The spatiotemporal evolution of urban planning in the historic center of Kavala: contemporary reflections

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Graphical abstract

Abstract

Historic city centers embody the cultural, architectural, and social identity of urban areas, linking the past with contemporary development. Their preservation and integration into modern urban life are vital for local and regional development, creating opportunities for tourism, investment, and creative industries, while also facing challenges such as overcrowding, gentrification, and infrastructural pressures.

The Panagia district (Old Town) of Kavala illustrates these dynamics. As the city's original historic core, it occupies a strategic position within the modern urban fabric and functions as a key organizing element of Kavala's spatial structure. Significant morphological changes began in the mid-19th century alongside commercial expansion. Population growth intensified pressure on the peninsula, which until 1864 had developed within the city walls. By the time urban expansion moved beyond the fortifications, the area had become highly densified: plots were fully built, neighborhood identities weakened, buildings abutted the walls, and dead-end streets increased.

This paper examines urban transformation processes in historic city centers, focusing on Panagia, and analyses how urban morphology and spatial organization shape regional development and identity. It also explores strategies to enhance resilience while safeguarding historical character, emphasizing adaptive reuse, heritage conservation, and sustainable development. The study highlights how historic cores can balance conservation with contemporary social, functional, and economic needs.

Key words: Urban morphology, cultural heritage, urban resilience, historic core revitalization, urban planning

1. Introduction

Contemporary urban policy is defined by the coexistence of diverse factors and demands. It is necessarily complex and cannot be reduced solely to physical planning. This complexity arises not only from the simultaneous presence of interventions in multiple sectors—urban, economic, social, environmental, and infrastructural—but also from the interactions, synergies, and contradictions between them (Samourkasidou, 2020). Cities throughout human history have often been the primary drivers of change, serving as incubators for new economic activities and patterns of life. Consequently, the city should not be conceived as a static entity but rather as a dynamic system in continuous flux, in which certain economic activities may decline or disappear entirely, while others emerge, develop, and flourish (Samourkasidou, 2020).

Today, most cities in the developed world face a set of challenges stemming from globalization, the internationalization of economies, deindustrialization, migratory and refugee flows, as well as critical environmental pressures such as climate change. At the same time, the historical trajectory of each city, its identity, and its specific national and municipal policies combine with these global factors to shape a new urban geography, affecting both the urban morphology and socio-economic structure of cities (Vitopoulou et al., 2015). These complex and overlapping dynamics require integrated planning strategies that are sensitive to historical, social, and environmental contexts.

The Panagia neighbourhood represents the original historic core of the city of Kavala. It occupies a dominant position within the contemporary urban fabric and constitutes a fundamental element in the organization of the city's urban landscape. Moreover, it serves as a key structural component of the city's identity and the collective memory of its inhabitants, linking the historic urban centre with contemporary patterns of urban life. As such, Panagia is not only of cultural and historical significance but also a critical spatial reference for the sustainable planning and regeneration of the city.

For the purposes of this study, historical research was carried out using local archival material (secondary sources), alongside the documentation of current conditions and the main challenges affecting the Old Town area (Panagia district). The street network, public spaces, and building frontages were subsequently mapped using digital tools, and the urban and planning characteristics of the area were systematically represented through a series of thematic maps.

The objective is, first, to examine the spatio-temporal evolution of the historic city center and to assess its role, dynamics, and contribution to the identity and developmental trajectory of the wider urban area across key historical periods and milestones. Furthermore, through a review of the relevant literature, the study explores the relationship between the cultural identity of a place and its recognizability and spatial dynamics, with particular reference to the case study of the historic center of Kavala.

Within this context, contemporary challenges and critical issues are also addressed, including the overexploitation of historic urban areas, the risk of identity loss, questions of carrying capacity, and pressures associated with overtourism.

2. Review of Literature

2.1 Historic urban centres and spatiotemporal urban transformations

Historic urban centres are increasingly approached as dynamic and evolving systems shaped by long-term spatiotemporal processes rather than as static entities requiring simple preservation. Contemporary research emphasizes that historic centres function as multilayered landscapes where built form, social practices, and symbolic meanings interact across time, producing complex urban palimpsests (Bandarin & van Oers, 2012; UNESCO, 2011). Within this framework, the persistence of historical street networks and plot structures coexists with functional change, densification, and shifts in use intensity, underscoring the need for planning approaches that acknowledge both continuity and transformation. Recent studies highlight that the resilience of historic centres depends on their capacity to adapt to contemporary demands while maintaining their cultural and spatial identity (Veldpaus et al., 2013).

A spatiotemporal perspective has become central to understanding urban transformations in historic centres, integrating morphological, functional, and socio-economic dimensions of change. Advances in urban morphology and GIS-based analysis enable the systematic tracing of spatial evolution over time, revealing how policy decisions, economic pressures, and heritage regulations shape urban form (Zhai et al., 2023; Lu et al., 2024). Such approaches demonstrate that transformations in historic centres are rarely linear; instead, they occur through overlapping phases of intensification, decline, regeneration, and selective conservation. In this context, processes such as tourismification and gentrification exert significant influence, often reconfiguring land uses and public space while generating social tensions and spatial fragmentation (Gravari-Barbas & Jacquot, 2020).

