first recounts these efforts to apply urban morphology to urban regeneration, and then discusses the potential of AI to realize these goals without losing urban morphology's unique ability to include qualitative as well as quantitative factors influencing the urbanity and vitality of city-making.

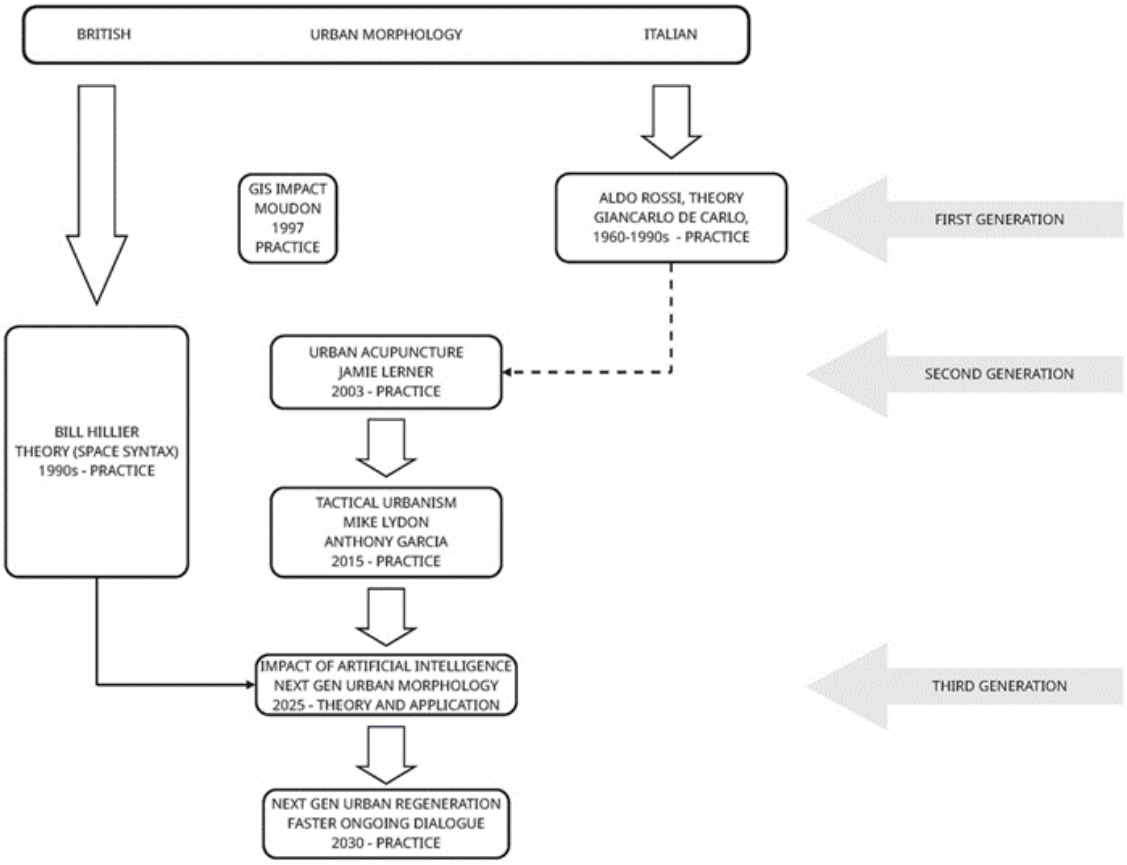


**Figure 1**. Urban morphology's evolution as theory and practice (Authors, 2025)

**Giancarlo De Carlo's ILAUD approach**

Giancarlo De Carlo, a practicing architect-planner as well as an urban theorist, made a concerted attempt to define methods for 'reading' the city at different scales and finding ways to engage the community as participants in urban regeneration. In a postscript to a 1991 ILAUD publication, Reading and Design of the Physical Environment, De Carlo describes his long involvement with Urbino, the city and the university, initially to revive its historic center through adaptive reuse and selective redevelopment. This effort secured its future, he says, but the rest of Urbino and its environs remained at risk, so he was asked to make a new plan that considered the whole territory's future without placing himself at the heart of it as 'regenerator-in-chief.' The Summer Workshop he convened reflected the need to guide these activities without directing them and provide a framework that specifies the 'big moves' at the regional level while providing a comparable one at the level of districts or villages and their neighborhoods (De Carlo, 1991, pp. 43-44).

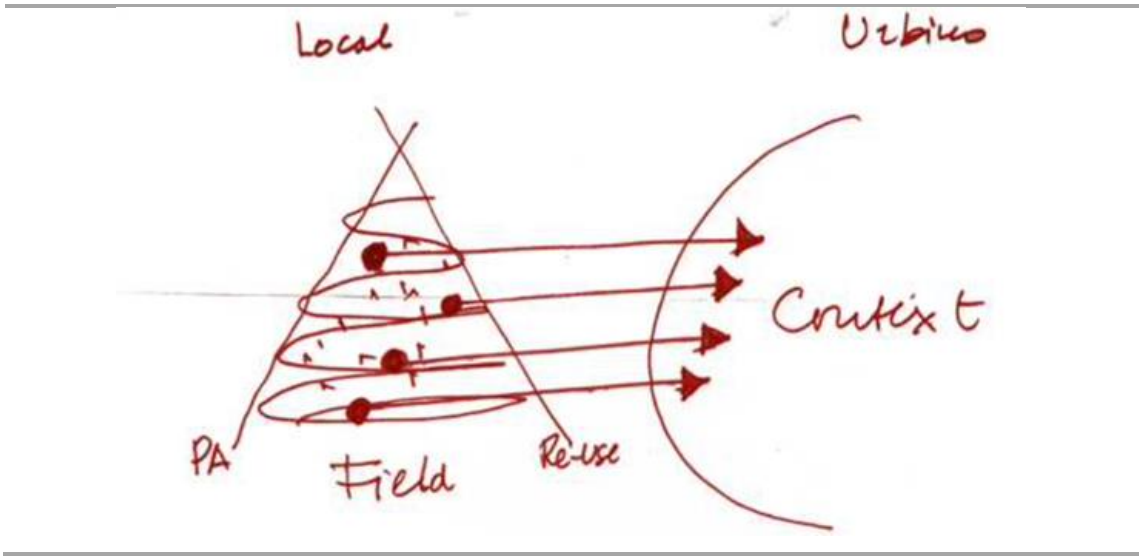


**Figure 2.** De Carlo's diagram of local actions influencing a city's broader context. (Moucheront, 2018)

Marianna Charitonidou discusses De Carlo's efforts to build local community participation into his projects at length. In De Carlo's 'The Architecture of Participation,' she writes, he argued that participation would change urban regeneration so that its 'different phases merge and the operation cease to be linear, one-way, and self-sufficient.' The role of the user is continuous, from initiation to production to inhabitation. As he elaborates, 'Participation breaks [the] hierarchy between the operation's various stages and moments, and brings them all back to the same logic: the problematic logic of the 'project.' The program, the assignment of resources, and the choice of site become hypotheses that must be tested, and even be radically changed if they prove to have inappropriate or undesirable consequences' (Charitonidou, 2021, pp. 987-988).

The Nuovo Villaggio Matteotti project in Terni exemplifies De Carlo's initial approach to participation. He and his team, including a sociologist and an architectural historian, brought together 1,800 future inhabitants of the new village. They opened the dialogue with an exhibition intended to expose these users to 'models' (prototypes or precedents) from outside Italy, to break the market's hold on their imagination. They then worked with users to define the project's design principles (Charitonidou, 2021, pp. 988-992).

Charitonidou contrasts De Carlo's work in Terni with his work in Urbino, arguing that the latter is based on ‘an idealized understanding of the needs of the inhabitants,’ while in the former ‘the whole design strategy was structured around the idea of bringing in the opinions of the inhabitants in the first place.’ Yet at Terni, she adds, ‘despite his intention to take into account their opinions, he insisted on trying to convince them that the idea of maintaining the identity of 'a low-rise, high-density, low-rise village' was the best solution.’ He ‘was convinced that the capacity of architectural artefacts to transform a place depends on their capacity to discover a genetic code’ (Charitonidou, 2021, pp. 994-995). De Carlo was reacting to post-war modernism, which he saw as ‘too simple and unsophisticated compared with the complexity of reality.’ Its ‘form follows function’ credo became a dogma that privileged architects over those who live in and with it. They give it meaning, and the design process should be altered ‘to give it life as they see it’ (Charitonidou, 2021, pp. 985-996).

The ILAUD Summer Workshops, organized by De Carlo and collaborators like Paolo Ceccarelli in Italy and Donlyn Lyndon in the USA, produced case studies of a wide range of ‘urban conditions’ at different scales. These are potentially valuable in considering urban morphology from a methodological standpoint (De Carlo, 1991, pp. 54, 64, 104, 117).

