



Dipartimento  
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## BOOK OF PROCEEDINGS

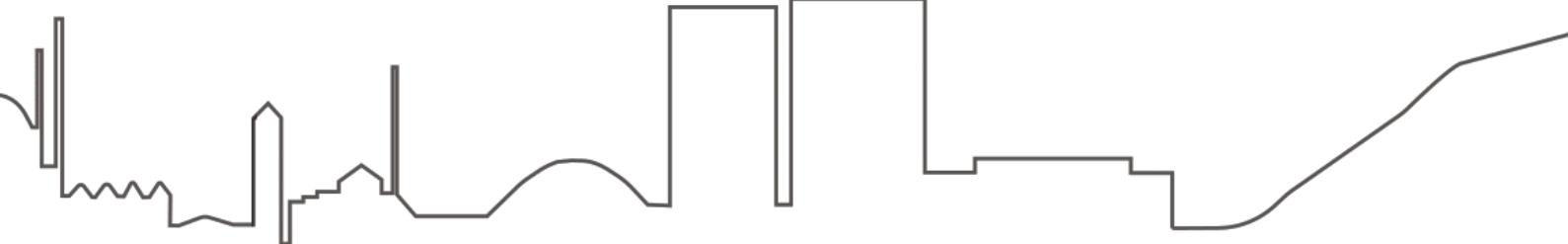
# 2<sup>nd</sup> INTERNATIONAL CONFERENCE ON HOUSING, PLANNING, AND RESILIENT DEVELOPMENT OF THE TERRITORY

TOWARDS EURO-MEDITERRANEAN PERSPECTIVES

OCTOBER 16<sup>th</sup>-17<sup>th</sup>, 2025

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# **2<sup>nd</sup> International Conference on Housing, Planning, and Resilient Development of the Territory**

## **Towards Euro-Mediterranean Perspectives**

### Conference Theme and Rationale

This conference returned for the second time within the Albanian and Mediterranean academic context, aiming to build a tradition of collaboration centered on scientific research and academia. Following the success of the first edition held on October 13<sup>th</sup>-14<sup>th</sup>, 2023, where proceedings were published in the Book of Proceedings, Albanica journal, and various international academic platforms, POLIS University and the Academy of Sciences of Albania relaunched this important event. The 2025 edition focused on housing, urban planning, and resilient territorial development, offering a platform for researchers, policymakers, and experts from the region and beyond.

Albania and the Western Balkans have faced major transformations in urbanization, spatial planning, and environmental management. Demographic changes, economic pressures, and environmental challenges created a need for new strategies in architecture, planning, and governance. This conference brought together diverse voices to explore these themes and promote resilient and sustainable development.

Key topics included architecture and the city, with emphasis on urban form, housing typologies, and the role of cultural heritage in modern urban design; urban mobility, addressing traffic challenges, public transport, and the use of technologies like GIS and AI in planning; and new housing models, focusing on affordability, energy efficiency, and innovative materials.

Discussions also covered demography and economy, exploring territorial governance, smart cities, social enterprises, and digital technologies such as AI, VR, and the Metaverse in urban management. Finally, the urban and natural environment was addressed through topics like pollution, adaptive planning, and nature-based solutions for climate resilience.

Through this conference, POLIS University and the Academy of Sciences of Albania aimed to foster a broad interdisciplinary debate on these pressing issues, combining academic and practical perspectives to offer concrete recommendations for future urban and territorial development policies and projects.

## Organizers' Announcement

The International Scientific Conference on Housing, Urban Planning, and Resilient Territorial Development: Toward Euro-Mediterranean Approaches was held on October 16<sup>th</sup>-17<sup>th</sup>, 2025, in Tirana, Albania. Organized by POLIS University in collaboration with the Academy of Sciences of Albania and supported by national and international partners, including the University of Ferrara and Co-PLAN, Institute for Habitat Development, the event brought together researchers, academics, policymakers, and professionals to address key challenges in urban development, with a focus on resilience and sustainability in the Euro-Mediterranean region. The first day of the conference took place at the Academy of Sciences, while the second day was hosted at POLIS University.

The conference explored five main themes:

- I. Architecture and the City, which investigated the typological and morphological dimensions of urban form, the evolution of collective and individual housing types, the relationship between architectural design and urban identity, and the role of historical and cultural heritage in shaping contemporary cities;
- II. Urban Mobility and Resilient Cities, which addressed traffic congestion, infrastructure challenges, and public transportation, while also promoting the redesign of public spaces – such as streets, squares, and pedestrian zones – to improve accessibility and mobility; it also explored the integration of digital technologies like GIS, AI, and simulation tools to enhance planning, automation, and infrastructure management;
- III. New Housing Models, which examined innovative approaches to affordable and social housing in response to demographic shifts and technological change, along with energy efficiency strategies, passive energy systems, and the application of new sustainable materials and construction technologies;
- IV. Demography and Economy, which focused on macro-regional and national dynamics impacting territorial development, including urban governance, disaster risk reduction, and the rise of smart and inclusive cities; it also explored how emerging technologies – such as AI, VR, and the Metaverse – along with social enterprises and circular economy practices, could foster more equitable and adaptive urban systems; and
- V. Urban and Natural Environment, which analyzed environmental degradation in urban settings, including air, water, and soil pollution, and promoted nature-based solutions, ecosystem-based planning, and adaptive strategies to enhance environmental sustainability and climate resilience.

The conference was conducted in English and Albanian (with self-translated texts where applicable) and was free of charge, with all registration fees fully covered by POLIS University in support of open academic exchange. Key deadlines included abstract submission by June 15<sup>th</sup>, acceptance notification by June 30<sup>th</sup>, first draft of papers by September 15<sup>th</sup>, and final submissions by October 31<sup>st</sup>.

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Housing affordability / Housing and land markets / Social housing / Housing policies and challenges.

Passive energy strategies / Energy efficiency in buildings / Heating and cooling loads / Indoor and natural ventilation / Natural lighting / Building materials and technologies.

Circular economy in the construction sector.

# From Informal Sprawl to Gated Communities

## Evaluating Spatial and Functional Integration in Southeastern Tirana

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### Abstract

*This study examines urban sprawl in southeastern Tirana, focusing on post-2007 developments along the Outer Ring Road and the Tirana-Elbasan highway, areas dominated by newly formalized, gated residential communities. The aim is to assess whether these interventions contribute to a more functional and integrated urban structure or represent a continuation of previous uncoordinated expansion. The central hypothesis argues that recent formal developments do not mark a shift toward cohesive urban transformation but instead reproduce spatial fragmentation and monofunctionality in a different form. Methodologically, the research integrates GIS-based spatial analysis with functional assessment, using structural indicators (Patch Density, Compactness Index, Built-up Area Ratio) and evaluating service accessibility through a 15-minute walking threshold. Findings show that these new developments remain disconnected from both the urban core and surrounding informal settlements, offer limited access to basic services, and lack functional diversity. While older informal areas show relatively better connectivity due to their proximity to central networks, they too lack integration and are not functionally sustainable. Overall, the study concludes that urban sprawl in southeastern Tirana has not been resolved but reshaped through formalization, reinforcing existing spatial inequalities and calling for a more coordinated and inclusive urban planning approach.*

### Keywords

*Formal development, gated communities, informal settlements, service accessibility, spatial fragmentation, urban sprawl*

## 1. Introduction

Urban development in Tirana has been shaped by complex and dynamic processes, influenced by historical, economic, and social factors. As Albania's main political and economic center, the city has expanded far beyond its original urban limits, driven by steady demographic and territorial growth (Aliaj et al., 2003). A central element in this transformation is urban sprawl, which has defined much of Tirana's spatial growth over the last three decades.

