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Skopje's Urban Evolution: Addressing Growth and Preservation Challenges

Arbresha Ibrahimi

Abstract

As a result of political upheavals, historical events, and unplanned developments, Skopje has undergone significant urban changes. The aim of this research is to identify uncontrolled urban growth, its impact on the erasure of historical urban identity, and the demands for sustainable development. Through a retrospective analysis of the city of Skopje, I elaborate on the main features of the city of Skopje, the present, and propose strategies for finding a balance between modern growth and the preservation of urban identity in the future. I base this strategic proposal on data obtained from historical documents, urban planning theories, and sustainable frameworks.

Keywords: Skopje Planning, Urban Evolution, Urban Fabric, Challenges

Introduction

The physical arrangement and form of cities and towns are determined by urban geometry, which is closely related to the understanding and analysis of urban morphology. The organisation of the main urban elements (buildings, roads, public spaces, and infrastructure) in space is the main focus of urban morphological sciences. The analysis of the dynamics of urban structures, their impact on functionality, aesthetics, and sustainability, is aided by geometric principles that offer valuable insights for urban planners, architects, and researchers (Oliveira, 2016). The configuration of city streets not only enhances visual appeal but also significantly influences operational efficiency. As Lynch (1964) emphasized, street layouts contribute to the legibility of urban spaces, shaping how people navigate and perceive the built environment. Grid patterns, radial arrangements, and irregular networks each exhibit distinct geometric properties that affect traffic flow, pedestrian mobility, and overall accessibility. Additionally, the spatial arrangement and dimensions of individual parcels or lots shape the broader urban fabric, impacting building design, land use patterns, and the development of public spaces (Panerai et al., 2004). Architectural composition—encompassing building shapes, heights, and alignments—plays a crucial role in defining the aesthetic quality of an urban environment. Different architectural styles prioritize specific geometric attributes such as symmetry, proportion, or innovative forms. The placement and orientation of buildings within a city influence urban density, volumetrics, and environmental factors, thereby shaping sustainability and livability (Childs, 2012). Public space design frequently integrates geometric principles, utilizing plaza layouts, seating arrangements, water features, and pathways to create both visually appealing and functional spaces that foster social interaction. Urban landscapes also incorporate geometric design strategies, as seen in the structured placement of trees, pedestrian walkways, and recreational facilities, which enhance both usability and aesthetics (Moughtin et al., 1999). The organization of transportation infrastructure—including roads, bridges, and tunnels—significantly affects urban mobility. The efficiency of a city's transportation system is largely determined by the geometric configuration of these components. Since the relationship between different elements of the city is examined in urban morphology, along with geometric analyses that help in the efficiency of road network connections, public transportation systems, and pedestrian paths, all together they serve as a tool for urban planners (Moughtin et al., 1999). Technological advancements, such as Geographic Information Systems (GIS) and other spatial analysis tools, employ geometric principles to

assess and model urban morphology. The above-mentioned tools are of great help to urban designers in the process of visualisation, measurement, and analysis of urban forms. Through geometric modelling of urban forms, it is easy to experiment with alternative scenarios, with the aim of influencing decision-making in designing the built environment. This approach not only facilitates decision-making but also enables strategies for improving the quality of the space (Ritchie & Thomas, 2009). Geometry is fundamental to understanding and shaping the structure and form of cities. By integrating geometric principles into urban analysis and design, planners and architects can create ecologically sustainable cities that balance efficiency with aesthetic quality (Gehl, 2010).

Historical Urban Transformations

Neolithic artifacts discovered within Skopje Fortress (Kale) indicate that the city's history dates back to 4000 BC. By the second century BC, it had become the capital of Dardania (Mema, 2016; Mushat, 2002, p. 108; Chemerikij & Elezovij, 1922). Apostol Keramidchiev (1967, p. 10) highlighted life within the fortress through original building layers up to three meters deep. Excavations in 1953, 1967, and 2007–2011 confirm Skender Asani's (2012) claim that the settlement spans multiple historical periods. The Ottoman era significantly influenced Skopje's political, economic, and cultural aspects, fostering urban and architectural advancements. According to Bogoevik (Bogojevic, 1998), the city included mosques, tekkes, madrassas, caravanserais, hammams, bridges, clock towers, and fountains, with the bazaar as a key social and commercial hub. Three "urban trios" of mosques, hammams, and inns structured the bazaar. Onder Bajir (Asani, 2012) noted that the fortress served as an Ottoman army barracks. Skopje faced multiple disasters, including earthquakes (518, 1555), the 1689 fire, the 1926 economic crisis, wartime damages, and the 1935 fire (Mijalkovic & Urbanek, 2011, pp. 43-45). The establishment of the Club of Architects in 1920 initiated organized urban planning (Grchev, 2003, pp. 153-173). Laws from 1921 encouraged architectural competitions, fostering public projects. However, professional roles remained unclear until 1925 when a handbook clarified distinctions between architects and engineers (Grchev, 2003, pp. 153-173). The 1931 construction law emphasized simplicity and urban harmony. Skopje's 1949 urban plan prioritized the city center, integrating old and new sections through plans by Leko, Mihailovic, and Kubes (Stefanovska & Kozelj, 2012, pp. 92-93). Post-WWII, Ludek Kubes envisioned an urban reset inspired by Le Corbusier's Radiant City (Stefanovska & Kozelj, 2012, pp. 92-94).