**The second generation: Jaime Lerner**

In his foreword to Jaime Lerner's 2003/2014 book *Urban acupuncture*, Danish city planner Jan Gehl writes that ‘without an understanding of people and politics, planning is merely a technocratic tool. (Lerner, 2014, p. xiii) In contrast, urban acupuncture is ‘an approach to city planning designed to make things happen’ (Lerner, 2014, p. xiv). Lerner was an architect-planner who served as Mayor of Curitiba, Brazil, and then as Governor of Brazil's Paraná State. He also taught abroad, notably at U.C. Berkeley, and traveled extensively in Latin America, East Asia, and Western Europe. Urban acupuncture reflects these experiences. A passion for planning and politics,’ Gehl writes, led him to describe an approach to urban regeneration that is observational and anecdotal, and yet manages to convey its principles and methods (Lerner, 2014, p. xiii).

Urban acupuncture has affinities with Christopher Alexander's ‘pattern language.’ Like De Carlo, Lerner sees each city as having characteristic patterns, often visible across its history as responses to terrain, climate, culture, and other factors. Discovering such patterns and applying them in urban regeneration is part of his approach, which ties it to urban morphology. In summarizing his approach, Lerner points to the individual's experience of a city as one starting point. This person is empowered as an active participant in the city's constant transformation, and the solidarity of such participants is in the real engine of a process that supports the city's vitality and sustainability (Lerner, 2014, p. 65). In his view, the city is a political body whose elected leaders, the politicians, serve the people by prompting the process, intervening to secure, for example, the movement people and goods need without sparking car-centricity or harming resilience. Cities help local communities to articulate visions or scenarios of urban transformation and then organize small-scale, rapid interventions to show what they look like, testing concepts so they can be refined and extended or discarded.

**The second generation: Mike Lydon and Anthony Garcia**

Lydon and Garcia's *Tactical urbanism* (Lydon & Garcia, 2015) provides a methodology for small-scale urban intervention and case studies primarily drawn from U.S. and Canadian cities. and points to historic precedents such as world fairs and expositions, which envisioned a different future for cities and their buildings. Lydon and Garcia's starting point is Design Thinking's five-part method. These parts are not necessarily sequential, they argue. but they imply a circular process with an implied feedback loop (see Figure 3).

Tactical urbanism views locally based interventions through a project lens, elaborating on the Design Thinking model to address them as pilots that demonstrate concepts and invite community use, feedback, and adjustment. This is in keeping with Lerner's sense of urban interventions needing to prioritize speed of implementation and ease of modification. Lydon and Garcia are strong on methods and documentation, but they are only interested in the history of a place if it suggests ways to build on what exists. That a place is the outcome of an evolutionary process, as urban morphology posits, does not appear to concern them.


**Figure 3.** Lydon and Garcia's diagrams of their methodology. (Lydon & Garcia, 2015, pp. 173, 200)

Lydon and Garcia share Lerner's sense that community participation is best engaged by the rapid interventions that demonstrate the intended changes. Lerner gives more credit to local democracy as a vehicle for local involvement and to politicians' ability to intuit local priorities as they put their own forward. He also views cities and regions as best equipped to set higher-level priorities that shape local growth. Lydon and Garcia emphasize locally initiated action as the best way to prod cities to notice and respond. There are projects only the public sector can initiate, finance, implement, and run, they agree, but Lerner argues that even these projects can often be implemented quickly and then expanded or upgraded (see Figure 4).

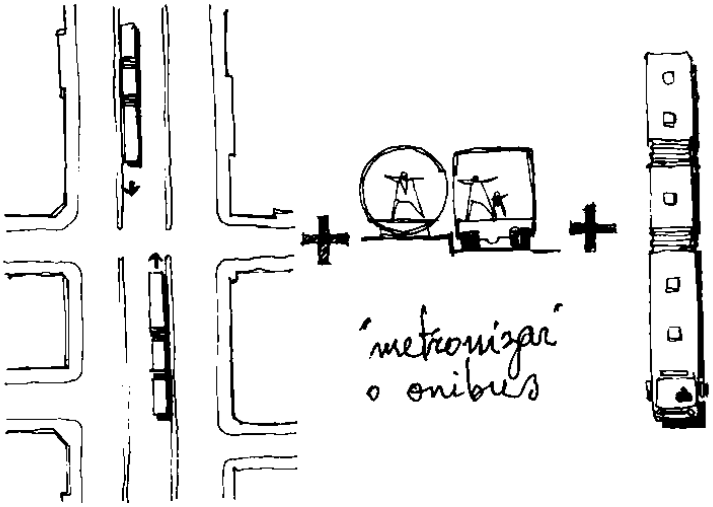


**Figure 4.** Jaime Lerner's sketch of Curitiba's pioneering bus rapid transit (BRT) system. (Lerner, 2014, pp. 135-136)

## The second generation: Bill Hillier

Bill Hillier's Space Syntax began with his understanding and appreciation of London's 'organized complexity.' That it grew as a series of connected villages was a source of its vitality. Modern town planning, he saw, simplified things in the name of efficiency. The methods planners used to assess them were correspondingly reductive, missing their richness (Hillier, 2009). Space syntax maps cities at different scales to identify patterns conducive to 'sustainability,' which Hillier defined as livability and prosperity. He used machine learning to speed analysis, but he noted that he measured 'spatial relationships and not place identify, which means that [it cannot interpret} built form and meaning' (Hillier, 2009, p. K01.5). Yet the analyses space syntax makes can pinpoint the disruptions in the urban fabric that post-war governments inflicted on their cities. Dr. Francesca Froy uses it to analyze Manchester and Sheffield, both of which contended with deindustrialization by tearing down older buildings, many of them well-suited to small-scale manufacturing and tech startups, clearing large parts of entire districts to make room for industrial and warehousing 'parks' that robbed both cities of their walkability and the clustering of trades that spurs innovation and local employment. Space syntax maps these connections and quickly shows if a district has lost them. It can also show from remnants of the past what healthy connectivity looks like (Froy, 2025).

## Urban morphology's quandary and opportunity

As this brief history shows, serious efforts to make urban morphology actionable have sought to simplify it and shift the focus from large-scale interventions of the kind De Carlo made in Genoa and Urbino, addressing every scale and initiated by cities and universities—to others that, even when they were systemic, involved what we now call 'rapid prototyping' to show what's possible and build support for a larger rollout. Lydon and Garcia see this as local activism; Lerner sees it city politics, with interventions sparking debate. He also assumes a local knowledge that is more or less shared by locals and their elected representatives.

Urban morphology seeks a deeper understanding of context that can be shared with the different actors in urban regeneration. Its methods are holistic with respect to space and time, climate and terrain, and other factors. This is its virtue and its quandary. It begs the question, 'What do we need to know to regenerate our cities responsibly?' As an academic discipline, urban morphology's schools predefine what to consider and incorporate its findings in teaching and research. De Carlo adapted its methods to ever-shorter timeframes. Lerner took for granted that urban communities understand their context well enough to participate in its ongoing evolution. Lerner saw cities as organisms, and he and De Carlo both emphasized how regeneration can heal them or make them more resilient in the face of new challenges.

Urban morphology acknowledges the unfolding nature of human settlements, of course, but it looks for whatever frames this unfolding and asks how, owing to growth and other pressures, these patterns are disrupted. This interest in urban form and pattern as framing elements for urban regeneration can be seen in the work of John Habraken and his followers at TU Eindhoven and MIT. It led Moudon and others to found the International Seminar on Urban Form—ISUF—as a vehicle for discussion and research on urban morphology.

In 1997, Anne Vernez Moudon pointed to GIS as a possible way urban morphology could become more actionable (Moudon, 1997, pp. 9-10). GIS data is mainly used by experts who analyze its implications for the near future—neighborhood growth or stagnation, for example. But the concurrent trend is to make cities more transparent to ordinary users by providing online substitutes for local knowledge and direct observation.

Some cities make 'urban data' readily available to all comers, but in general the data are fragmented, with multiple 'keepers,' and a lack of consistency across the sources. Such data form the surface layer of a city's evolution. Urban morphology wants to understand the underlying

strata, with reason, but it has lacked the means to do so at the pace and with the accessibility that city-making requires. AI could change this.

**The third generation: AI's potential to make urban morphology actionable**

AI emerged from antecedents like Smart Cities, mass surveillance, robotics, and autonomous vehicles, while data analytics emerged from probability and statistics. Commentators on their urban applications highlight their limitations, drawbacks, and dangers. Both can already be found in the dystopian toolkits of regimes focused on internal security and the repression of political and self-expression (Cugurullo *et al*, 2024, pp. 361-389). Despite this, we believe that AI, paired with data analytics, can make urban morphology relevant to urban regeneration, shifting it from transactional debates on projects to ongoing dialogues about places in which the participants are on an equal footing. Cities and local communities will still experience what Horst Rittel called 'a symmetry of ignorance' about others' priorities and the nature and relevance of the context, but they will reduce it by a shared understanding within a process that all parties expect to be transparent and accessible (Protzen & Harris, 2010, p. 148).

Four aspects of urban regeneration are particularly ripe for the use of AI as a heuristic. First, understanding a city or a place's deeper context: Urban regeneration benefits from reliable background knowledge pf a city or a place's evolution. If properly trained and managed, AI can be a 'community memory' for these histories and their visual documentation as maps, etc., accessible to all participants, answering their queries in layperson's terms, and, ideally, exportable to any current planning process, to understand changes in form, pattern, density, coverage, resilience, complexity, and other factors raised by a given intervention.