The post-communist period marked a turning point in territorial governance. The shift from centralized planning to rapid and often unregulated urbanization led to profound changes in land use, social relations, and environmental conditions (Dhamo et al., 2016). In the 1990s, sprawl was mainly shaped by low-income households, who relied on informal housing development as a response to the lack of affordable options near the city center (Dhamo, 2021). Over time, many of these communities adapted gradually, improving their economic and social conditions.

More recently, sprawl has taken a new form: formal gated communities in the city's periphery. These are usually developed by higher-income groups seeking private and isolated environments (Dhamo, 2021). While more regulated than informal settlements, they exhibit similar patterns of fragmentation and mono-functionality, resulting in sharp contrasts between different parts of the city.

In Tirana, urban growth is not only a physical expansion but also a reflection of structural challenges: internal migration, changing land ownership, weak planning regulations, and uneven infrastructure provision. These conditions have allowed both informal and formal developments to spread in a fragmented and uncoordinated way.

The southeastern part of Tirana, which is the focus of this research, illustrates this dual reality. It contains both long-standing informal neighborhoods and new gated communities. Despite their differences, both forms of development remain poorly integrated with each other and with the wider urban fabric. This has produced a city that is divided, spatially fragmented, and dependent on the central core, raising key challenges for sustainable urban planning.

### 1.1. Aim of the research

The study aims to assess whether recent formal developments in southeastern Tirana (2012–2024) represent a step toward functional and sustainable urban growth, or whether they continue the same fragmented logic of post-1990s sprawl.

### Hypothesis

The new gated communities built along the Tirana Ring Road and the Tirana–Elbasan highway do not represent a true functional or integrated transformation. Instead, they replicate earlier patterns of urban sprawl, maintaining a fragmented and mono-functional spatial structure.

### Objectives

- To identify the main forms and typologies of urban sprawl in southeastern Tirana between 1990 and 2024.

- To evaluate the spatial structure of new developments using indicators such as build-up density, land-use patterns, and urban form.
- To analyze accessibility and functional integration, particularly in relation to services and infrastructure.
- To assess whether recent formal developments contribute to a more connected and sustainable urban territory, or whether they reinforce fragmentation.

## 2. Literature review

Urban sprawl is widely discussed in the planning literature as a multidimensional phenomenon. Galster et al. (2001) highlight that sprawl cannot be reduced to low-density housing alone but also includes spatial fragmentation, scattered development, and the lack of functional integration. He et al. (2017) expand this by proposing composite indicators that measure sprawl through several dimensions such as density, continuity, and accessibility, showing that the form of sprawl depends on local economic and institutional conditions. In transition contexts, weak governance often makes these processes more visible (Lv et al., 2010).

A central theme in the literature is the relationship between infrastructure and unplanned growth. Sutton (2003) emphasizes how highways and major roads encourage linear sprawl, creating continuous stretches of development but without proper urban cohesion. Similarly, Kepe et al. (2015) demonstrate how insufficient land-use regulation often produces scattered, uncoordinated settlements. The OECD (2018) captures these patterns through three key features: low density, fragmented land use, and dependence on private vehicles. These dimensions are frequently linked with higher costs for public services, inefficient land consumption, and reduced accessibility.

Sprawl has important social and environmental consequences. Cho et al. (2010) show that dispersed urban forms reduce walkability and are associated with public health risks such as obesity and sedentary lifestyles. Burchell et al. (1998) and Carruthers & Úlfarsson (2003) underline that leapfrog development generates high infrastructure costs and intensifies social segregation. In many cases, sprawl reinforces inequalities, as wealthier households isolate themselves in suburban enclaves, while low-income groups remain in less serviced informal areas.

The literature distinguishes several spatial models of sprawl. Radial growth refers to the expansion outward from the city core; linear sprawl follows transportation corridors; and leapfrog development appears in isolated pockets separated from the urban fabric (Lopez & Hynes, 2003). Polycentric development, in contrast, is presented as a more sustainable alternative (Hall, 2009; OECD, 2012). Yet, it requires long-term planning and strong institutional coordination, which are often weak in post-socialist or fast-developing countries.

In the last two decades, special attention has been given to gated communities as a new form of sprawl. Scholars such as Low (2003) and Bagaeen & Uduku (2010) describe them as privatized and controlled residential spaces that reproduce social division in the urban periphery. While gated communities are usually associated with safety and exclusivity, they also reinforce spatial segregation, reduce accessibility, and limit the development of inclusive public spaces. In many cities of the Global South and Eastern Europe, they have emerged as symbols of economic

inequality and weak urban governance. Instead of integrating with existing neighborhoods, they often stand apart as isolated islands of formality within otherwise fragmented urban fabrics.

Classical theories of the monocentric city (Alonso, 1964; Brueckner, 1987) explain urban expansion as a balance between land prices and commuting costs. These models help to understand why households and developers choose peripheral locations. However, they are less able to capture the fragmented and uneven development patterns found in post-socialist cities, where institutional weaknesses, informal land markets, and speculative investment play a decisive role.

In the case of Tirana, these theoretical debates are directly relevant. The city remains largely monocentric, with strong dependence on its historical center, but its expansion has followed both informal and formal patterns. Informal settlements grew rapidly after the 1990s due to housing shortages and limited regulation, while more recently, gated communities have emerged along new infrastructure corridors.

## 2.1. Contextual background

The study area in southeastern Tirana illustrates overlapping phases of urban growth. Early informal settlements emerged after the 1990s in areas like Farka, Sauk, Mjull-Bathore, Lundër, and Petrelë, characterized by irregular housing, limited infrastructure, and weak connectivity to the city. Historically, during the communist era, this area was largely agricultural, with state farms and centrally managed land (Dhamo, 2021).

From 2012, the construction of the Tirana–Elbasan highway and Eastern Ring Road triggered a new development phase. Gated communities appeared along the corridor, with investor-built infrastructure and controlled access, representing a shift from informal to formal urbanization. These developments, while technically improved, often function as isolated enclaves, disconnected from the city's functional network.

Tirana itself remains a monocentric city, with a concentration of institutions, services, and public spaces in the center. Post-1990s, rapid peripheral expansion was driven by:

- Population growth and housing demand from internal migration.
- Lower land costs in the periphery, converting former agricultural land into residential areas.
- Preference for larger living spaces, leading to gated communities with private infrastructure.
- Weak planning frameworks, causing urban fragmentation and limited access to services.

These factors show that southeastern Tirana reflects both informal and formal development patterns, highlighting challenges for spatial cohesion and functional integration in a still-monocentric city.

## 3. Methodology

This study combines theoretical and empirical analysis to examine urban sprawl in the southeastern part of Tirana, with a focus on the corridor influenced by the Tirana–Elbasan highway. The study area was defined based on existing road infrastructure and the potential impact of this new axis.

The research is both exploratory and analytical: exploratory, because it looks at a relatively new and understudied area; and analytical, because it applies measurable indicators to assess spatial structure and urban function. The analysis focuses on the distinction between informal development that emerged after the 1990s and formal development that followed the highway construction, mainly during 2012-2024. For practical reasons, the study separates developments into two phases: before and after 2007.

The methodology is structured around two main dimensions:

1. Spatial and structural characteristics of the built environment.
2. Accessibility to public services.

By combining these two dimensions, the study evaluates the degree of multifunctionality and functional integration of the territory.