His 1948 plan replaced the radial layout with a linear one, altering spatial perception (Stojanoska, 2017). Following CIAM IV's Athens Charter (1933), Skopje was restructured into zones for housing, leisure, work, and transport, reflecting industrial ambitions (Ibid.). The 1963 earthquake destroyed 65% of Skopje. Authorities chose reconstruction over relocation, focusing on resilience (Vasilievski, 2012, p. 98). Strategies included river regulation, seismic monitoring, and international collaborations (Stefanovska & Kozelj, 2012, pp. 93-94). Adolf Ciborovski's master plan introduced hierarchical urban centers (Chaushidis, 2018). A 1965 international competition led by Ernest Weissmann attracted architects like Kenzo Tange, whose plan integrated traffic networks and urban squares (Chaushidis, 2018a; Mijalkovic & Urbanek, 2011). Tange's "City Gate, City Wall, Tower Landmark" concept emphasized connectivity and identity, though Noemi Causidis (2018a) argued that Zagreb's design prioritized pedestrian access and historical preservation. After Macedonia's independence in 1991, political and economic shifts reshaped urban planning. Efforts focused on institutional reorganization, Albanian representation, and managing Kosovo refugee influxes (1998–1999) (Baceva et al., 2015, p. 10). The 2001 interethnic war led to the Ohrid Agreement (Ibish & Ferhad, 2024, p. 233), enhancing institutional inclusion. The privatization process (1991–1993) introduced decentralized urban planning (Stefanovska & Kozelj, 2012, p. 95). Despite legal constraints, the 1993 Macedonian Architecture Biennale showcased Skopje's urban visions, with architects like Blazhevska, Stojkov, Konstantinovski, and Grcev contributing (Sojuz na arhitektite, 1993). The 1997 city planning proposal sought to restore Skopje's identity by rehabilitating its natural axis and enhancing central density.

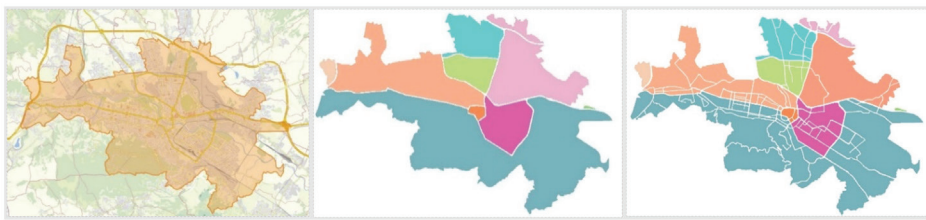
Characteristics of Skopje's Geometric Urban Morphology

Skopje's urban development has been marked by a series of challenges and defeats across different historical phases. The city's rich history, spanning from ancient times through Ottoman rule to the present, has shaped its urban landscape. However, various factors have contributed to setbacks in its development. The incomplete preservation of historical artifacts in the Skopje fortress during the Ottoman period reflects a missed opportunity for a comprehensive understanding of the city's early history. In the interwar period, inadequate professional coordination between architects and construction professionals led to subpar practices and communication issues. The interruption of the continuity of Skopje's identity occurred in the post-war period, when Skopje underwent a radical urban transformation.

The incomplete implementation of urban plans after the 1963 earthquake resulted in urban chaos and also in urban areas with the potential to be converted into urban metastases. The projects were not only implemented due to financial constraints but also due to cultural and national crises. A further interruption of the continuity of Skopje's urban identity also occurred with the "Skopje 2014" project, where, although its aim was to create a unique centre on both sides of the Vardar River, in fact, it was a project that created another chaos in style and identity. Historically, Skopje has created urban fragmentation, where the lack of sustainable urban planning criteria and respect for urban law has led to the uncontrolled expansion of urban spaces. Urban anarchy in Skopje has developed due to the lack of the above-mentioned conditions during the planning process of the general urban plan. Unlike conventional patterns observed in cities like Barcelona, Valencia, Amsterdam, Vienna, Stockholm, Berlin, and Awaza, Skopje's urban morphology deviates from gridiron, radial, and triangular designs. The unique structure of Skopje's urban landscape, illustrated in Figure 13, is a result of ongoing and unfinished urban projects that extend into later phases, contributing to an evolving but incomplete city layout based on flawed spatial plans. This unfinished structure introduces an imbalanced arrangement with uneven shapes forming fractal components within Skopje's urban fabric (Fig. 1- A, B, and C). The fractality of the above-mentioned elements negatively affects the internal organization of the urban structure of the city, where the visual quality and the interaction of the road and space fade. According to Yang et al. (2021), urban geometry directly affects the quality of temperature, air flow, and other climatic qualities. Since the density of buildings plays a key role in the distribution of heat, it creates unbearable and impractical spaces for pedestrians and drivers. Furthermore, this study also emphasizes the use of greenery in regulating general temperatures in urban areas, which should be an integral part of urban design policies. Mirpoe (n.d.) also emphasizes that excessive reliance on geometric models and repetition in urban designs leads to architectural monotony, reduction in diversity of use of public spaces, and neglect of the different needs of society, and there is a high potential for hindering the development of social interaction and community engagement. The greatest risk is represented by the inadequacy of the dynamics of unplanned urban development, which harms the quality of life in general.