Second, incorporating 'urban data': GIS already tracks a huge amount of data pertinent to urban regeneration, and AI in tandem with computational data analytics makes it faster to integrate and analyze this data, and then make its implications more widely available, with a similar concern for community as opposed to expert access. This is not to question the need for expertise in interpreting data, but to test to what extent AI can be trained to do this reliably, report its findings, and, ideally, also make them exportable to any current planning process.

Third, supporting intervention: AI can 'picture' urban interventions, rapidly generate and evaluate options against different criteria, and support area plans, for example, that consider the future and work through a consensus about rezoning, new planning and design guidelines, etc., to guide by-right redevelopment. By serving as a 'co-intelligence' for the process, AI can turn it into an ongoing and interactive dialogue (Mollick, 2024).

Fourth, supporting local engagement: An explicit goal of urban morphology, shared by the pioneers who sought to make it actionable, is to level the playfield so urban regeneration is less of a top-down diktat to locals, but also less of a bottom-up diktat that stops it in its tracks because it proceeds case-by-case rather than by consensus that clears a path for it. Part of the support AI can provide is to track and summarize, with their permission, the discourse of community groups that discuss their districts and neighborhoods in general, and potential interventions that impact them in specific. These groups are typically voluntary and ephemeral, but AI can be a collective memory for this, too, ensuring that the 'argument,' as Rittel called it, continues (Protzen & Harris, 2010).

In their book on technological innovation, John Seely Brown and Paul Duguid argue that it takes a generation for such innovations to take hold fully (Brown & Duguid, 2022). While Steve Jobs famously imagined the connected system of mass consumer offerings to which his portable hardware would serve as a portal, it was the crowdsourcing of those devices, especially the iPhone, that expanded exponentially on Jobs' vision, completely transforming established industries and practices in the process. We're midway into this transformation, of which AI and computational data analytics are only the latest part. Urban regeneration, which has largely

resisted the changes to which urban morphology and its champions pointed three generations ago, is ripe for change.

We believe that AI's proliferation and applications will exceed what is currently imagined, because humans are making use of them at a scale that ensures constant experimentation on the user end, and constant modifications, refinements, and breakthroughs on the maker end to leverage what emerges. That word 'maker' is likely to be a human/AI combo. Thanks to these innovations, we're all makers now. The future of urban regeneration will be crowdsourced, and urban morphology will be part of it, to its benefit.

**Disclosure Statement**

The authors report there are no competing interests to declare.

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BUILT FORM

# Transformation, Connectivity and Accessibility Analysis of Elazığ's Urban Squares

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**Abstract**

Urban squares are significant public spaces utilized by city dwellers for social, cultural, political, and commercial purposes, in short, they are central venues for urban life. City users frequently prefer urban squares to carry out recreational activities. Within the process of urbanization, the most intensively used urban spaces are squares and the main streets associated with them. Streets that provide access to these squares, along with the squares themselves, serve as carriers of the social memory accumulated throughout a city's historical development, while also forming the core of urban life as elements of cultural heritage. Furthermore, urban squares stand out as key areas that reflect urban identity and play an important role in shaping the city's image. This study aims to analyze the historical development, spatial transformation, urban context, and accessibility levels of 15 *Temmuz Demokrasi* Square and Republic Square located in the city centre of Elazığ. The physical and functional transformations these squares have undergone from past to present are evaluated with their impacts on urban memory and social life. Within the scope of spatial analysis, the positions of the squares in the street hierarchy, along with their local and global integration levels, are examined. In the accessibility analysis, service areas at the neighbourhood scale are determined based on walking distances.

## Introduction

The term *meydan* (square) originates from Arabic and has been referred to by various names across different cultures throughout history. These public open spaces, known as *agora* in Ancient Greece, *forum* in Rome, *piazza* in Italy, *plaza* in Spain, and *platz* in Germany, represent spatial organizations that serve similar functions (Akman, 2020). Within the urban fabric, squares are considered important public open spaces and urban focal points that accommodate various functions and are characterized by their roles in facilitating gathering and dispersal (Kayalar, 2006).

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Squares reflect the cultural values of the period in which they were constructed, in terms of their size, visual appeal, formal or informal structure, and the possibilities they offer for use. In this context, the agoras of Ancient Greek cities symbolized a simple and functional lifestyle as spaces where social issues were debated. In contrast, medieval squares, despite their geometric irregularity, reflected a lifestyle emphasizing art, often featuring sculptures and pedestrian-friendly environments. During the Renaissance, squares emphasized balance and symmetry, representing an orderly and formal way of life. Baroque-era squares, with their dynamic and ornate designs, showcased a more decorative and flamboyant lifestyle. In the modern era, however, due to increasing business activities and vehicle traffic, squares have become confined within the urban fabric and reflect a more mechanical and functional mode of urban living (Taşçı, 2012).

Since the early years of the Republic, Turkey has entered a new era. During this period, urban squares were not only regarded as open spaces but also began to be formally defined and accepted as integral elements of urban space. These areas functioned as gathering places imbued with socio-economic, symbolic, and political significance, and became focal points for social organization. Particularly from the early 1980s onward, in line with economic and foreign policy implementations, the concept of the urban square gained further prominence in Turkey, leading to the realization of various projects. In this context, society began to shift away from traditional gathering venues such as mosques, and instead, adopted urban squares—perceived as spaces of encounter—as new sites for public congregation (Seydioğulları, 2018).

During the Seljuk and Ottoman periods, squares were not considered key components of urban design. However, this perception changed with the Republican era, during which the role of mosques and their surroundings as gathering points was gradually replaced by alternative spaces of interaction. Squares located in front of administrative buildings such as governorates and district offices came to be regarded as spaces of political authority. These squares, initially used for ceremonies, celebrations, and various events, gradually evolved to serve diverse purposes (Püşman, 2019).

The 1950s marked a period when multi-party politics became more vibrant and the public began to occupy squares more frequently. As a result, areas such as Taksim Square and Kızılay Square emerged as key elements of urban identity, deeply embedded in collective memory (Püşman, 2019).

Today, urban squares have become more dynamic environments. They are spaces where people fulfill their social needs, attend concerts and exhibitions, and access amenities such as shopping centers, cafes, and restaurants. These areas host a wide range of public activities and are now recognized as urban spaces that reflect the identity of the city (Seydioğulları, 2018).

## Methods and techniques

Within the scope of this study, relevant core concepts, definitions, and scientific research were examined in line with the adopted research methodology. In developing the conceptual framework, key urban terms such as city, urban open space, urban green space, square, and urban square were analyzed through a comprehensive literature review. To understand the typological transformation of urban squares over time, historical aerial imagery was utilized with the support of Google Earth Pro.

Spatial analyses were conducted using the Space Syntax method, which is an analytical technique used to investigate the configuration of spatial structures and their effects on user behavior. This method evaluates the topological features and connectivity of space through mathematical and graphical models, enabling assessments of spatial properties such as accessibility, permeability, and functionality (Czerkaue-Yamu, 2010). Typically applied via software like DepthmapX, this analysis provides data on visual accessibility, movement patterns,

and social interaction potential. It is widely used in urban planning, architecture, and urban design to assess human movement, social interactions, and spatial intensity of use (Çil, 2006; Gündoğdu, 2014). By uncovering the influence of spatial layout on user behavior, the method supports the development of more functional and user-oriented design decisions.

In this study, the spatial relationships and accessibility levels of central urban squares in Elazığ were examined through the Space Syntax method along with various GIS-based spatial techniques. Connections between main roads and squares were identified, and their influence on urban life was analyzed. Accessibility conditions of squares were interpreted based on street and road usage intensities.

Additionally, Buffer Analysis was employed to assess the accessibility of squares within the administrative boundaries of Elazığ's central neighborhoods. Buffer analysis is a geographic technique used to calculate areas within a specified distance from a point, line, or polygon. It is commonly applied in land-use planning, environmental management, and transportation network development. In the context of public open space accessibility, buffer zones help determine which areas fall within accessible distances from urban squares and support the formulation of planning policies to improve spatial equity (Gümüş & Çiftçi, 2023).

Furthermore, the Network Service Area Analysis method was used to analyze the accessibility of squares from neighboring areas based on walking time. The analysis defined 5-10- and 15-minute walking distances to determine areas that could or could not access the squares within these time thresholds. The initial phase of this analysis involved organizing square and road network data to ensure compatibility. The ArcGIS StreetMap Premium database was then used to generate spatial analysis maps. Network service area analysis determines the areas reachable from a specific point within a defined time or distance on a transportation network (Kaya, 2024). For instance, a five-minute walking service area includes all paths that can be reached from a location within that time frame (Özdemir & Yolcu, 2023).

**Historical evolution of urban squares in Elazığ**

In the city of Elazığ, there are two large urban squares, each covering approximately 20,000 m². Located at the heart of the city, 15 *Temmuz Demokrasi* (Post Office) Square derives its name from the PTT (Post Office) building situated within the area (Figure 1). In the area where the square is located today, residential buildings existed in the 1930s (Figure 2). Between 1935 and 1940, these buildings were demolished (Figure 2), and the vacant area initially became a route frequently used by people to reach the train station and the butcher's market located within the covered bazaar.