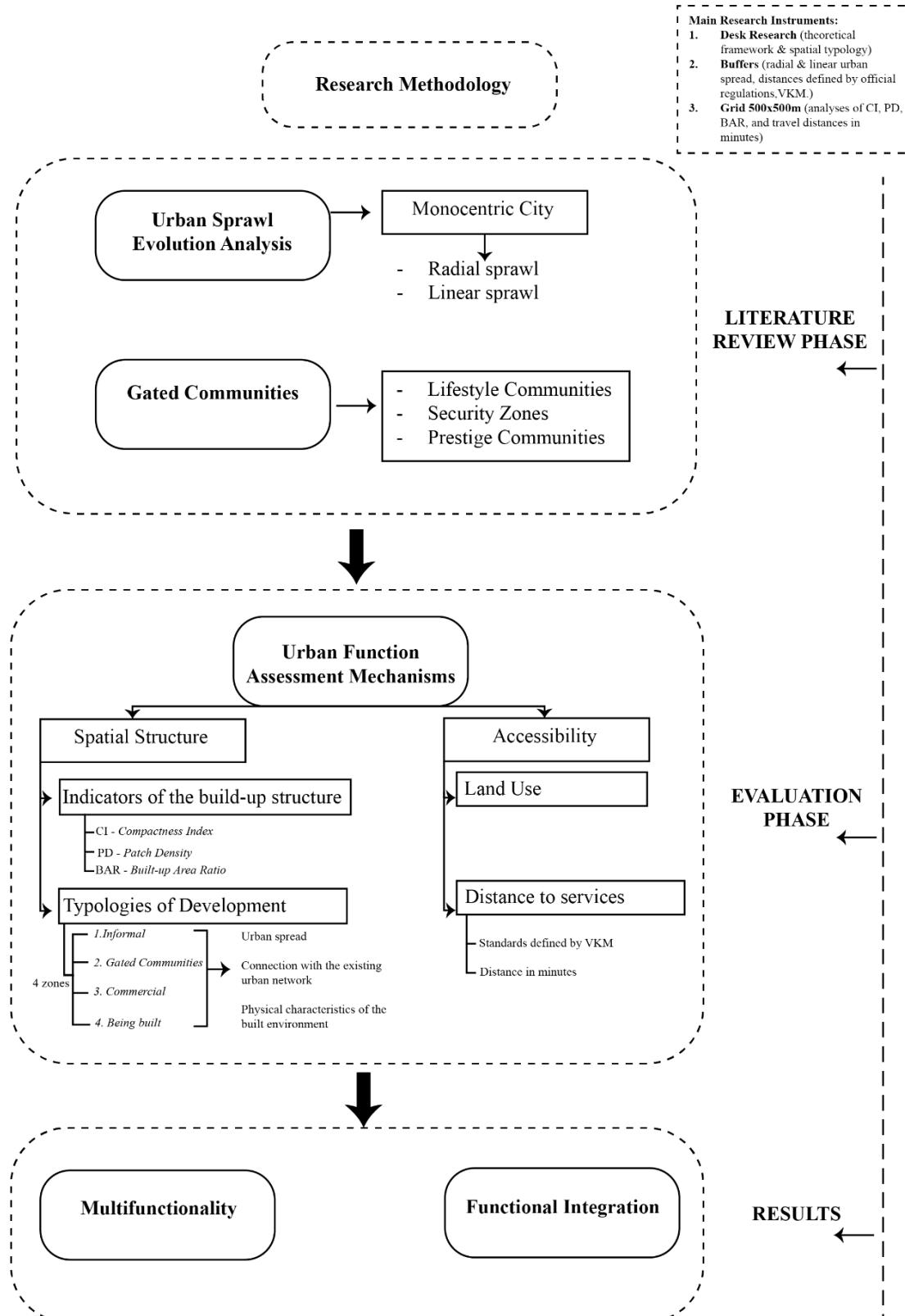
Three research tools were applied:

- Desk research, used to build the theoretical framework and interpret building typologies, including gated communities and contemporary development models.
- Buffer analysis, used to study radial and linear sprawl patterns, as well as service coverage in line with national standards.
- Analytical grid (500×500 m), used as the unit of analysis to balance spatial accuracy and comparability. Within the 7.76 km<sup>2</sup> study area, 49 active grid cells were identified and analyzed.

The diagram (Figure 1) presents the stages of the research methodology and the instruments used.

For the spatial structure, three indicators were calculated:

- Patch Density (PD) – number of building fragments per km<sup>2</sup>, showing fragmentation.
- Compactness Index (CI) – relation between building shape and an ideal compact form.
- Built-up Area Ratio (BAR) – percentage of built-up surface within each grid cell.



**Figure 1.** Research methodology diagram.

| Indicator                        | Formula   | Calculation method   | Tool used              |
|----------------------------------|---|--|------------------------|
| <b>Patch Density (PD)</b>        | $PD=N/A$<br><br>$N$ : number of patches<br><br>$A$ : area in hectares | Number of building polygons in each grid cell divided by the total area                                | QGIS<br>(manual)       |
| <b>Compactness Index (CI)</b>    | $CI=4\pi A/P^2$<br><br>$A$ : area<br><br>$P$ : perimeter              | For each building polygon in a grid cell, the area and perimeter were measured, then CI was calculated | QGIS<br>(manual)       |
| <b>Built-up Area Ratio (BAR)</b> | $BAR=Ab/At$<br><br>$Ab$ : built-up area<br><br>$At$ : grid cell area  | The total built-up area within each grid cell was divided by the cell area (500 × 500 m)               | QGIS, Zonal Statistics |

**Table 1.** Urban structure indicators, measurement method, theoretical source, and tool used.

Building typologies were classified into four categories: informal settlements, gated communities, commercial/economic areas, and emerging development zones.

For accessibility, two approaches were applied:

- Land use analysis, to identify functional diversity or dominance of single uses.
- Service accessibility analysis, using QGIS and the QNEAT3 plugin to calculate walking distances to education, health, economic, recreational, and commercial services. A 15-minute walking threshold (5 km/h speed) was used, with reference to official national service standards.

Finally, results from these analyses were synthesized to assess whether the area provides a compact, multifunctional, and integrated urban environment, or whether it remains fragmented, monofunctional, and weakly connected.

The table below presents a summary of all analyses, grouped by category, including the relevant indicators for each and their data sources.

| Category         | Indicator                 | Description   | Data source   |
|------------------|---------------------------|---|---|
| Spatial/Physical | Territorial fragmentation | Degree of landscape fragmentation caused by uncontrolled development  | ASIG orthophotos 2007, PPV 2030, author's processing in QGIS                    |
|                  | Compactness               | Compactness of urban development within the study area  | Author's processing in QGIS   |
|                  | Building typology         | Villas, single-family houses, apartment blocks  | PPV 2030, author's processing in QGIS   |
|                  | Form of development       | Linear, radial, Leapfrog development, compact   | Copernicus.eu, author's processing in QGIS                                      |
| Accessibility    | Land use                  | Categories of land use in the study area  | PPV 2030, Tirana; author's processing in GIS                                    |
|                  | Distance to services      | Measured according to coverage standards and walking time thresholds (15 minutes)<br>Educational institutions Service radius:<br>Kindergarten – 350 m;<br>Primary school – 600 m;<br>Secondary school – 1500 m<br><br>Health center<br><br>Service radius: – 1000m<br><br>Public transport<br><br>Service radius: – 800m<br><br>Recreation Areas<br><br>Commercial services | Municipality of Tirana, VKM No. 671, OpenStreetMap, author's processing in QGIS |