Within contemporary planning discourse, historic urban centres are increasingly positioned as key arenas for sustainable urban development, where heritage conservation is integrated with social resilience, environmental responsibility, and economic viability. The Historic Urban Landscape approach provides a holistic framework for managing spatiotemporal urban transformations by linking heritage values with broader urban systems and governance structures (Ginzarly et al., 2019; UNESCO, 2016). Recent empirical studies stress that successful regeneration strategies must address deficiencies in public space, housing stock, and accessibility while reinforcing the legibility and authenticity of historic environments (Doratli et al., 2022). By adopting a spatiotemporal lens, planners and designers can better negotiate the balance between protection and change, ensuring that historic urban centres remain active, inclusive, and meaningful components of contemporary cities.

2.2 The contribution of the spatial imprint of cultural heritage to a city's identity

In the era of globalization and increasing territorial competitiveness, the advancement of cities within urban networks is achieved primarily through the improvement of the quality of the urban environment. This process is pursued either through the modernization of existing infrastructures and the development of new ones, or through policies that emphasize local distinctiveness as a comparative advantage, mainly by enhancing the city's image and reinforcing its unique identity (Gospodini, 2006). In both cases, these strategies converge on a common objective: the promotion of local differentiation through the mechanisms of place marketing (Kotler, Haider & Rein, 1993; Kotler, Asplund, Rein & Haider, 1999; Storey, 2004).

One of the most significant factors that distinguishes a place within a highly competitive international context is its architectural and cultural heritage. The preservation and enhancement of this heritage, along with the safeguarding of historical memory, local character, and distinctive identity, constitute a fundamental component of sustainable development. Cultural heritage functions not only as a repository of collective memory but also as a strategic resource that reinforces the long-term resilience and attractiveness of urban environments.

Culture represents the primary element through which places differentiate themselves. The available cultural capital of a territory forms its comparative advantage and a core element of its self-identification. When effectively managed, this cultural capital contributes to sustainable economic development, improves quality of life, and meets present needs without compromising the ability of future generations to meet their own. In this context, cultural routes constitute a key instrument for the development of cultural tourism, enhancing the outward orientation of a place and contributing decisively to its environmental, economic, and social sustainability (Samourkasidou & Nastou, 2022). Beyond their role in tourism development, cultural and architectural heritage assets are increasingly recognized as catalysts for integrated urban regeneration. Contemporary research highlights that heritage-led development can stimulate local economies, strengthen social cohesion, and promote inclusive growth when embedded within comprehensive planning frameworks (UNESCO, 2011; Graham, Ashworth & Tunbridge, 2000). Such approaches emphasize the balance between conservation and innovation, ensuring that heritage preservation aligns with broader sustainability objectives and adaptive urban transformation.

2.3 Layers of time: Architectural and urban evolution of Kavala's old Town

The history of Kavala dates back to the mid seventh century BC (Chionis, 2000). In 1391, the city was destroyed by the Ottomans and subsequently renamed Kavala, a term which in Turkish denoted a makeshift coastal settlement and is believed to have carried a pejorative meaning (Angeloudi–Zarkada, 2008). In the early sixteenth century, the city was resettled by Jewish populations from Hungary. During the same period, extensive reconstruction works were carried out on the fortification walls and the aqueduct, contributing to the city's transformation into an important administrative centre. Owing to its strategic geographical location, Kavala subsequently acquired significant political and economic importance (Karagiannakidis and Lykourinos, 2009).

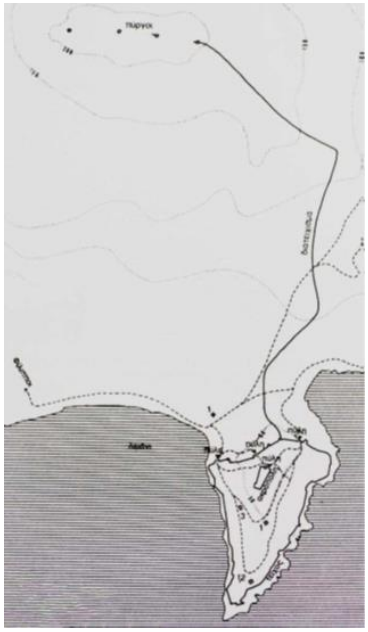

Figure 1: The Byzantine city
Source: Chionis, 2000

The history of the Panagia peninsula largely coincides with the history of the city itself. For approximately 2,500 years, the urban settlement remained confined to this small yet fortified peninsula. In the early sixteenth century, the city expanded slightly beyond its boundaries, which remained largely unchanged until the period 1865–1870 (Lykourinos, 2005).