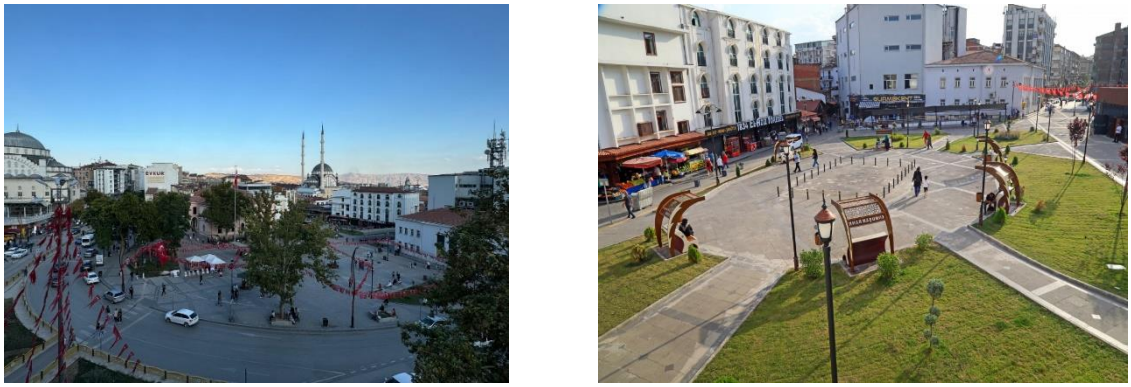

**Figure 1.** 15 *Temmuz Demokrasi* square (Post office square)

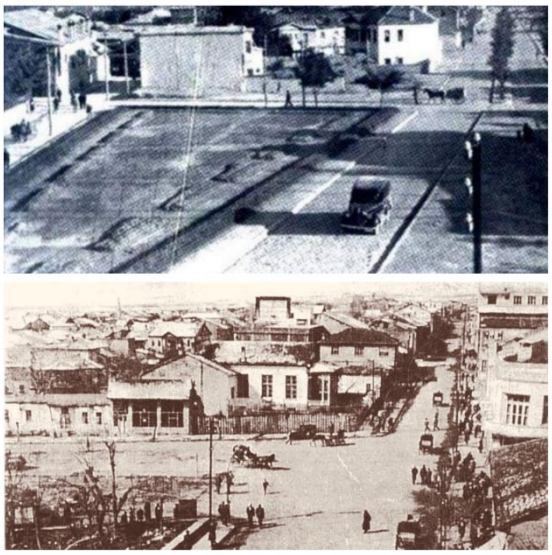

**Figure 2.** 15 *Temmuz Demokrasi* (Post office) square cin 1935-40s

**Figure 3.** 15 *Temmuz Demokrasi* (Post office) square taxi stand – bus stop

By the years 1945–1950, the area began to be used as a taxi stand. At that time, the municipal building was located to the north of the area, while the governor's office stood to the east. In the 1950s, the PTT (Post Office) building was constructed to the south of the area. Following the construction of the PTT building, the area began to be used intensively by the public. Until the 1975s, the square functioned as a place where taxis waited and street vendors sold soft drinks. In the 1980s, it was converted into a municipal bus stop (Figure 3). Municipal buses serving many parts of the city began operating from this stop.

The area currently used as a square was not originally designed for that purpose. Over time, however, it gradually acquired the characteristics of a public square. Initially, it served merely as a shortcut used by pedestrians, later evolving into a taxi stand and subsequently a municipal bus stop. In the course of this transformation, the area further developed into a space where city residents could sit, rest, and engage in social, cultural, and commercial activities.

The square experiences a high rate of usage due to its proximity to the city's central business district and its location at the intersection of some of the city's most important and busiest streets, such as Valifahribey Street to the west, *İstasyon* Street to the south, and *Gazi* Street to the northwest, as well as its immediate northeast adjacency to the *İzzetpaşa* Mosque. In 2003, the square covered an area of approximately 1,600 m². In 2015, the square was expanded to around 3,000 m² by incorporating a portion of the western side of the historic governor's office garden located immediately to its east. Following the 2020 Elazığ earthquake, the SGK building situated to the southeast of the square sustained severe damage and was subsequently demolished; the site was then integrated into the square, increasing its total area to approximately 5,600 m² (Figure 4).

The project initiated for Post Office Square following the 2020 Elazığ earthquake was completed in 2023, and the square was renamed as 15 *Temmuz Demokrasi* Square. Another significant urban square is *Cumhuriyet* Square (Figure 5).


**Figure 4.** Satellite images of 15 *Temmuz Demokrasi* square, 2003-2024

**Figure 5.** *Cumhuriyet* square

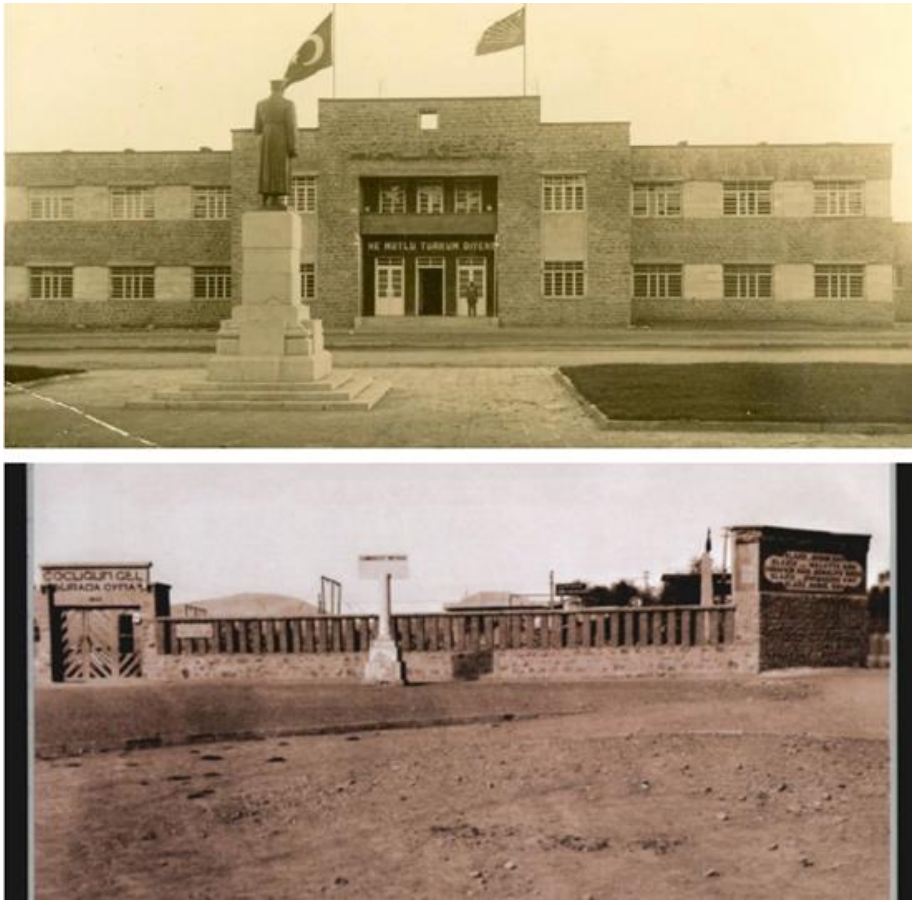

**Figure 6.** The entrance to the *Cumhuriyet* square and *Kültür Park* in the 1930s

The square was established in 1933 through a redevelopment initiative led by the then-governor *Tevfik Sırrı Gür* and was named '*Cumhuriyet* Square' in commemoration of the Republic Day celebrated on October 29. At the time of its initial construction, the square was built in front of the Elazığ Community Center (currently the Teachers' House). To the west of the

square - on the site where the former *Mehmet Akif* High School was located - there was a cultural park, while a stadium occupied the area where the current governor's office stands (Figure 6).

The name '*Cumhuriyet* Square' was used until 2007. Following the demolition of the *Ahmet Aytar* Indoor Sports Hall and the incorporation of the resulting vacant area into the square, it began to be referred to as *Ahmet Aytar* Square. In 2011, the square covered an area of approximately 5,200 m². After the site of the demolished *Ahmet Aytar* Sports Hall was added to the square in 2013, the area expanded to approximately 7,700 m². Following the 2020 Elazığ earthquake, the *Mehmet Akif Ersoy* High School located in the area sustained severe damage and was demolished, and its site was also incorporated into the square. The current size of the square is approximately 15,000 m² (Figure 7).