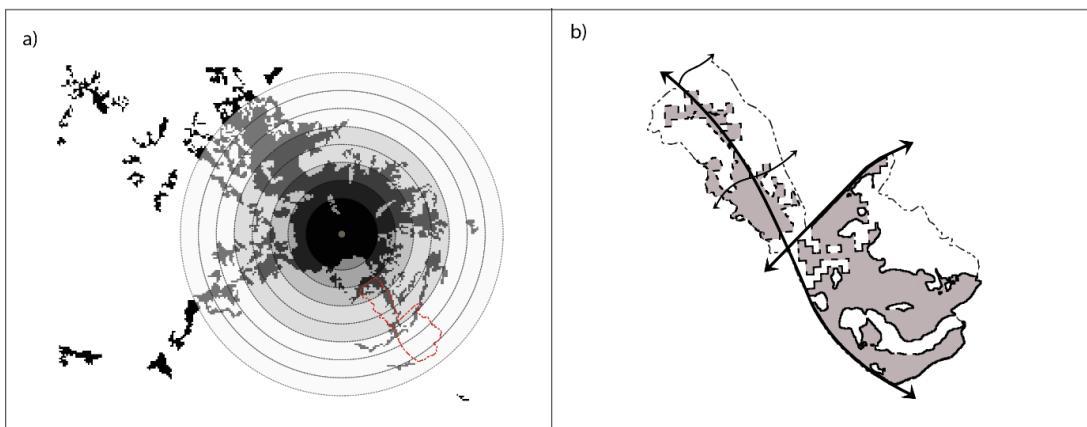
**Table 2.** Indicators for measuring urban function, description, and data source.

## 4. Results and discussion

### 4.1. Spatial structure and sprawl patterns

The analysis of built-up areas shows a clear transition in the spatial logic of urban growth. Until 2006, Tirana expanded radially from the center outward, following the classic monocentric model. Densities were higher in the inner rings (1-3 km from Skanderbeg Square), while peripheral areas grew through scattered informal housing.

After 2012, development followed a more linear pattern along the new highway corridor. Housing projects clustered close to the road axis, indicating that infrastructure reshaped the spatial direction of expansion. This shift highlights how urban growth in Tirana has moved from radial concentricity to fragmented, corridor-based sprawl.



**Figure 2.** Urban sprawl models for the area: (a) radial model, (b) linear model.

## 4.2. Typologies of development

| N   |     | CHANGE OVER THE YEARS |      | SPATIAL STRUCTURE |   |
|---|-----|-----------------------|------|-------------------|---|
| Zone Number   |     | 2025                  | 2007 | Typology          | Description   |
| I<br>N<br>F<br>O<br>R<br>M<br>A<br>L                | 1.  |                       |      |                   | <ul style="list-style-type: none"> <li>Individual dwelling</li> <li>Irregular form</li> <li>Unconsolidated roads</li> <li>Lack of shared/open spaces</li> </ul>   |
| C<br>O<br>M<br>M<br>U<br>N<br>I<br>T<br>I<br>E<br>S | 2.1 |                       |      |                   | <ul style="list-style-type: none"> <li>Individual dwelling / Villa</li> <li>Closed form</li> <li>Paved / Consolidated roads</li> <li>Common spaces</li> </ul>     |
|   | 2.2 |                       |      |                   | <ul style="list-style-type: none"> <li>Mixed villas + Apartments</li> <li>Closed form</li> <li>Common spaces</li> <li>Paved / Consolidated roads</li> </ul>       |
| C<br>O<br>M<br>M<br>E<br>R<br>C<br>I<br>A<br>L      | 3.  |                       |      |                   | <ul style="list-style-type: none"> <li>Along the main road axis</li> <li>Commercial services</li> <li>Closer to formal development / gated communities</li> </ul> |
| B<br>u<br>i<br>l<br>d<br>i<br>n<br>g                | 4.  |                       |      |                   | <ul style="list-style-type: none"> <li>Apartments</li> <li>Direct connection to the road network</li> <li>Closed form</li> </ul>                                  |

**Figure 3. Building & spatial typologies by category: 1. informal, 2. gated, 3. commercial, 4. developing.**

Four main typologies can be identified in the study area:

**Informal settlements:** The first row of the figure shows an informal area, mostly developed after the 1990s, without organized street layouts or clear functional divisions. Buildings are low-rise (1-3 floors) and irregularly spaced, with limited road access and public spaces. This pattern reflects spontaneous urban sprawl driven by housing needs rather than formal planning.

**Gated communities:** Gated communities in Tirana exhibit consolidated street layouts, compact building forms, and shared spaces such as internal roads and landscaped courtyards. Zone 2.1 represents “prestige” communities with exclusive access, while Zone 2.2 is a “lifestyle community” combining villas and apartments, focusing on both security and quality of life. These developments create physical and symbolic barriers that fragment the urban fabric, isolating residents and limiting public accessibility. They act as “islands of autonomy,” with private management often disconnecting infrastructure from the wider city, reinforcing spatial and social segregation. Gated communities exacerbate social divisions by excluding marginalized groups through high costs and controlled access, creating a split between residents inside the walls, who enjoy security and

services, and those outside, who face insecurity and limited access. They often emerge in the absence of integrated urban planning, reflecting a dual city where privileged areas coexist with underserved zones, undermining equitable access to urban resources (Graham & Marvin, 2001).

**Commercial and economic clusters:** The third row of the figure highlights areas primarily for economic or commercial use, with medium-rise buildings including warehouses, offices, retail, restaurants, and private universities. The layout is more open, with larger plots and better road infrastructure compared to informal settlements. These areas are usually located along main roads, functioning more as transit zones than integrated urban spaces.

**New Development Areas:** The last row of the figure shows areas under development, with medium- to high-rise buildings at different stages of construction or planning, often near the Outer Ring Road, providing some physical accessibility. Buildings are fragmented, not fully respecting street alignment, and lack integration with the existing urban morphology. Public transport and supporting services are largely absent, limiting full functional integration.