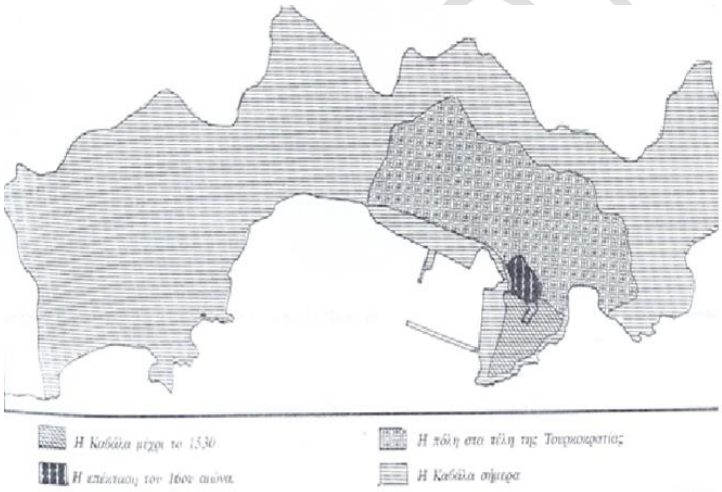

Figure 2: Diachronic Evolution of Kavala
Source: Lykourinos, 2005

From the early sixteenth century until the early nineteenth century, the Panagia peninsula gradually developed a new urban identity in order to accommodate the needs of its new rulers. Traces of its Byzantine past rapidly faded, and the emerging city soon assumed the characteristics of an eastern Muslim urban center. This transformation was reflected in the formation of distinct, homogeneous

ethno-religious quarters, as well as in the establishment of mosques, mektebs, masjids, and madrasas, along with hammams, inns, bazaars, the aqueduct, the caravanserai, tekkes, and the imaret (Lykourinos, 2005).

The neighborhoods within the fortification walls constituted a unified urban entity and were organized according to a common inward-looking spatial structure centered on religious complexes. Each neighborhood functioned as a self-governing unit, encompassing religious and cultural institutions as well as specific fiscal subdivisions (Kalogerou et al., 1992).

During the period 1530–1864, Kavala largely followed the organizational principles of the Ottoman city, being divided into three main components: (a) the acropolis, (b) the lower city, namely the area situated below the fortress, and (c) the extramural zone. This tripartite division, fully aligned with the logic of the Ottoman feudal system, corresponded to distinct uses and functions assigned to each component. Beyond its defensive role, the acropolis served as the place of residence for the administrative, military, and religious elite, while also functioning as the principal administrative center. In contrast, the walled city accommodated, in accordance with the requirements of the fiscal system, the productive and taxable population, encompassing both residential areas and zones of economic activity (Lykourinos, 2005).

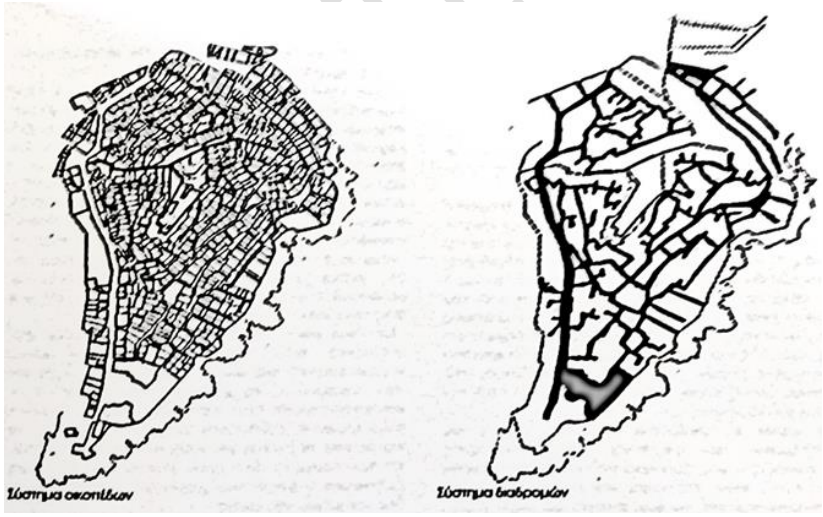

Figure 3: Urban Structure of the Old Town
Source: Papadopoulou, 1987

According to the research project entitled “Architectural Interventions on the Panagia Peninsula – Kavala”, conducted in 1987 by the Department of Architecture of the Aristotle University of

Thessaloniki, traditional patterns in both plot layout and circulation systems largely prevail to this day, with certain exceptions such as the areas of the Lighthouse and Poulidou Street, which have been widened. The primary circulation routes generally follow the natural slopes of the terrain, while secondary streets run perpendicular to the slope. The linear arrangement of the circulation network, which dominates the settlement, results in the formation of elongated urban blocks, whose depth corresponds to one or two plots.

Similarly, plots are arranged with their main façades aligned parallel to the slopes, a characteristic that ensures amphitheatrical spatial qualities and favourable orientation. Access to plots located within the interior of the blocks is provided through cul-de-sacs, a typical feature of historic settlements. In general, the spatial organization of buildings within the settlement can be classified into two main typologies: point-based and linear, with the latter being predominant. Despite minor variations in building patterns, the consistent orientation of structures in relation to the terrain slopes produces a cohesive and unified image of the settlement.

The image of the walled city began to change in the mid nineteenth century, coinciding with the onset of its commercial development. During this period, new inhabitants migrated to Kavala, while the Panagia peninsula proved increasingly unable to accommodate the housing needs of the rapidly growing population. Until 1864, urban development remained confined within the city walls. On the eve of its expansion beyond the fortifications, the urban fabric of the peninsula had become excessively dense: available open spaces had been built up, quarters had expanded and gradually lost their distinct boundaries, buildings had been erected directly against the walls, and the number of cul-de-sac streets had increased significantly. As a result, Panagia constitutes a unified urban entity or neighbourhood, clearly differentiated from the later urban extensions of the nineteenth and twentieth centuries (Lykourinos, 2005).