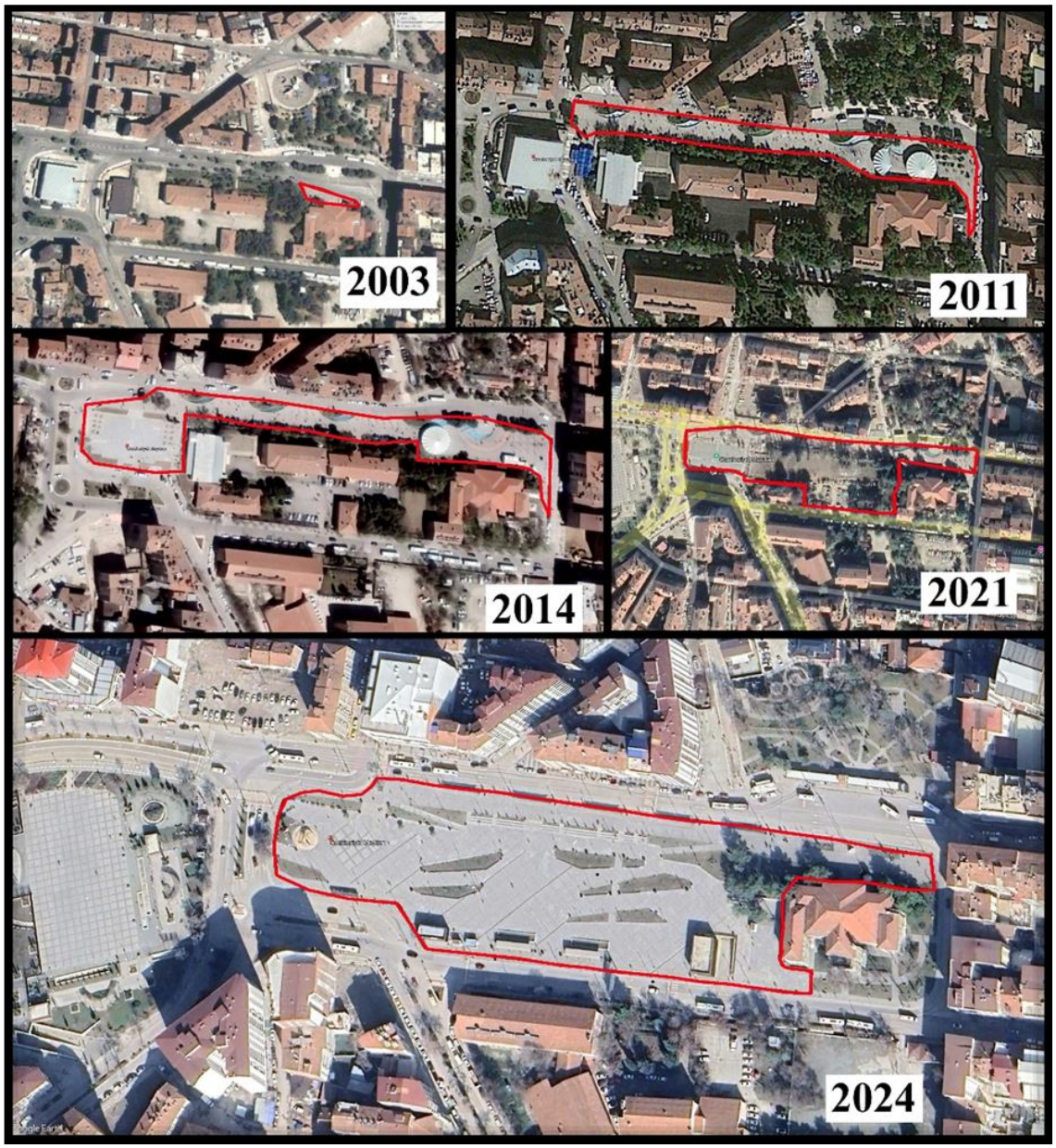


**Figure 7.** 2003-2024 *Cumhuriyet* square satellite images

In 2019, the municipal government developed an underground parking project for the square area. Following the 2020 Elazığ earthquake and the subsequent inclusion of the high school site

into the square, the project was completed in 2023. After the completion of the project, the area was once again named *Cumhuriyet* Square. Thus, while the upper level functions as an urban square, the lower level is now used as an underground parking facility.

## Spatial analysis of the squares

Spatial analysis begins with a systematic approach to the morphological characteristics of cities and buildings. This system encompasses spatial voids such as urban blocks, parcels, streets, parks, and squares. These voids are spaces where people move and carry out physical activities. At times, access to these voids can be restricted by physical elements such as walls, elevation differences, or trees. Additionally, buildings create a series of enclosed spaces within themselves, and within these spaces, they form routes that provide spatial connections. The structural features that shape spaces and their connections can evolve into social spaces that directly affect people's living environments and behaviors within those spaces. Ultimately, what unites all these concepts is the relationship between people and space.

On an urban scale, spatial structures may appear in mono morphological, organic, or deformed forms. These universal types of space generally consist of interwoven shapes that connect the entire structure. Naturally, spatial forms that emerge at different scales exhibit different geometric characteristics and lead to varying outcomes. Topological and geometric analyses of urban networks can help us understand the usage patterns of these spaces and interpret social behaviors within them.

In light of all this information, in attempting to understand human behavior within space, we must also evaluate the relationships between spatial elements themselves. For this reason, this section of the study will first examine the relationship between the hierarchical structure of the urban environment and the squares. In addition, strategies for accessing these spaces will be assessed through the concept of accessibility.

### *The Squares' positions according to street and road hierarchy*

According to the research conducted, the first square in the city center of Elazığ that was planned and constructed in line with an urban design strategy is *Cumhuriyet* Square (Ahmet Aytar Square). In contrast, 15 *Temmuz Demokrasi* Square (Post Office Square) is a space that has undergone transformation over time due to the increasing need for a central square.

The urban layout of Elazığ generally extends along an east-west axis. As is the case in most urban systems, the highest levels of movement intensity are typically observed in city centers, and Elazığ is no exception; the most active and densely used areas are concentrated in the central part of the city. The two major urban squares in Elazığ are located around areas of high density in the city center. In this context, to analyze the connectivity of the urban squares, the surrounding streets and avenues were subjected to both local and global analyses.

In global analyses (Figure 8), the integration values obtained can be interpreted as indicating spaces that are more likely to be used by people arriving from outside the study area. In the city center of Elazığ, it is observed that the routes with higher integration levels predominantly extend in the east-west direction, which aligns with the city's urban form. In these analyses, areas with the highest integration are shown in red, whereas areas with the lowest integration are depicted in blue.

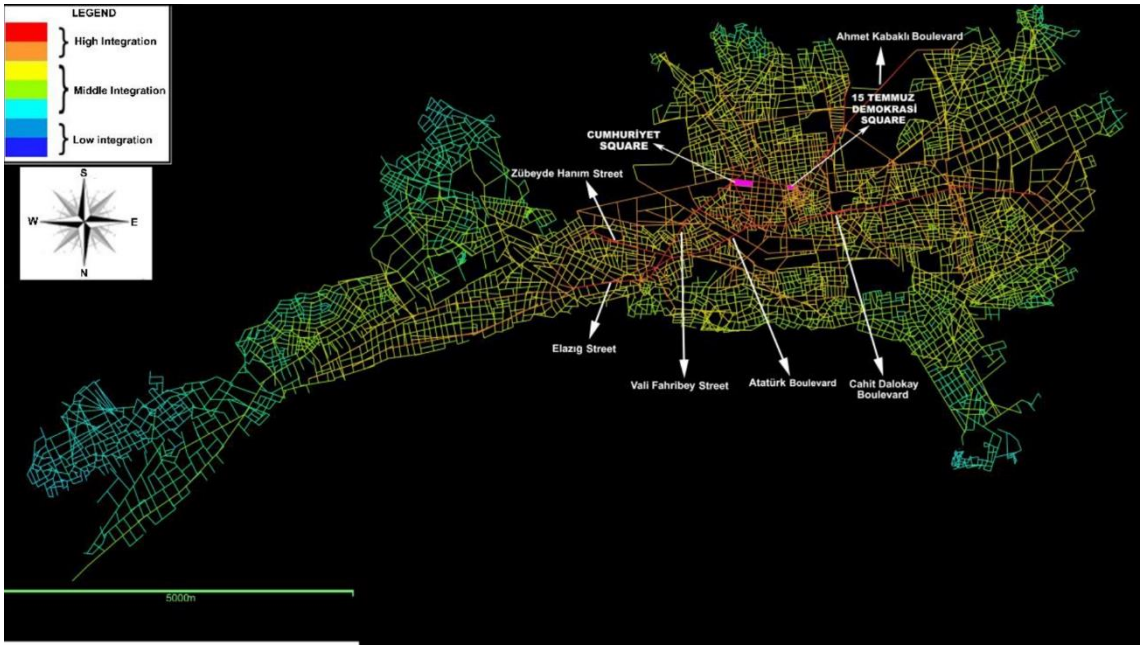


**Figure 8.** Global integration analysis of Elazığ (HH)

An examination of Elazığ's global integration analysis map (Figure 8) reveals that *Gazi* Street, *Cahit Dalokay* Boulevard, *Atatürk* Boulevard, Elazığ Street, *Vali Fahribey* Street, and *Zübeyde Hanım* Street constitute the areas with the highest integration values. The two major urban squares that are the focus of this study are located in proximity to these highly integrated routes. To the north of the 15 *Temmuz Demokrasi* Square lies *Gazi* Street, and to the northeast is *Balakgazi* Street both of which exhibit first-degree integration values. To the south of the square is *Ardıçoğlu* Street, and to the east is *Hürriyet* Street, both possessing second-degree integration values. Similarly, to the southeast, *Bankalar* Street also displays a second-degree integration value. *Vali Fahribey* Street, located to the southwest of the square, has a second-degree integration value in that area, but this value transitions to first-degree as it extends westward through the city.