### 4.3. Quantitative indicators

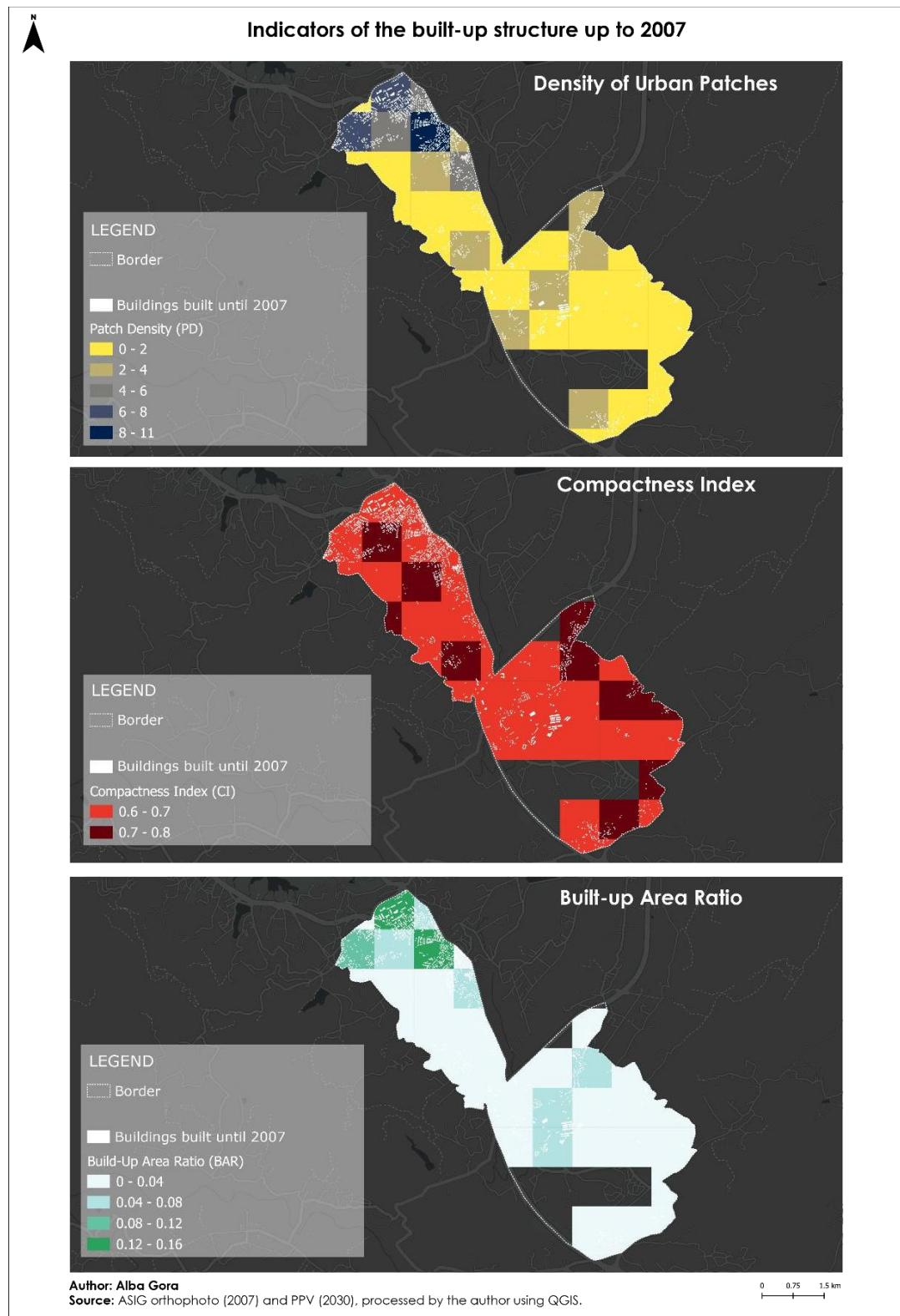
The analysis of built-up structure indicators over three periods (up to 2007, 2007–2024, and current) allows observation of both spatial evolution and the nature of urban development.

Up to 2007 (Figure 4), a relatively high Patch Density (PD up to 11) indicates dispersed small units typical of spontaneous development, while a high Compactness Index (CI 0.6–0.8) suggests intensive building within plots despite limited overall cohesion. Low Build-Up Area Ratio (BAR 0–0.16) reflects low overall construction intensity relative to the grid area.

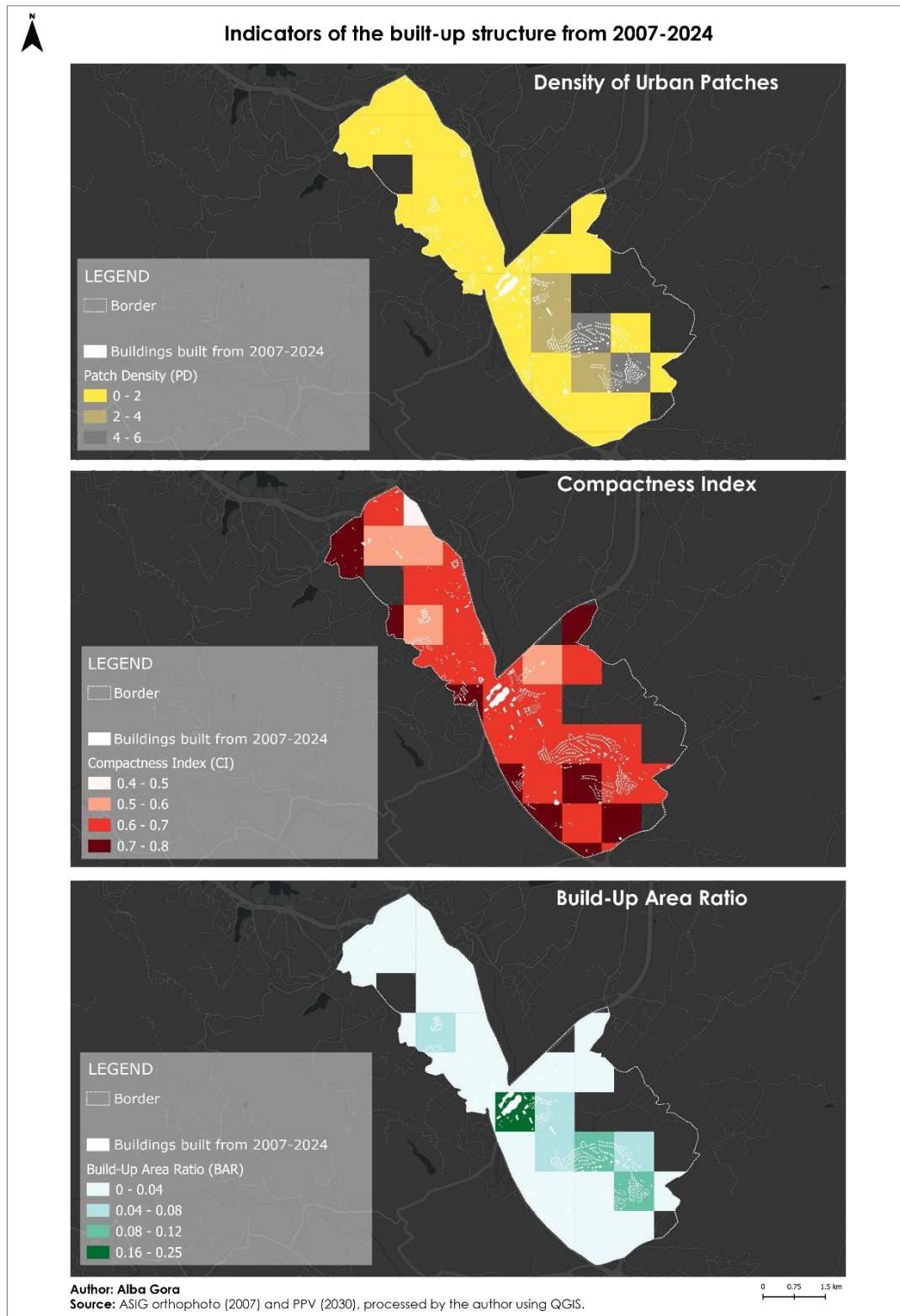
From 2007 to 2024 (Figure 5), PD decreases (max 6), showing more clustered development in formal zones. CI remains similar or slightly lower (0.4–0.8), indicating that new constructions are not necessarily more compact, while BAR increases (up to 0.25), pointing to higher building intensity but not necessarily functional integration.

Currently (Figure 6), PD remains moderately high (1–10), CI stable (0.5–0.8), and BAR at 0.25, suggesting structural stability but persistent fragmentation.