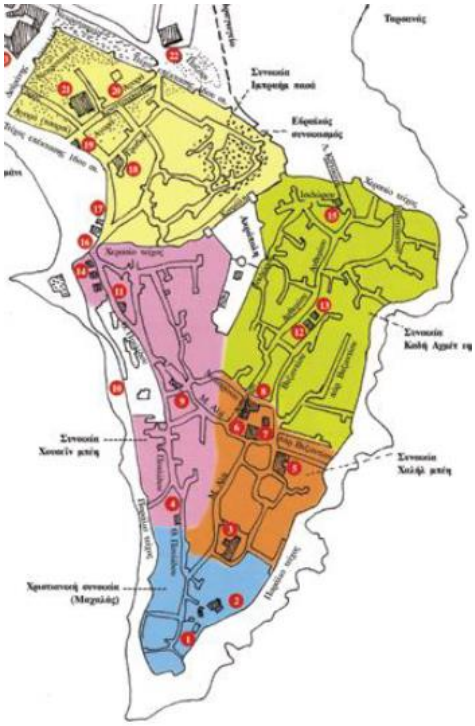

Figure 4: Historic Old Town and Its Quarters
Source: Lykourinos, 2005

The presence of the waqf-based religious and educational complex (külliye) of the Imaret, comprising two madrasas[1], two masjids[2], one mekteb[3], and an imaret kitchen providing food for both resident students and the city's poor, established, on the one hand, a major center of elementary and advanced religious education serving a wider regional context and, on the other, a landmark that defines not only the Panagia peninsula but the city of Kavala as a whole (Samourkasidou, 2007).

In addition to the above, at least three further madrasas should be noted: those of Halil Bey and Haci Ahmet Bey within the city walls, and that of Haci Ali Pasha outside the fortifications. The operation of these institutions resulted in the attraction of religious students from other regions, the consolidation of the Muslim population, and the cultivation of religious fanaticism, which at times became hazardous for the Christian community of the city, particularly during periods of tension and military conflict between Greece and Turkey (Roudometof, 1998).

[1] A higher educational institution, primarily focused on theological studies – including the Qur'an and Hadith – and on legal sciences.
[2] A small Muslim prayer space where the Friday congregational service was not held.
[3] A primary-level school for boys' education, where they learned to recite passages from the Qur'an, and were taught writing, reading, and basic arithmetic.

The Muslim character of the city, with its homogeneous ethno-religious mahallas, imarets, bazaars, hammams, inns, and mosques, persisted until the end of the Ottoman period (Lykourinos, 2010:435). During this time, according to Apotas (2010:109), the Christian population was confined to the southern tip of the peninsula, the most exposed and rocky area, while Muslims, following their customary practice, occupied the most privileged sites, offering maximum safety and climatic or topographical advantages. The monastery of Panagia Kammitziotissa and the small "post-Byzantine" Church of the Dormition of the Theotokos, located on the site of the current church, constituted the nucleus of the neighbourhood (Lykourinos, 2010:436).

When the city made its major leap at the beginning of the twentieth century, transforming from an Ottoman settlement into a thriving commercial city with cosmopolitan features, the Panagia peninsula remained at the margins of these developments (Karagiannakidis & Lykourinos, 2010:35).

The identity of the neighbourhood shifted with the arrival of refugees. According to Pegiou (2010:49), during 1926–1927, the neighbourhood accommodated the Prefecture, the Gendarmerie Directorate, the Forestry Office, the Tax Office, and the Military Hospital. Together with the commercial centre along Kountouriotou Street and the bazaars at Agios Nikolaos and Nikotsara squares, these institutions defined the neighbourhood as an administrative and commercial hub of the city. During the interwar period, despite the relocation of some services and workplaces, the Panagia neighbourhood remained a vibrant part of the city, with numerous entertainment venues and a variety of cultural and social activities. However, migration and the movement of youth toward the modern city gradually transformed the neighbourhood into a declining residential area, while mechanisms of urban restructuring and destruction of its built fabric simultaneously emerged. A characteristic example of the encroachment of modern urban forms into the quarter is the apartment buildings along the main Th. Poulidou Street (Bakirtzis, 2005:218).

The significance of this area has been recognized in modern times through the designation of Kavala's historic centre as a distinct urban ensemble, and the classification of the Panagia peninsula as a "historic site" by the Ministry of Culture (Government Gazette 822/13/22.874). According to this

designation, the peninsula is recognized as a place of exceptional natural beauty and as a historic site, falling under the category of artistic and historic monuments and buildings predating 1830. The unique natural beauty of this hilly peninsula lies in its terrain morphology and rocky coastline, while its historical importance stems from the fact that, since antiquity, it has constituted the core of the city of Kavala, with historical significance spanning the ancient and Byzantine periods as well as the Ottoman era (Samourkasidou, 2007).