The other major urban square, *Cumhuriyet* Square, is also situated along routes with high integration values. To the north of the square lies *Gazi* Street; to the west and continuing southward is *Vali Fahribey* Street; and to the southeast is *Şehit İdris Doğan* Street. At the northwest corner of the square, *Kemal Şedele* Street extends in a north-south direction, while *Bölge* Street branches toward the northwest both exhibiting high integration values. *Bahçeli* Street, located to the east of the square, is noted for its second-degree integration value within the street hierarchy.

The values derived from local analyses are typically interpreted as indicating spaces where the potential for interaction among residents of the area is high. Local integration analyses facilitate the understanding of social interactions among people living in a specific area. In this context, the system provides insight into areas where the likelihood of interpersonal encounters among local residents is relatively high or low (Şıkoğlu, 2022).

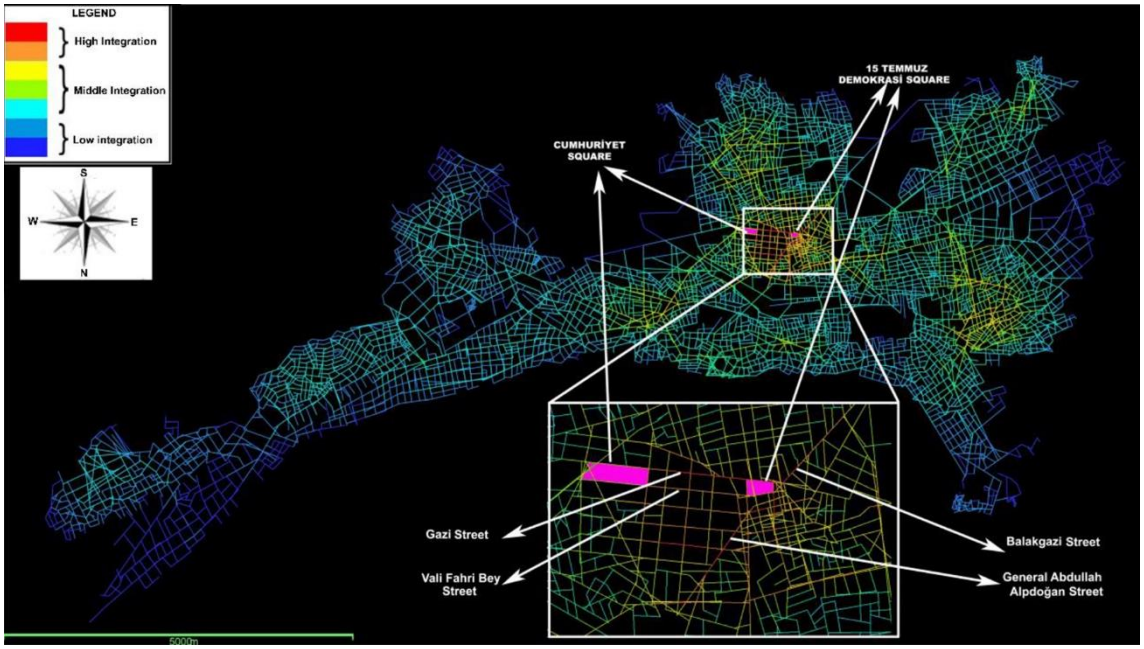


**Figure 9.** Local integration analysis of Elazığ (R3)

In the local analysis (Figure 9), when viewed across the city, areas with high integration values are largely concentrated in the central parts of the city. This region represents the area with the highest level of integration at the local scale and also contains the city's central business district. Both urban squares included in this study are located within this zone. When examining Figure 2, it is evident that the area surrounding the 15 *Temmuz Demokrasi* Square has a higher integration value compared to *Cumhuriyet* Square. Gazi Street to the north of the square, *Balakgazi* Street to the northeast, and *Bankalar* Street to the southeast all have high integration values. These routes are among the most heavily used by both pedestrians and vehicles. Additionally, the presence of the Covered Bazaar just to the south and the *İzzetpaşa* Mosque to the north contributes to the high pedestrian activity in and around the area. These indicators are also noted in other sections of the study as influencing the intensity and pattern of space usage in the area.

On the other hand, *Cumhuriyet* Square, located at the western end of *Gazi* Street, lies at the intersection of streets with a moderate level of integration compared to the 15 *Temmuz Demokrasi* Square. While *Gazi* Street passes to the north of both squares, it exhibits a lower hierarchical integration value in the western segment where *Cumhuriyet* Square is situated, and a higher integration value in the segments extending toward the 15 *Temmuz Demokrasi* Square. *Vali Fahribey* Street, located to the south of *Cumhuriyet* Square, shows a moderate level of integration in this area. In contrast, *Bahçeli* Street, which runs to the east of the square, exhibits a higher integration value compared to these two streets.

### *Neighborhood and accessibility analysis of the squares*

According to 2023 data from the Turkish Statistical Institute (TÜİK), the total population of Elazığ city center is 443,448. This figure includes neighborhoods that, while officially part of different municipalities, are considered part of the central urban population. Specifically, 10 neighborhoods from the *Akçakiraz* Municipality, 3 from *Mollakendi*, 6 from *Yazıkonak*, and 7 from *Yurtbaşı* are included in this count. The 43 neighborhoods within the jurisdiction of Elazığ Municipality alone have a total population of 379,595. Among these neighborhoods, the most populous is *Çaydaçıra* with 33,718 residents, while the least populous is *Alayaprak*, a former village of *Harput* now incorporated into the urban area, with a population of 133. Additionally,

*Hankendi* Neighborhood, with a population of 870, is not shown in Figures 5 and 6 due to the municipality's inability to clearly define its boundaries.

When evaluated based on their locations, the urban squares in the city center of Elazığ are situated within the city's earliest developed neighborhoods. The 15 *Temmuz Demokrasi* Square (Post Office Square) is located at the northwestern edge of the *Çarşı* neighborhood, while the western section of *Cumhuriyet* Square lies within the *Kültür* neighborhood, and the portion extending eastward is situated in *Nailbey* neighborhood. Based on their locations, the squares also share borders with surrounding neighborhoods. 15 *Temmuz Demokrasi* Square is adjacent to *İzzetpaşa, Nailbey, Akpınar, Sarayatik, Rüstempaşa, Mustafapaşa*, and *Rızaiye* neighborhoods. *Cumhuriyet* Square is bordered by *Olgunlar, Üniversite, Sürsürü, Hicret, Akpınar, Çarşı*, *Yenimahalle*, and *İzzetpaşa* neighborhoods.

To determine the accessibility and impact radius of the squares within the study area, Buffer Zone Analysis and Service Area Analysis methods were employed. Buffer zone analysis is a method frequently used in the field of geography to evaluate the influence of a specific point, line, or area on its surroundings. Similarly, service area analysis is one of the most commonly used methods to assess the accessibility of open spaces (Kaya, 2024).

The impact zones of open and green spaces are defined within Section Four of the Regulation on the Preparation of Spatial Plans, under the principles for plan-making. Article 12(2) of this regulation states: 'In zoning plans, functions such as children's playgrounds, open neighborhood sports areas, family health centers, nurseries, kindergartens, and primary schools may be planned within service impact areas that are accessible on foot within approximately 500 meters.' In this context, it is emphasized that factors such as topography, building density, existing urban fabric, and natural and artificial boundaries must be considered when defining the impact areas of services such as education, health, and green spaces (Regulation on the Preparation of Spatial Plans, 2014).

However, it has been identified that the current planning of open and green spaces around Elazığ's urban squares does not fully comply with the provisions of this regulation. Therefore, in the buffer zone analyses, service radii of 100 meters, 200 meters, and 400 meters were calculated for each green space, and evaluations were made based on these distances.

The distances used in the analyses have been adjusted to include the 500-meter criterion for walking distance set in the zoning plans (Figure 10). As a result of these analyses, the accessibility, functionality, and relationship of the two urban squares within the study area with surrounding neighborhoods have been evaluated. In the buffer zone analysis, when assessing the impact area within a 100-meter radius of 15 *Temmuz Demokrasi* Square, it was determined that this area not only falls within the boundaries of *Çarşı* Mahallesi but also includes İzzetpaşa and Nailbey neighborhoods. These neighborhoods are directly within the square's impact area and are significant in terms of environmental relationships. Similarly, when examining the impact area within a 100-meter radius of *Cumhuriyet* Square, it was found that Nailbey, Yenimahalle, and Kültür neighborhoods are included in this region. For both squares, the mentioned surrounding neighborhoods encompass areas with the most suitable and easiest pedestrian access to these squares.

When examining the buffer zone analysis map (Figure 10), it is observed that in the 200-meter radius, in addition to *Çarşı, Nailbey*, and *İzzetpaşa* neighborhoods, *Rızaiye, İcadiye*, and *Akpınar* neighborhoods also fall within the 15 *Temmuz Demokrasi* Square's accessibility area. *Cumhuriyet* Square, on the other hand, covers the same neighborhoods of *Nailbey*, *Kültür*, and *Yenimahalle* within its 200-meter radius. Looking at the buffer zone analysis of the 400-meter radius, the impact area of 15 *Temmuz Demokrasi* Square extends to include Rüstempaşa, Yenimahalle, and *Sarayatik* neighborhoods, while *Cumhuriyet* Square also includes the *Üniversite Mahallesi* within its buffer zone. It is observed that the 400-meter buffer zones of both squares intersect in some neighborhoods. *Nailbey* is one of the neighborhoods where these intersection areas are most

prominent, as it is directly affected by both 15 *Temmuz Demokrasi* Square and *Cumhuriyet* Square. Another neighborhood in the shared impact area is *Yenimahalle*. This situation highlights the central location of both *Yenimahalle* and *Nailbey* within the city. The shared area between the two squares can be considered a high-density interaction zone.