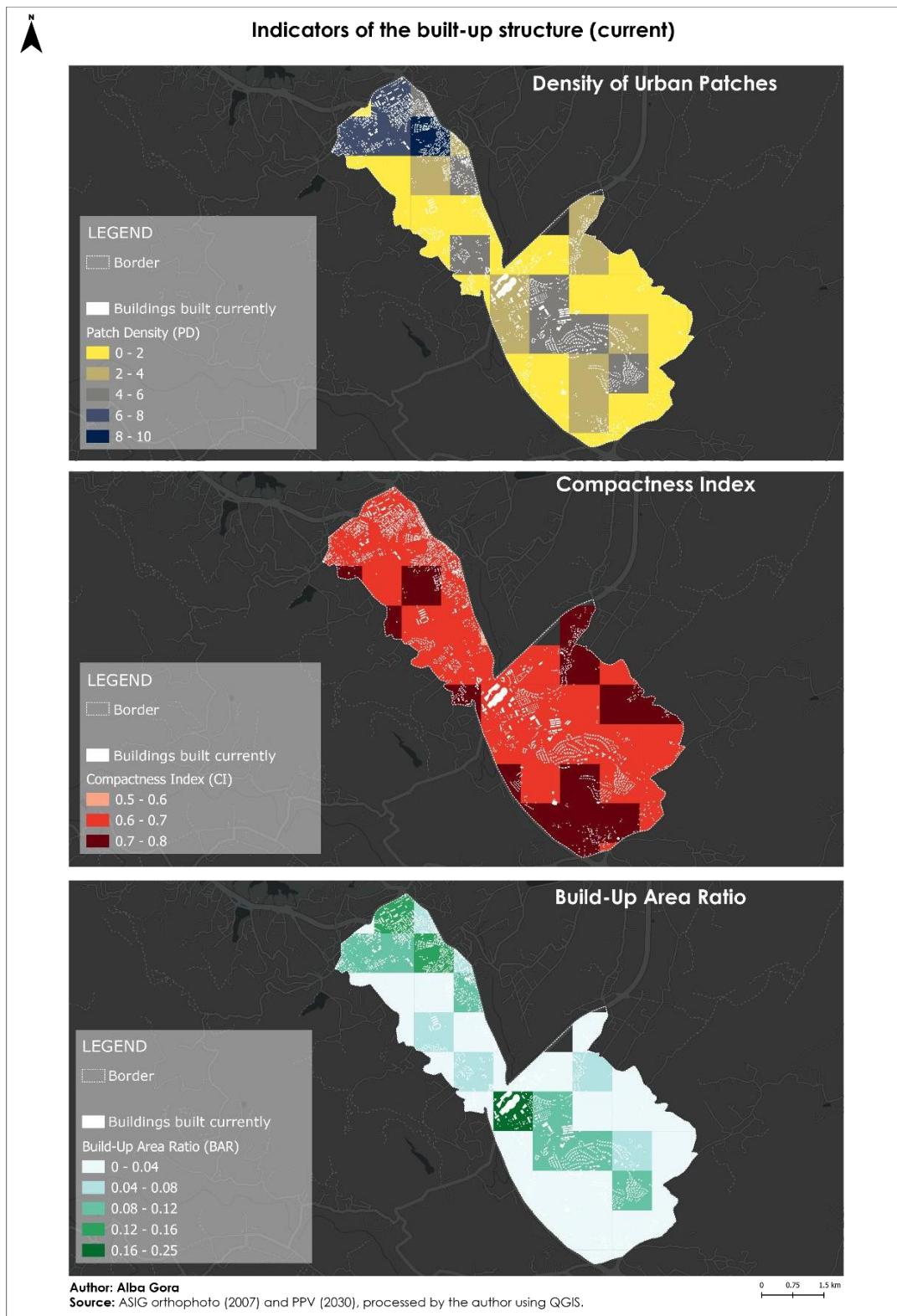
Key insights include: stable CI across phases implies little change in building form; PD patterns raise questions about integration with existing networks; and increasing BAR without corresponding compactness signals that higher intensity does not automatically translate into functional urban integration.



**Figure 4. Built-up structure indicators up to 2007.**



**Figure 5. Built-up structure indicators from 2007-2024.**



**Figure 6. Built-up structure indicators currently.**

#### 4.4. Land use and functional integration

Land use distribution confirms the dominance of monofunctional development. Housing occupies around 40% of the study area, while almost 45% remains under agricultural land that is largely inactive. Public services and economic activities represent less than 3%. The absence of mixed-use planning reinforces dependency on the city center and weakens local self-sufficiency.