By the late seventeenth century, Kavala had developed into a small city with numerous quaerters and a population of approximately 5,000. It was a city with many mosques, where houses located in the mid-walled city typically had two or three stories and faced the sea, whether on the eastern or western side. Only a few had gardens due to the density of the settlement. All houses had wider ground floors than those in the Ibrahim Pasha mahalla, and all first floors faced the sea. The steep slope of this second walled city was less constraining, so houses, in search of sunlight and views, were not built as tall as those in other neighbourhoods (Ivkovska, 2018a; Ivkovska, 2018b; Ivkovska, 2019).

Compared to the houses in the Ibrahim Pasha mahalla from the sixteenth century onwards, buildings in this quarter had larger floor plans and were more spacious. Some included gardens, particularly those on the eastern side of the peninsula, facing Thasos. Plots on this side were more rectangular in shape rather than being entirely organically and randomly arranged, following a grid of streets or perpendicular stairways along the seafront (Ivkovska, 2018a; Ivkovska, 2018b; Ivkovska, 2019).

A defining feature of the Ottoman urban morphology in Kavala was that the urban fabric included small, rather than large, gardens within the plots. A particular characteristic of the Ottoman street-grid construction was that buildings were developed on axes perpendicular to the street, generating their volume in a free-form manner from the street inward (Ivkovska, 2018a; Ivkovska, 2018b; Ivkovska, 2019).

Residential complexes on the Panagia peninsula exhibit a variety of shapes and sizes. These blocks tend to be narrow, typically occupying the width of two plots, or sometimes only one. Residential squares with one side facing the city walls or the sea differ from typical residential squares enclosed

on all four sides by streets, as they are not fully bounded by the surrounding roads. In the northern expansion of the area, building plots are more varied and irregularly shaped, particularly in the outskirts (Ivkovska, 2018a; Ivkovska, 2018b; Ivkovska, 2019).

3. Materials and methods

3.1 Study area description

The Panagia neighbourhood constitutes the original historic core of the city of Kavala, occupying a prominent position within the contemporary urban complex and serving as a fundamental element in the organization of the urban landscape. It is situated on the characteristic hilly peninsula defined "to the north by Kountouriotou Street and Nikotsaras Square, and from there along an imaginary line extending eastward through the southern part of the shipyard to the sea" (Government Gazette, FEK 822/22.8.1974). The boundaries of the settlement are clearly delineated, consisting of both natural and artificial elements, including coastal rocks, the coastal fortification wall, port facilities, the landward defensive wall, and the aqueduct.

The quality of the urban environment has led to official designations recognizing the entire area as a "place of special beauty" and a historic site falling under the category of artistic and historical monuments. The configuration of the neighbourhood's street system has been shaped by the terrain's morphology, the location of the original core and its principal functions, and the presence of significant built elements, such as religious buildings, institutions, and fortification structures. As a result, access to the neighbourhood is limited, effectively constrained to two main entrances. Within the settlement, a primary two-way street provides the main access route, running parallel to the southeastern wall and terminating at Mehmet Ali Square at the southern tip of the peninsula.

The intricate street network, which largely developed by the late 19th century, does not facilitate vehicular movement, further hindered by parked cars along narrow streets. Generally, the network comprises "parallel" streets along the coastal wall, which are relatively long and define the main structural framework of the urban fabric, as well as smaller streets that follow the terrain's slope and

are often organized in terraces, either continuously or in segments. The drafting of urban plans for Kavala began historically in 1923, with the first approved plan covering the "outside-the-walls" area, which was subsequently modified in 1926, 1928, and 1939 to encompass the entire urban fabric outside the walled area. The Panagia neighbourhood, however, remained under the regulatory framework of a pre-existing settlement and continues to retain this status today.

3.2 Data Collection

For a more comprehensive understanding of the area, the wider zone along Th. Poulidou Street was selected as a pilot study. This street represents the principal thoroughfare of the Old Town, functionally and spatially connecting it with the rest of the city and was thus chosen for on-site inspection and documentation of its main structural characteristics.

To document the existing conditions within the study area and to generate high-resolution cartographic outputs, a comprehensive spatial documentation survey was conducted. This included systematic photographic recording using both unmanned aerial vehicles (UAVs/drones) and ground-based photographic equipment, complemented by detailed on-site field surveys for the recording and classification of land uses.

For the assessment of the current spatial configuration and its underlying dynamics, the identification of the constitutive elements of urban form is essential at both the urban and planning scales. A primary determinant of settlement identity is the structural organization of the built environment. This necessitates the analysis and documentation of the geometric attributes of buildings (including volume, height, and spatial configuration), as well as their interrelationships and their integration within the wider urban and natural context.

Beyond morphological characteristics, the spatial identity of the area is further shaped by the distribution of land uses, both at ground-floor level and across upper storeys. Following the analysis of the general structural parameters that define urban form, the study proceeds to the examination of

more specific attributes, including ownership patterns and the presence of officially listed or protected buildings along the main axis and in the surrounding urban fabric.

Based on the processing and synthesis of the above datasets, the study derives the following results. Building heights are generally low, with the majority of structures ranging from two to three stories (ground floor plus one or two additional floors). The same heterogeneity observed in the façades along the axis is reflected in the variation of building heights. The adaptation of the buildings to the steep slope of the peninsula creates a contrasting visual impression between the right and left sides of the street. On the right side, most buildings rise one or two stories above the street level, with exceptions for some post-war apartment blocks that reach three or even four stories. On the left side, buildings along Th. Poulidou Street are generally taller, usually three stories (ground floor plus two additional floors).