The neighborhoods within the 100, 200, and 400-meter buffer zones are able to benefit more from the social, commercial, and cultural services provided by the squares and can easily access them. *Nailbey, Çarşı*, and *İzzetpaşa* neighborhoods stand out as the areas that benefit the most from the squares' environmental effects in terms of multifunctional use. The connections of these neighborhoods with the squares make them more active and lively within the city. Moreover, the neighborhoods within this area are strategically located in terms of pedestrian access to the squares. These neighborhoods play an important role in urban accessibility, facilitating people's access to the squares. Although accessibility is a broad concept, in studies related to urban open spaces, it refers to the walking time between open spaces and residential areas (buildings). In this study, the walking time of a healthy adult was calculated as 5, 10, and 15 minutes, and these durations were used as the basis for the analyses.

According to the analysis results, neighborhoods close to the city center have been found to be in an advantageous position in terms of access to the squares. For example, *Çarşı*, *Rızaiye*, *İcadiye, Yenimahalle*, *Akpınar*, and *Nailbey* neighborhoods are within a 5-minute walking distance to 15 *Temmuz Demokrasi* Square, while *Nailbey, Kültür, Yenimahalle*, and *Üniversite* neighborhoods can reach *Cumhuriyet* Square in the same amount of time. These neighborhoods stand out as areas with the fastest access to the squares. When evaluating the 2023 *TÜİK* population data, it was determined that approximately 46,000 people are within a 5-minute walking distance to 15 *Temmuz Demokrasi* Square, while around 44,000 people can access *Cumhuriyet* Square within the same distance. When the walking distance is extended to 10 minutes, the neighborhoods of *Olgunlar* and *Kültür* are added to the accessibility area of 15 *Temmuz Demokrasi* Square, and the total number of people who can reach the square within 10 minutes increases to 64,700. Similarly, with the inclusion of *İzzetpaşa* and *Akpınar* neighborhoods, the total accessible population for *Cumhuriyet* Square rises to 56,150 people.

To examine the service network from a broader perspective, when considering the 15-minute access boundary, neighborhoods such as *Mustafa Paşa, Fevzi Çakmak, İzzetpaşa*, and *Rüstempaşa* are added to the accessibility area of 15 *Temmuz Demokrasi* Square, allowing a total of 98,000 people to benefit from the square's services. For *Cumhuriyet* Square, the inclusion of *Olgunlar, Rızaiye, Rüstempaşa, Fevzi Çakmak, Sarayatik*, and *Çarşı* neighborhoods brings the total accessible population to 91,675 people. When considering the overall accessibility capacity of the service networks, it was determined that due to the proximity of both squares, approximately 190,000 people can access these areas within a 15-minute walking distance.

In the accessibility analysis of the urban squares of Elazığ (Figure 11), the different color tones represent the walking times of 5, 10, and 15 minutes. The dark-colored areas indicate the locations with the quickest access to the squares, while the lighter areas represent longer walking times.