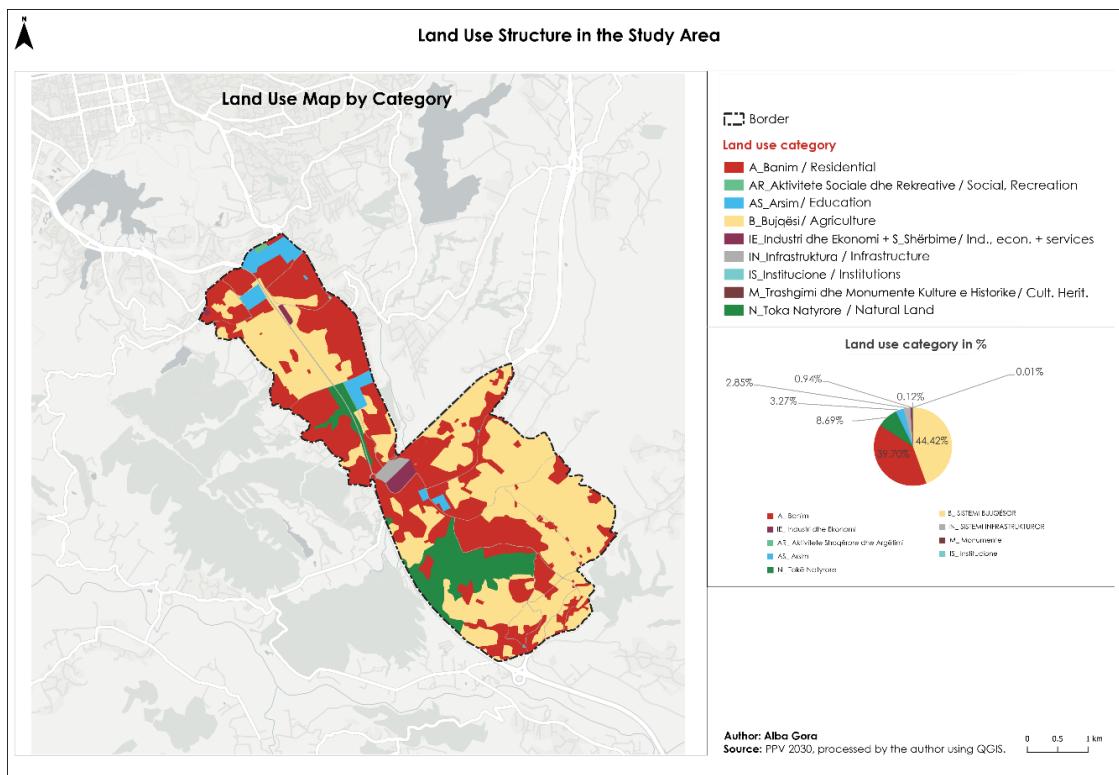


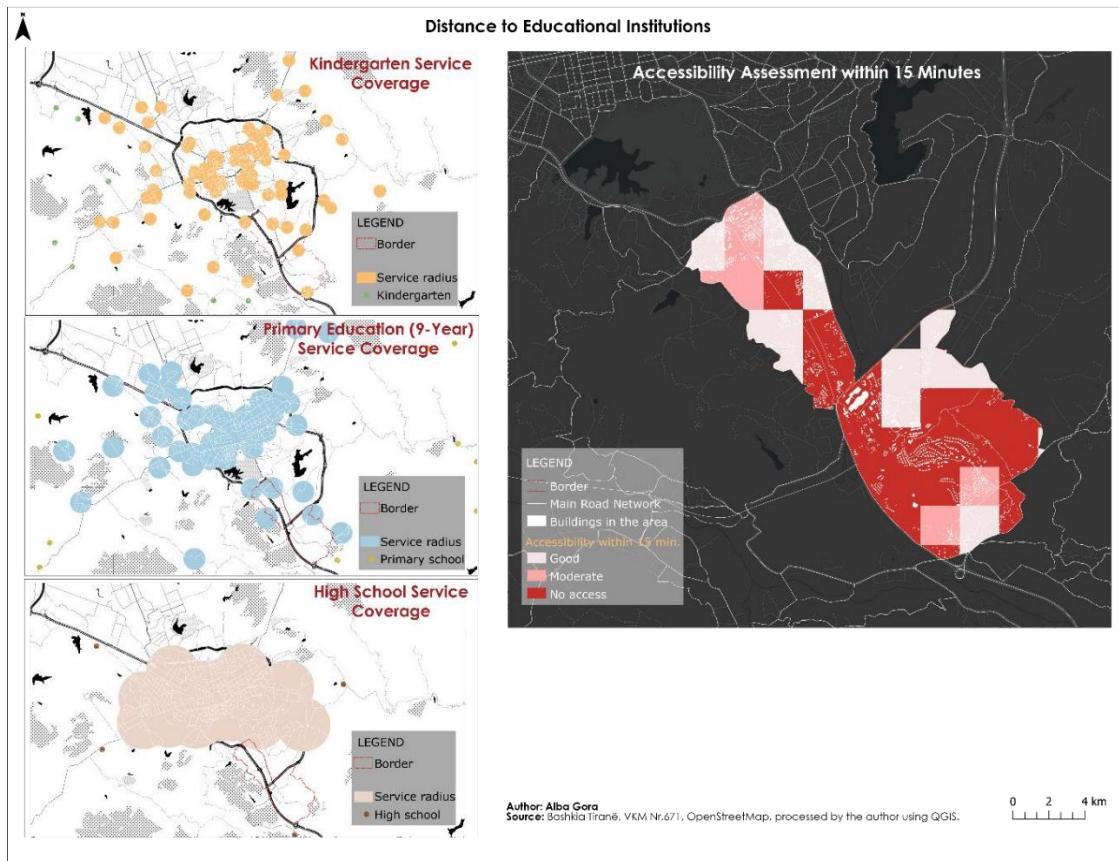
Figure 7. Study area land use: map and category percentages.

#### 4.5. Accessibility to services

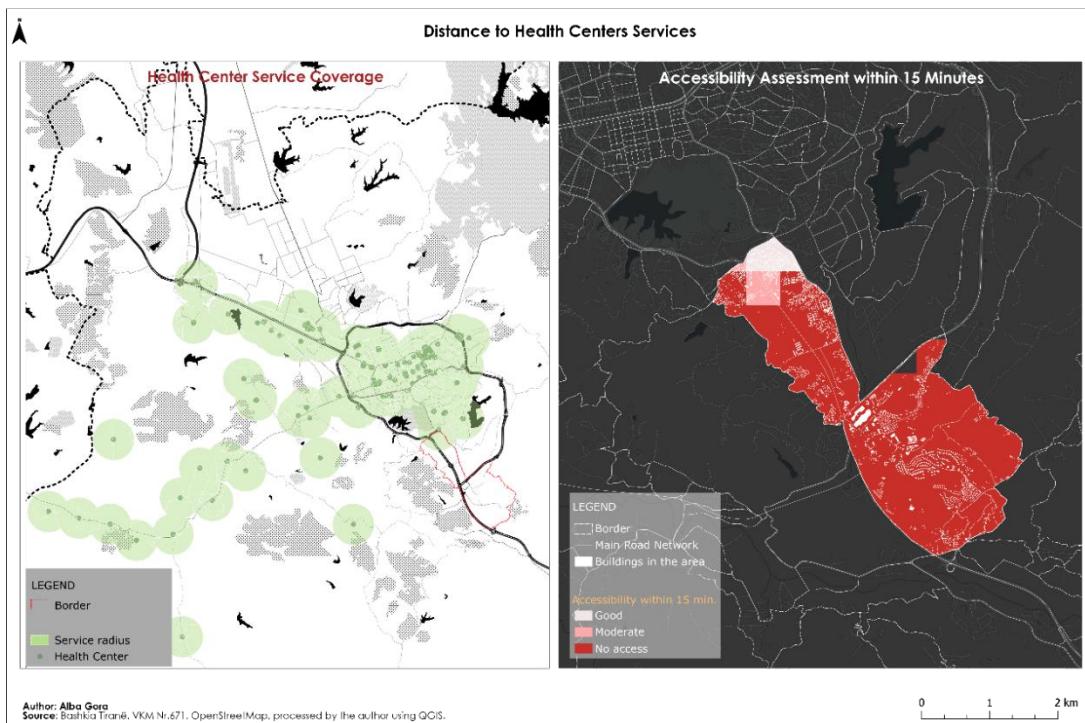
Accessibility analysis highlights unequal conditions between different typologies:

1. Educational facilities (Figure 8):
  - Kindergarten (350 m radius): almost absent.
  - Primary schools: partial coverage in informal areas, new developments uncovered.
  - High schools (1500 m radius): nearly no coverage.
2. Health centers (Figure 9), (1000 m radius): minimal coverage, most of the area classified as inaccessible.
3. Public transport stations (Figure 10), (800 m radius): coverage standard met, but gated communities and new developments lack effective access.

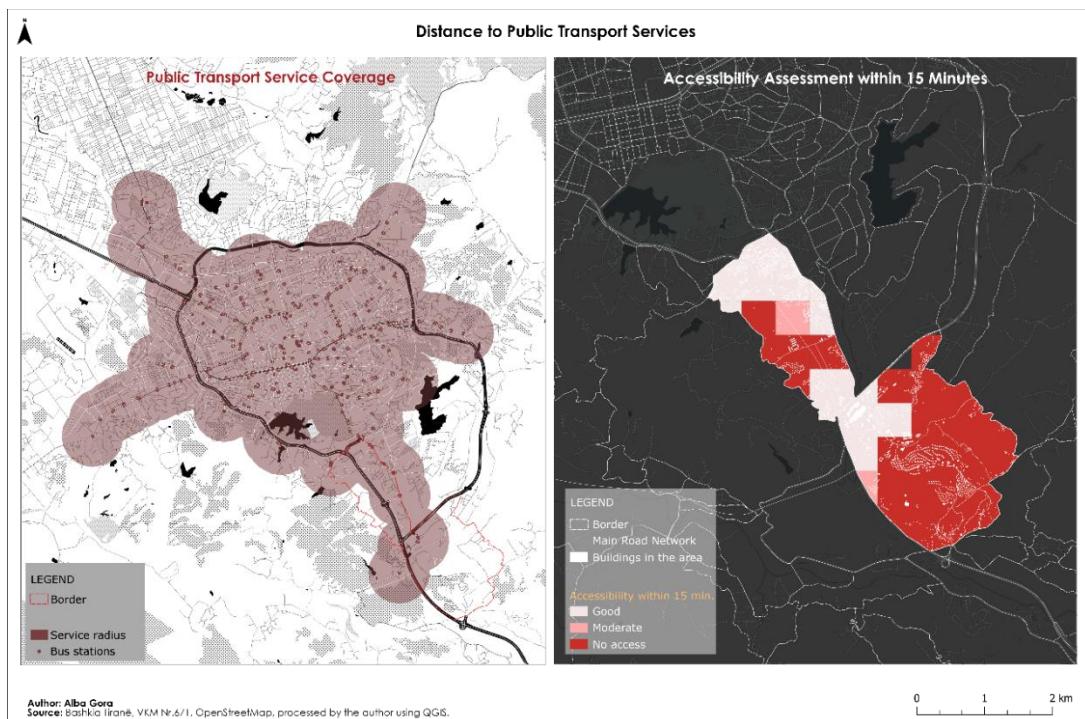
4. Recreational areas (Figure 11): almost no accessibility within 15 minutes, except for limited parts of the informal zone closer to the urban core.
5. Commercial services (Figure 12): assessed by walking distance; better accessibility in informal areas and near mixed-use/economic zones, while gated communities and areas under construction mostly remain without access.