Beyond the necessity for buildings to adjust to the pronounced elevation differences between Th. Poulidou Street and the parallel upper streets, the increased height on the left side also reflects the construction period of these buildings, most of which are of more recent origin. Consequently, both topography and temporal development patterns contribute to the spatial and visual diversity of the street's urban fabric.

Figure 5: Building Heights – Number of Storeys

An analysis of the ownership structure of the buildings reveals a high concentration of privately owned properties, whereas buildings under the control of public-sector entities are few and primarily comprise schools and military housing. Significant landmarks, such as the Imaret and the Museum – House of Mehmet Ali, are owned by the Egyptian government. In addition, the Church of Greece holds ownership of the church itself, and the auxiliary structures located in the upper section of Th. Poulidou Street.

This distribution indicates that private ownership dominates the historic urban core, while public or institutional properties are limited to key educational, religious, and heritage buildings. The pattern of ownership has direct implications for conservation, adaptive reuse, and urban management, as it defines both the regulatory responsibilities and the potential for coordinated interventions within the historic neighborhood.

Figure 6:Ownership Structure

Research on the listed buildings along Th. Poulidou Street indicates that, in addition to the designation of the entire Panagia peninsula as a site of exceptional natural beauty and as a historically and archaeologically significant land area under various ministerial decisions, most of the street's length is further protected through its association with the fortress, which is listed as a monument.

Along the street, there are also individual buildings of notable architectural and historical interest that are protected through separate listings. The Imaret complex, for example, has been declared a

monument, and the same protective status applies to the House of Mehmet Ali, located in the southern section of the street. Additional individual listings as more recent monuments exist for three other buildings along Th. Poulidou Street.

This concentration of protected structures underscores the historical and cultural significance of the street, highlighting the need for sensitive management, preservation strategies, and any potential adaptive reuse interventions, while also framing the street as a key axis for heritage-led urban planning within the historic core of Panagia.

Figure 7: Listings of Protected Buildings

Within the broader intervention area of the Panagia peninsula, a significant number of abandoned or potentially hazardous buildings have been identified. Most of these structures possess historical and architectural value; however, due to their age and lack of active use, they substantially degrade the built environment and pose risks to public safety. The majority of these buildings were originally used as residential units, and their sizes vary considerably.

The presence of such structures highlights critical challenges for heritage conservation, urban management, and public health. Their preservation and potential adaptive reuse could contribute to revitalizing the historic core, while neglect exacerbates urban decay and limits the functional and aesthetic quality of the neighborhood.

Figure 8: Two-Story Stone house on Th. Poulidou Street (Abandoned and Hazardous)

An analysis of the spatial distribution of ground-floor land uses along Th. Poulidou Street reveals a concentration of retail, service, and leisure establishments in the lower section of the street, extending from Kountouriotou Street toward the lighthouse, up to approximately the level of the Imaret complex. In the upper section of the street, the predominant ground-floor use is residential, supported by ancillary functions such as parking areas and storage spaces.

The ground-floor land-use palette is further enriched by educational facilities combined with sports installations, as well as religious spaces. A dominant function along the axis is the hotel operation within the Imaret complex, while a particularly significant cultural use is represented by the Museum – House of Mehmet Ali, located in the upper section of the street near the monument of Mehmet Ali. This spatial distribution of uses highlights the functional diversity of the street and underscores the coexistence of residential, commercial, educational, cultural, and leisure activities within the historic urban core, reflecting both the heritage character of the area and its contemporary urban dynamics.

Figure 9: Ground Floor Uses

The pattern that emerges from the analysis of uses at the upper-floor level is markedly different from land use patterns observed at the ground floor level. The primary function identified at the upper floors is residential, extending along the majority of the street. However, in the lower section of the axis, up to approximately the height of the Imaret, a significant number of buildings host spaces providing personal services, such as medical offices, law firms, and similar professional practices. In the same section of the street, there are also a few recreational facilities as well as commercial establishments located on the upper floors.

Another notable function present at the floor level is educational use, particularly in the two-story buildings housing the 5th Gymnasium of Kavala and the 7th Primary School of Kavala. Finally, although the Imaret constitutes the only complete large-scale hotel facility along the studied axis, research on popular online short-term rental platforms indicates that, at present, at least five to six residential units located on the upper floors of apartment buildings along Th. Poulidou Street are available for short-term rental.

Figure 10: Upper-Floor Uses

From all the above, the developmental potential of the area becomes evident, not only for the Old Town but for the overall functioning of the city, as the Panagia Peninsula constitutes a significant element of the city's identity, upon which its developmental narrative can be constructed. Moreover, the city's cultural identity is particularly strong, distinguishing it from other urban centers.

4. Results and Discussion

4.1 Urban continuity and transformation in Kavala's historic core

The Panagia district constitutes the original, historic core of the city of Kavala, as it occupies a dominant position within the present urban complex and represents a fundamental element in the organization of the urban landscape. It occupies the characteristic hilly peninsula, defined "to the north by Kountouriotou Street and Nikotsara Square, and from there by an imaginary line extending eastward through the southern part of the shipyard to the sea" (Government Gazette 822/22.8.1974). The boundaries of the settlement are well-defined and consist of natural and artificial elements (coastal rocks, the coastal wall, port facilities, land walls, and aqueducts). Th. Poulidou Street runs longitudinally along the entire peninsula, from its junction with Kountouriotou Street to its terminus at the Lighthouse.