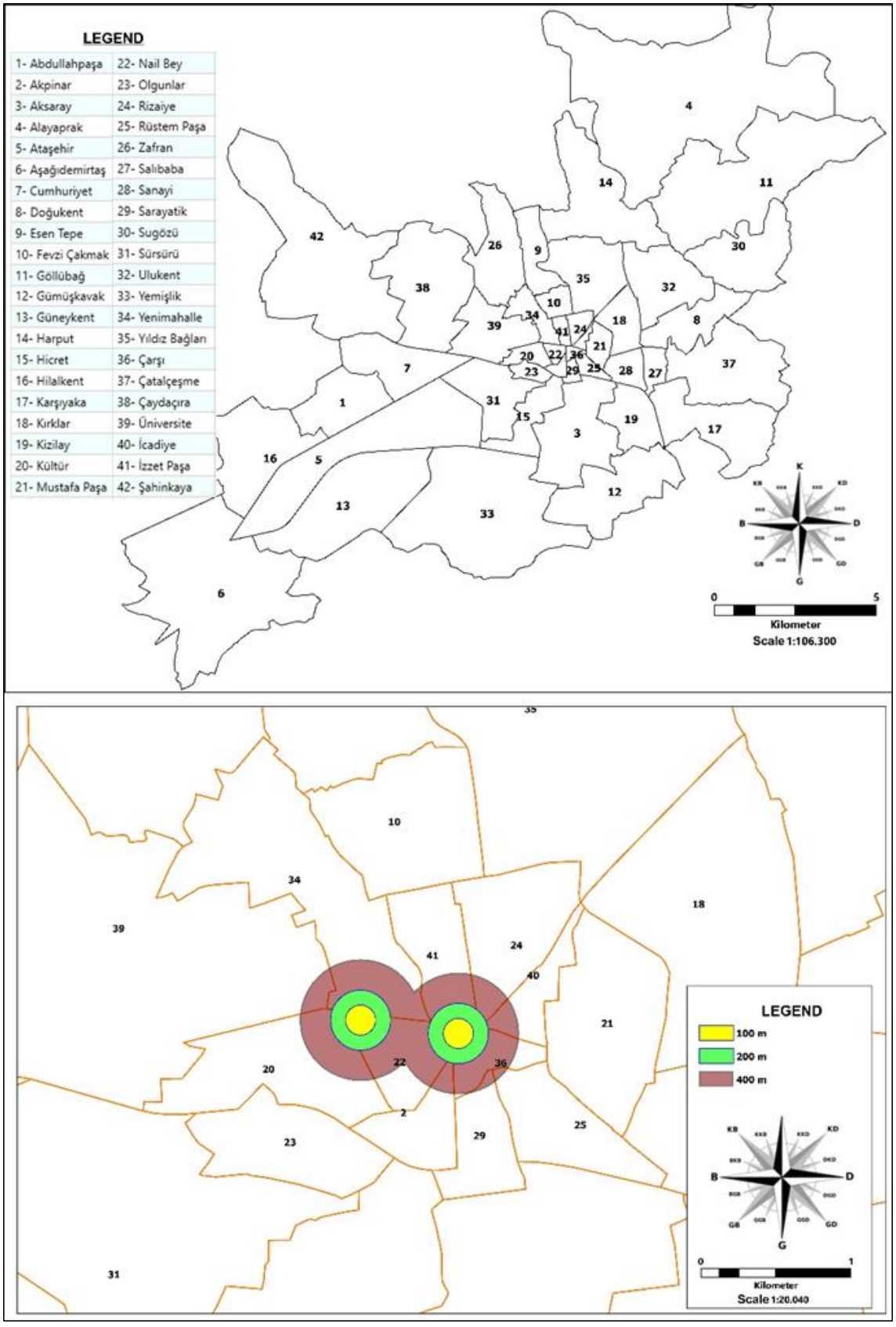


**Figure 10.** Elazığ neighborhood borders and square buffer zone analysis (100 m, 200 m, 400 m)

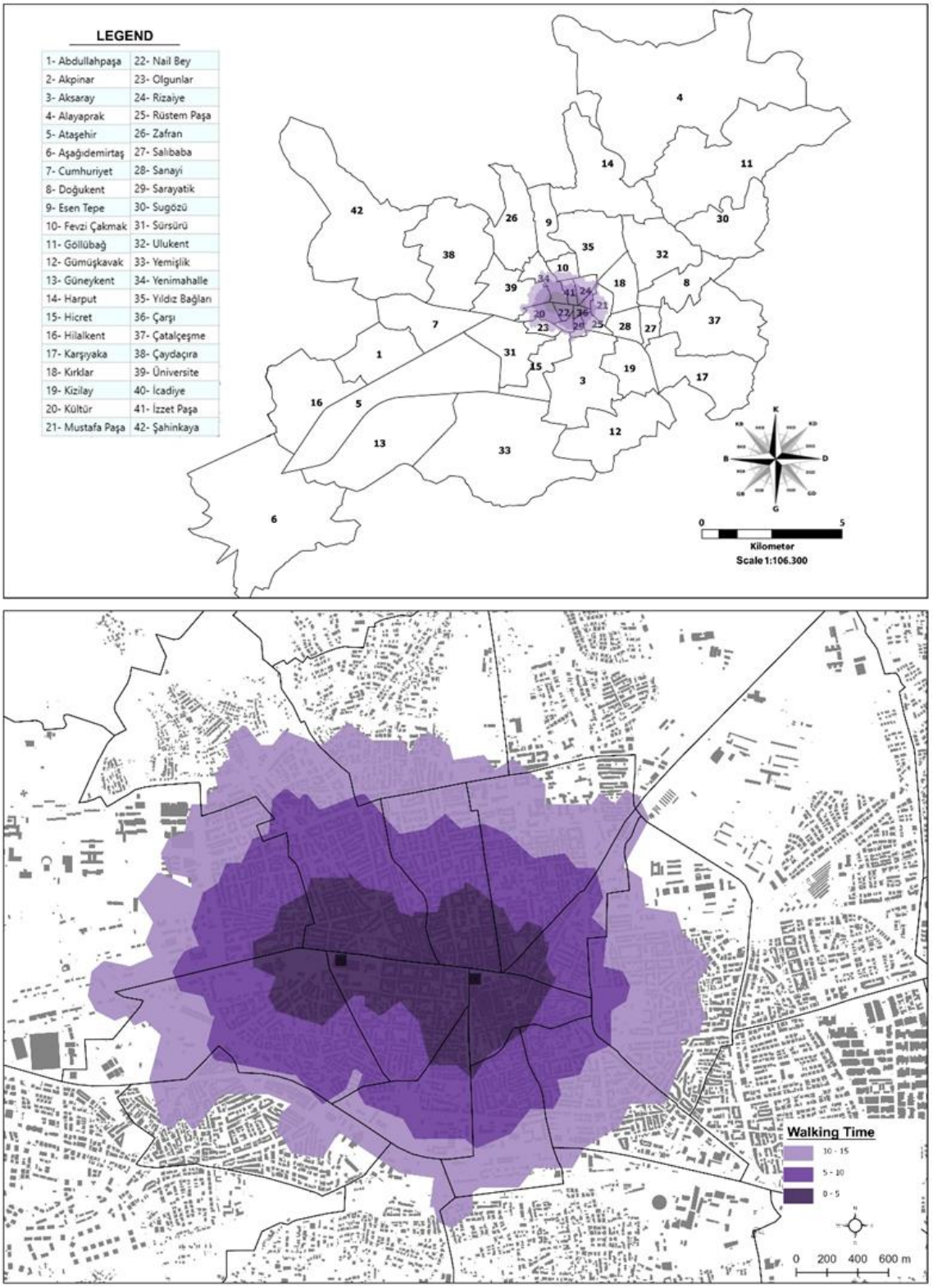


**Figure 11.** Elazığ neighborhood borders and accessibility status of squares

## Discussion

The historical development of Elazığ's urban squares is directly related to the city's socio-economic and cultural structure. Throughout the urbanization process and spatial developments, the city's squares have undergone various functional transformations. The analyses reveal that both squares are not merely physical voids but significant focal points that shape the social, cultural, and economic dynamics of urban life. Parallel to the expansion of urban areas over time, the need for open public spaces and squares has also increased. Particularly after the 2020 Elazığ earthquake, the resulting physical destruction created new urban design opportunities; the inclusion and functional reintegration of demolished structures into square areas has led to a positive transformation for both the city and its inhabitants.

Spatial integration analyses demonstrate that the squares in question are surrounded by major transportation axes with high integration values, indicating that they are easily accessible for both local residents and visitors. Local integration data highlights the high potential for social interaction around the squares, indicating that these areas have become the spatial expression of urban sociability. Especially the 15 *Temmuz Demokrasi* Square stands out in terms of pedestrian density due to its historical background and current functionality within the city center.

Accessibility analyses clearly illustrate the physical relationships between the squares and surrounding neighborhoods, emphasizing their significance in terms of access to urban services. Evaluations based on 5, 10, and 15-minute walking distances reveal that both squares have strong connections to residential areas near the city center and directly serve approximately 190,000 people.

## Conclusion

It has been concluded that the urban squares of Elazığ should not be evaluated solely based on aesthetic or physical design criteria, but through a multidimensional framework that includes social integration, accessibility, intensity of use, spatial connectivity, and historical continuity. Urban squares derive their significance not only from their architectural configuration but also from their relationship with the social fabric and the lived experiences of their users. Therefore, these spaces should be considered as inclusive, multifunctional, and accessible public environments that support everyday practices and foster socio-cultural interaction among diverse groups within the city. Accordingly, future square arrangements and urban transformation projects should prioritize the creation of resilient public spaces that are socially inclusive, functionally diverse, and spatially accessible. Such an approach will contribute not only to the sustainability of physical space but also to the enhancement of social resilience within the urban context. Ultimately, as cities grow over time, the demand for urban open spaces and public squares increases proportionally. The destructive impact of the 2020 Elazığ earthquake demonstrated the necessity and transformative potential of public spaces in post-disaster recovery. The conversion of the *SGK* building and *Mehmet Akif Ersoy* High School areas into public squares represents a significant example of how urban voids can be repurposed to serve collective needs. This transformation not only addressed the physical restructuring of the urban fabric but also contributed to the communal healing process by reclaiming and reactivating spaces with shared meaning for the city and its residents.

## Disclosure Statement

The authors report there are no competing interests to declare.

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BUILT FORM

# Contemporary Types and Urban Morphology

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## Viewpoint

Different approaches to urban morphology start from the investigation of urban tissue, and as a practical outcome, they might lead to professional action in planning and urban design. The role of historical types in these approaches is clear. However, the place of contemporary forms has not yet been clearly defined. Reviewing Conzenian and Muratorian approaches shows that the temporal dimension and emergence of contemporary types are not comparable to types that are routinely considered in urban morphology. Among morphological concepts, 'type' as a notion that classically deals with forms has a strong background in building traditions. Reviewing definitions of type can clarify how we can place contemporary types in urban morphology.

Regardless of the genealogy of the word type, reviewing this concept started from the mid-20th-century conceptualization of Argan (1963), Colquhoun (1969), Vidler (1977), and Moneo (1978), although all these are based upon thoughts of Quatremere de Quincy, Abbe Laugier and first of all Goethe. Argan used the word 'type' versus 'prototype', which means a configurative form exists before all designed examples derived from it. But 'type' is a result of a reduction process of all existing forms of a defined function, use, or configuration. Therefore, type is a root form, which stems from a knowingly study and observation process, reduced from all existing forms with a common subject (Argan 1963). Recognising a 'type' is a result of refining, reducing and summarising definite forms to a root. According to Argan, types must be defined in a hierarchy in which these types should have longitudinal and latitudinal relations with each other. Colquhoun (1969) extracted the innovative capacity of 'type' in the design process. He argues that every act of design deals with pre-assumptions, and there is no way to have our pure intuition at the beginning of the design process. Using types will not bind our hands to design, but just makes us start faster; Since the response to each design challenge can be found in a definite type, and any other methods, tools, and applications can only lead us to a framework which shows us the way to pass the process. No final forms can be derived from those methods, tools, and applications. Here, using a typological hierarchical repertoire can bring us to the first step of designing an absolute final form. Vidler (1977) seeks the meaning of type in the context of the city as a repertoire for architectural and urban forms. Here, the urban tissue can be seen as a whole, whose past and present are embedded in its body. The typological approach, which he described as 'third typology' (versus Nature-oriented typology of Laugier and Mechanical

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typology of Le Corbusier), deals with themes that remain in pre-existing types, themes which are common between types and themes resulting from combining these types (Vidler 1977). The urban tissue is a stack of the city's experience, and in this stack, we can find fundamental rules for designing spaces and buildings. By choosing forms (basically their types) from the past, although the forms are disconnected from their temporal period, they still bring their social and political meanings from the past to the present. Therefore, the continuity of urban forms can be seen through temporal changes. Moneo (1978) excavated the notion of type and defined type as 'a concept which describes a group of objects characterized by the same formal structure'. As he argues, type is not a spatial diagram of an average of a serial list, but is based on the possibility of grouping objects by certain inherent structural similarities. The idea of the type, which 'ostensibly rules out the individuality in the end', has to return to its origins in a single work. Moneo expressed that types are not only tools for describing the architecture, but architecture has always been produced through types. The architecture can be produced through types because types are open to the process of change. The type can be thought of as the frame within which change can be operated.

All these can be seen as a viewpoint extremely rooted in the words of Quatremere as defined 'type' versus 'model': "the model understood as a part of the practical execution of art is an object which should be imitated for what it is the 'Type' on the other hand is something in relation to which different people may conceive works of art having no obvious resemblance to each other. All is exact and defined in the model; in the 'type' everything is more or less vague. The imitation of 'types' therefore has nothing about it which defies the operation of sentiment and intelligence. (Chr 1788 in Argan 1963) Quatremere sees type as a vague and neutral entity that brings only an idea of a form and does not dictate a form. Therefore, type always transfers the content of past projects, but this content does not affect the design process of a new building. All these buildings are refined in their formal qualities in a type, and a designer can create a new building free from historical indicators.

As an outcome for this conceptual review, key points which introduce the notion of type can be summarised in a way that any` practical action deriving from morphological thought, dealing with new form, can be founded upon them.

- Consideration of 'type' as a vague and neutral entity that brings only an idea of a form, but does not dictate it;
- The process of reducing the existing form to a root configuration of a type;
- Embedded historical content within the type and the ability of the type to be free from historical content;
- The commitment to developing a hierarchy of types which have longitudinal and latitudinal relations with each other;
- The ability of types to be used independently or in relation to or in combination with each other.

As the last word, the notion of the type can fundamentally be used to view history as a process which has not ended in the past, However, the end of this period can be seen in every singular present moment.

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