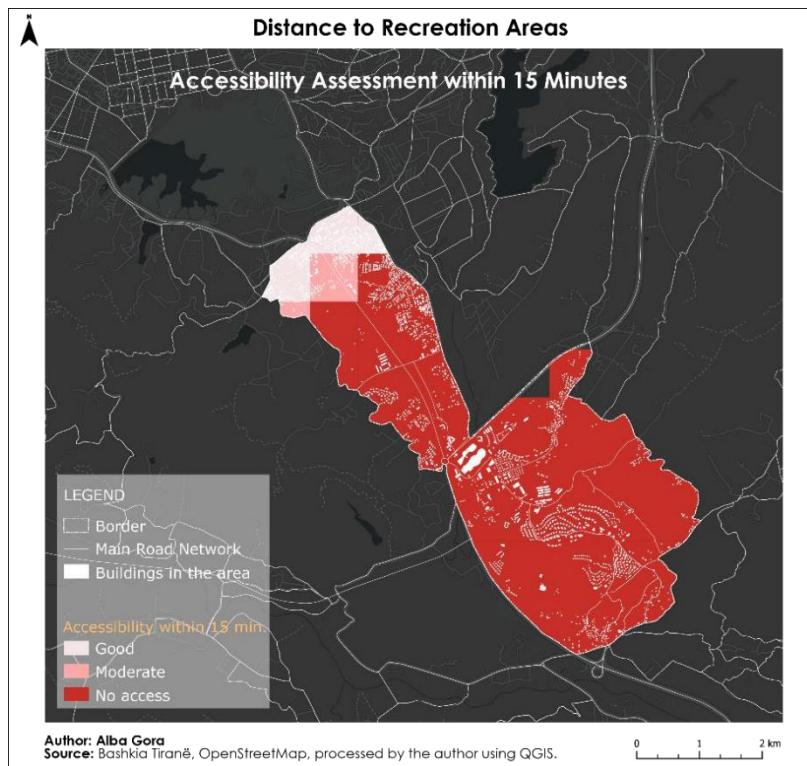
**Figure 8. Assessment of service provision and accessibility for educational institutions.**



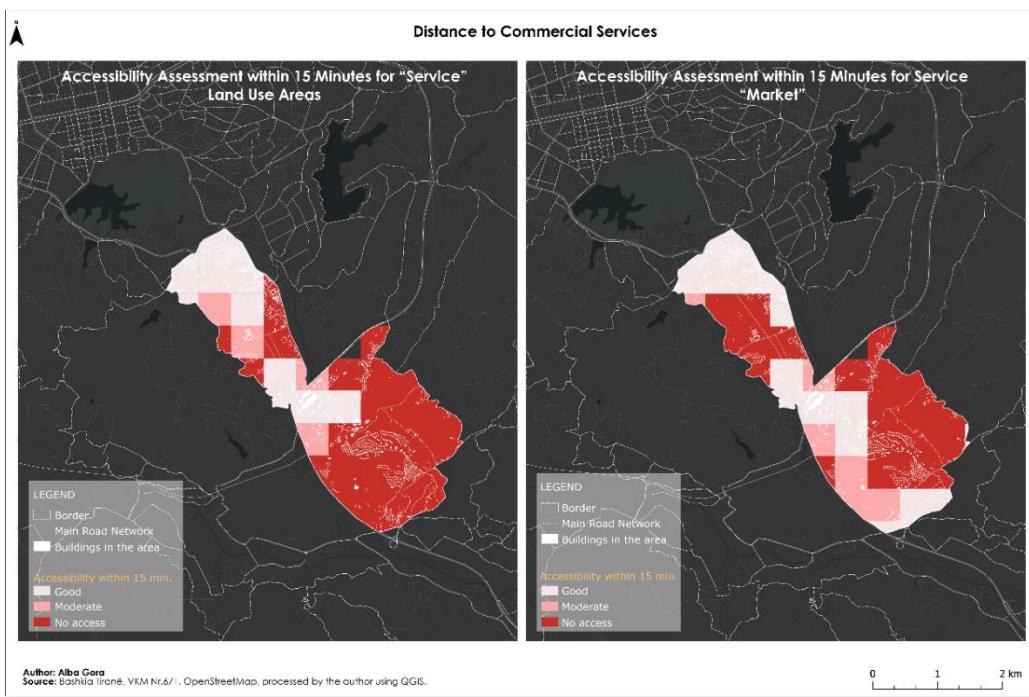
**Figure 9. Assessment of service provision and accessibility for health centers.**



**Figure 10. Assessment of service provision and accessibility for public transport.**



**Figure 11. Assessment of accessibility for recreational areas.**



**Figure 12. Assessment of accessibility for commercial services.**

The evidence indicates that southeastern Tirana has evolved from unregulated informal sprawl to formal gated developments, yet both patterns reinforce urban fragmentation. Informal areas, despite their irregularity, remain more socially and spatially integrated with the city, whereas gated communities function as self-contained enclaves with limited connections. Access to education, health, commerce, and recreational services is generally poor, making the area heavily dependent on central Tirana. These findings support the hypothesis that recent formal developments do not represent sustainable or integrated urban growth but rather continue the trend of fragmented urban expansion in a new, more formalized form.

## 5. Conclusions and recommendations

### 5.1. Conclusion

Post-2007 developments do not significantly differ in spatial form from earlier informal areas. Despite exhibiting higher levels of building intensity, as measured through BAR, these areas fail to demonstrate improved internal cohesion or stronger spatial integration (CI), indicating that increased density alone has not translated into more functional or connected urban environments. Land-use patterns remain largely residential, while recreational, educational, economic, and institutional functions occupy only a small portions of the urban fabric. This pronounced imbalance reinforces a condition of strong monofunctionality, limiting everyday accessibility and reducing the capacity of these areas to function as complete urban neighborhoods. Accessibility to public services further reflects this structural weakness: while pre-2007 areas retain partial and uneven access due to their gradual integration over time, newer developments, including formally planned gated communities, are disconnected from the broader urban system. Overall, post-2007 urban development has not improved spatial or functional cohesion. Instead, it represents a continuation of urban sprawl, now taking on a more formalized but still poorly integrated form. Rather than filling existing gaps, they have increased fragmentation and functional isolation.

### 5.2. Recommendations

Based on the spatial and functional analysis of southeastern Tirana, the following measures are suggested to improve territorial integration, urban function, and social balance:

1. Enhance functional transport access: Extend pedestrian pathways, secondary streets, and new public transport stations to connect emerging developments and reduce reliance on private vehicles.
2. Promote functional integration in new communities: Encourage developers to include public or semi-public spaces, local services, and elements that connect with the surrounding area. Coordination with service providers (roads, utilities, education, community facilities) is essential to prevent isolated enclaves.
3. Careful management of underutilized land: Agricultural or vacant lands should be treated as controlled development potential, supporting mixed-use functions with green spaces and connecting streets, while preserving active rural areas.
4. Create buffer zones to reduce spatial fragmentation: Open spaces around gated communities, such as parks or squares, should act as functional transition areas rather than barriers,

enhancing interaction with surrounding neighborhoods and strengthening social and spatial cohesion.

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