The layout of the district's road network was influenced by the topography, the location of the original core and its primary functions, as well as significant built elements, such as religious buildings, institutions, and fortifications. As a result, access to the district is limited, with essentially only two main entrances. Within the settlement, there is a primary street, Th. Poulidou Street, which serves as the main access route. It follows a direction roughly parallel to the southeastern wall and terminates at Mehmet Ali Square at the southern tip of the peninsula. The intricate street network, largely formed at the end of the 19th century, does not facilitate vehicular movement, which is further hindered by parked cars along the narrow streets.

Thus, Th. Poulidou Street functions as a collector street for the Old Town and is the only two-way street in the area. This fact alone highlights its importance for both vehicular and pedestrian circulation within the Old Town and for the general functioning of the district.

As noted in a previous section, the street hosts numerous significant landmarks, making it recognizable at a supra-local level. The most prominent of these are the Imaret and the Mehmet Ali House. Analyzing the uses and activities along the street reveals that it does not serve primarily residential purposes, as is the case for most streets on the peninsula, but rather concentrates tourism and leisure-related functions, including dining, hotel accommodations, and other tourist services.

Additionally, the street is included in nearly all of the city's historic or thematic walking tours, acting as a connecting link between the Kavala of the past and the contemporary city. It links the historic city center, providing access to the Old Town from the Agios Nikolaos area (originally the Ibrahim Pasha Mosque).

The Agios Nikolaos neighborhood, adjacent to the Old Town and part of the historic city center, represents a characteristic form of an old commercial center, with numerous small shops, some of which have preserved their traditional forms and hold significant artistic value. Historically, it was part of a large waqf complex that included the Ibrahim Pasha Mosque (now Agios Nikolaos Church) and numerous religious and social buildings. Markets (bazaars) were concentrated around the central

area. The district still attracts high levels of visitation from both residents and tourists, supported by the existing pedestrian network.

A negative aspect of the street is the substantial alteration of its character. It is the street experiencing the greatest pressures on the urban landscape within the peninsula. This is primarily due to two factors: a) street widening works, which resulted in the demolition of several buildings, and b) its comparatively easier access relative to other points in the Old Town, which made it an attractive focus for reconstruction.

4.2 Master Planning and Regulatory Framework in the historic core of Kavala

The development of the urban fabric of the city of Kavala has been strongly influenced by the geomorphological characteristics of the terrain. Urban growth has occurred primarily in a linear pattern, parallel to the coastline. To the north, the mountainous topography acts as a natural barrier, preventing further expansion in that direction, while the pronounced elevation gradients define both the limits and the potential for urban expansion, as well as the configuration of the road network. In parallel, extensive unplanned and informal development in most residential areas has led to a significant reduction in public and open spaces.

The General Urban Plan (GUP) of the Municipality of Kavala, published in the Government Gazette (FEK 69/11-3-2013), defines as its study area the administrative boundaries of the Municipal Unit of Kavala.

The central concept of the planning approach is sustainable spatial development, grounded in the pillars of economic competitiveness, social equity, and environmental protection. Its main strategic axes include balanced polycentric development and the strengthening of urban–rural relationships, equitable access to key transport, energy, and communication networks, as well as the prudent management of natural resources and cultural heritage.

The principal challenge in the development of Kavala's urban fabric is the shortage of public and open spaces in combination with high population concentrations. Existing carrying capacities exceed

theoretical thresholds, while high population densities and a significant degree of spatial saturation are observed primarily in the city centre. The outcome of this intensive urbanization is the limited provision of public and open spaces.

The city of Kavala is structured into fifteen extended Planning Units, encompassing a total of twenty-nine quarters. Among these, one corresponds to the study area and is designated as Planning Unit 1 (PU 1): the Panagia quarters.

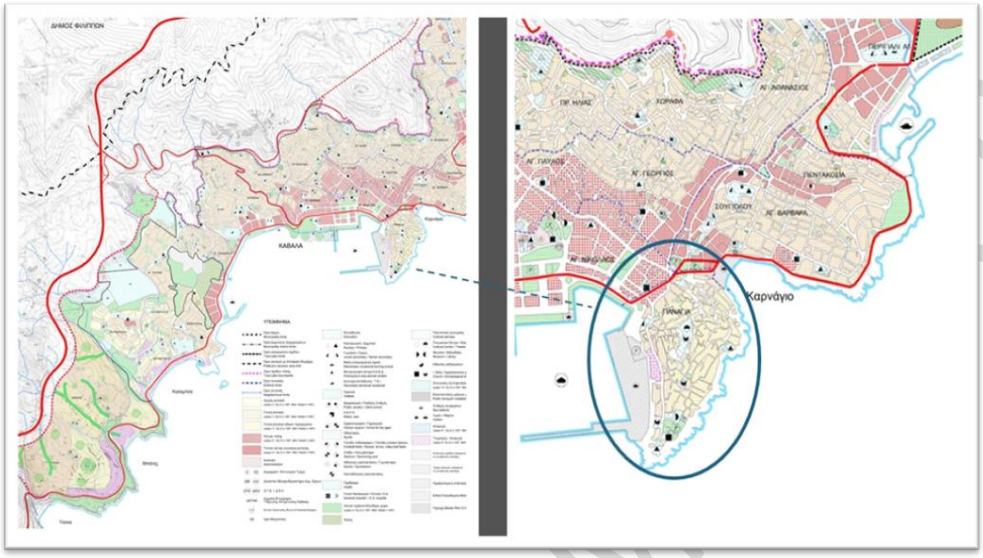

Figure 11: Excerpt from the Urban Planning Structure Plan of Kavala, General Urban Plan (GUP) of the Municipality of Kavala (2013)