Figure 1

A)The form of the Skopje border, B) Skopje's urban morphology, C) Skopje's urban fabric



While geometric patterns can be aesthetically pleasing, an excessive emphasis on this design aspect may lead to a lack of visual intrigue, posing challenges in attracting residents, businesses, and visitors. Thus, achieving a harmonious urban design that balances visual appeal with practicality is essential to ensure the overall effectiveness and sustainability of Skopje's urban setting. In the face of these urban defeats, Skopje continues to grapple with the need for coherent and sustainable urban development. Learning from historical challenges and ensuring inclusive, culturally sensitive planning will be crucial for Skopje to build a resilient and harmonious urban identity in the future (Fig. 2).

Figure 2

Features of Skopje's Geometry Urban Morphology

Preservation Challenges

Skopje's urban morphology (Fig. 2) faces significant challenges, including uncontrolled expansion, irrational development, and the fragmentation of metropolitan areas. The city's urban planning has led to a state of disorder, marked by unregulated traffic growth and insufficient green spaces. Since Skopje was built from unfinished and interrupted urban projects in different phases, a fragmented city has been created, unlike other cities built on clear urban patterns in the form of a grid, radial, or triangular. The chaotic urban fractal components have, unfortunately, further disrupted the flow of the city, creating chaotic traffic and visual inconsistency. Moreover, the increasing density of buildings urgently requires a rethinking of the strategy for increasing the quality of life and green infrastructure. For this reason, flexible and economically sound planning is vital. The history of Skopje offers important lessons for future development, teaching us that respecting cultural identity, inclusiveness, and functional and aesthetic balance strengthens urban sustainability. The main strategies for increasing urban sustainability in Skopje, in line with the historical and analytical analyses elaborated during the research, are as follows:

- Creating a comprehensive plan that reflects the history, culture, and cultural heritage of Skopje, addressing the current issues of air pollution and enhancing architectural aesthetics.
- Prioritizing green spaces by increasing the number of green public spaces, whether at the state or private level, to reduce temperatures and air pollution, increase biodiversity, and increase the use of such spaces throughout the year.
- Systematic development of transport, an appropriate balance of national roads, bicycle lanes, and public transport for a significant alleviation of congestion and improvement of mobility.
- Preservation and promotion of cultural heritage, integrating it into the daily lives of residents.
- Compilation and methodology for respecting and applying clear, easily applicable, cohesive, and culture-aware standards for urban sustainability.
- Use of technologies and compilation of a plan for the use of digital tools for infrastructure, waste and security management to increase overall efficiency.
- Promotion of public awareness is another strategic point for the preservation of culture, cleanliness, and the preservation of culture.

- Monitoring the progress is a key point in the urban development strategy as a tracking act of development efforts, feedback, and adaptation of plans throughout the application process to remain accountable and effective.

Following these steps are the cornerstones of Skopje's development to grow in a way that honours the past, respects the present, and builds a sustainable, inclusive, and dynamic future.

Conclusion

The urban retrospective of Skopje reflects a history built from different reflections in different periods of cultural factors and different political, social, and economic challenges. From the Neolithic roots of the Skopje Fortress to the half-realized visions after the 1963 earthquake and the visions with the Skopje 2024 project, the city reflects a complex narrative of renewal and fragmentation. Its urban form, which is the result of the city's rapid expansion, institutionally fragmented sectors, and disjointed development, emphasizes the need for a coherent and sustainable strategy. The geometric form of the cobblestones further emphasizes the urban chaos in Skopje, coupled with the critique of aesthetic form and functional design. For a strategic urban future, Skopje needs green infrastructure regeneration, sustainable transport, and a strategy of inclusiveness in decision-making. By respecting and preserving Skopje's historical fabric and embracing innovation, the city has the potential to create a regenerative urban identity, serving as a model for cities facing similar events.

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