According to the aforementioned map, the prevailing land use in the study area is general residential use, within which a range of activities beyond housing is permitted. In addition, educational and cultural uses are maintained at locations where the area's schools, namely the 8th Primary School and the 5th Secondary School, as well as the Museum of the House of Mehmet Ali, the archaeological site, and the Church of the Dormition of the Virgin Mary, are situated, respectively. The Imaret complex, which operates as a high-standard hotel, is designated for tourism and leisure use. Urban green space and open-space use along the street network is identified at Mehmet Ali Square and at the multi-level neighborhood park located near the intersection of Th. Poulidou and Gravia streets.

The General Urban Plan (GUP) of the Municipality of Kavala proposes a series of studies aimed at the regeneration, restructuring, and redevelopment of specific areas of the city. Among these areas is the broader Panagia district, which also includes the area of Agios Nikolaos, with extensions towards

Kamares and Karnagio. All individual sections of this wider area have been recognized as integral components of the city's cultural heritage; however, they have never been addressed through an integrated planning approach. Moreover, the area exhibits deficiencies in public and community facilities, insufficient protection and promotion of its historical assets, and significant issues related to the housing stock.

The key guidelines for regeneration include the provision of public spaces and community facilities, the protection and enhancement of the area's historical features, the mitigation of problems affecting the housing stock, and the spatial integration of the historic center (Panagia–Agios Nikolaos). This integration is to be explored through the potential undergrounding of vehicular traffic along Kountouriotou Street and the transformation of its surface into a pedestrian zone, a bicycle lane, and a corridor for public transport use.

In addition to the above, areas of historical interest are designated for the development of "historic walking routes." Within this framework, the proposed interventions include:

⇒ the restoration and enhancement of the Panagia coastal fortification wall,

⇒ the restoration, enhancement, and adaptive reuse of the Acropolis of Panagia, and

⇒ the restoration of the historic water supply infrastructure of Kavala dating to the period of Suleiman the Magnificent (1530), including the aqueduct, five water bridges, fountains, and watering troughs.

Finally, the implementation of architectural design competitions is envisaged for the following areas:

⇒ the wider area encompassing the House of Mehmet Ali, the Church of Panagia, the primary school, the lighthouse, and the fortification walls, and

⇒ the Customs House area, with particular emphasis on investigating the spatial and functional linkage between the Customs House site and the adjacent upper neighborhood.

5. Conclusions

The preservation of cultural heritage plays a critical role in enhancing the urban resilience and reinforcing the identity of a city. By maintaining historic structures, public spaces, and traditional urban fabrics, cities are better equipped to withstand social, economic, and environmental pressures, as these elements provide continuity, collective memory, and a sense of place. Cultural heritage also fosters community engagement, strengthens local identity, and contributes to the development of sustainable urban policies, ensuring that urban growth and modernization do not compromise the unique characteristics that define the city.

Situated on the Panagia Peninsula as the historic core of Kavala, the Old Town developed in close relation to the natural topography, defensive requirements, and the concentration of religious, commercial, and administrative activities. Its growth was shaped by the hilly terrain, which dictated the layout of streets and plots, and by the strategic need for fortifications, resulting in a compact and densely organized urban fabric. Over the course of the late 19th and 20th centuries, changes to the street network, building types, and land uses gradually transformed the area, creating a complex interplay between narrow pedestrian pathways and more accessible thoroughfares. While these modifications facilitated urban growth and improved connectivity, they also altered both the visual and functional character of the Old Town, ultimately influencing the perception and identity of Kavala as a whole. As one moves further away from the main thoroughfare of the Old Town, and as accessibility becomes more limited, the area's historic character remains largely intact. This zone is characterized by a dense presence of buildings with particular architectural significance, many of which have been adapted into short-term rental residences serving the tourist market. This dynamic highlights the tension between conservation and commercialization, illustrating how peripheral sections of the Old Town retain their authenticity, while central streets experience higher pressures from tourism-driven transformations.

Historic city centers increasingly face the challenge of losing their authentic character, often being transformed into tourist enclaves that prioritize commercial and leisure activities over everyday urban

life. This phenomenon can lead to the erosion of social diversity, local culture, and the historical integrity of the built environment. Urban planners and policy makers can address these challenges by implementing integrated conservation strategies, promoting adaptive reuse of heritage buildings, regulating land use and tourism pressures, and fostering community participation in preservation initiatives. Such approaches can ensure that historic centers remain vibrant, multifunctional urban spaces while maintaining their cultural significance and distinctive identity.

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