Title: Supermodernity imposed: "A review of Tirana's post-socialist ur-ban development strategies dealing with non-places of hyper-verti-calization"

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Source: Forum A+P 29 | Planning in the Polycrisies era

ISSN: 2227-7994

DOI: 10.37199/F40002905

Publisher: POLIS University Press

Supermodernity imposed: "A review of Tirana's post-socialist urban development strategies dealing with non-places of hyper-verticalization"

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Abstract
This paper explores the transformative impact of skyscraper development on Tirana's urban landscape, emphasizing the shift from conventional planning to a new paradigm of supermodernity. In the dynamic tableau of Tirana's urban metamorphosis, skyscrapers emerge as both symbols and agents of a radical shift, challenging the ossified doctrines of conventional planning. By critically evaluating Tirana's post-socialist urban development strategies, the study reveals a landscape punctuated by non-places—ephemeral zones of "anonymity" engendered by a politically-powered vertical ambition. Utilizing a synthesis of case studies and literature, this research advocates for a re-evaluation of current planning policies through the integration of computational tools. Employing Grasshopper's iterative capabilities alongside traditional mapping techniques, a comprehensive digital twin of Tirana's city center is constructed to analyze these non-places and propose more sustainable and socially cohesive urban design scenarios. Insights from precedents and planning practices are evaluated and considered to enrich Tirana's risk assessment in urban decision-making, positioning Generative Design as a pivotal tool in reimagining urban spaces. This confluence of algorithmic precision and architectural foresight aims to bridge theoretical constructs with practical applications, contributing to the discourse on sustainable urban growth in post-socialist contexts. Ultimately, this research offers a vision for Tirana's ascent—a symbiotic interplay of space, identity, and the relentless march of supermodernity.

Keywords
Non-place, Supermodernity, Tirana, hyper-verticalization, skyscrapers, socio-political urban impact.

INTRODUCTION

In the vast, interconnected expanse of our current epoch, we risk finding ourselves amidst an architecture not built of tangible materials but one constructed from the very essence of excess—a supermodernity defined by an overflow of events, spaces, and individual paths, immersing us in a deep crisis of meaning (Augé, 1995). This condition, birthed from the unyielding acceleration of history and a wave of technoscientific breakthroughs, has its roots firmly planted in the late 20th century, an era distinguished by the explosive growth of digital technologies and the unstoppable force of globalization. It was the advent of the internet and its digital brethren that introduced a period of unparalleled speed and volume in information exchange, carving the contours of the supermodern zeitgeist (Castells, 2000).

In the late modernity we navigate a transformed spatial landscape where the object is already replaced by its own attributes. Spaces rapidly evolve into 'non-places' and transit zones characterized by anonymity, stripped of the historical and relational markers. These non-places are emblematic of the disorienting supermodern experience, challenging our traditional understandings of community and connection.

Yet, the narrative of supermodernity is not homogenous; it is a diverse mosaic, shaped by the distinct features of local contexts and cultural specificities. Such diversity demands a comparative, cross-cultural approach, enabling a nuanced investigation into the varied expressions of supermodernity across the global landscape (Appadurai, 1996). This exploration, fundamentally interdisciplinary, entwines sociology, technology, and urban studies, examining the emergence of supermodernity as a complex and multi-layered phenomenon in a rapid transition country. The intention of this research is not to highlight these diversities, but rather understand which precedents might have had similar vibrances throughout history and consequently be valuable in analyzing potential risks of urban developments in the specific context of today's Tirana.

A key hypothesis of this research is that archi-punctures, which position themselves in the middle of a pre-built context and are not part of larger urban planning strategies, risk creating non-places within their boundaries or causing similar effects within their contexts. This investigation aims to understand how such isolated developments contribute to the emergence of non-places and what can be done to mitigate these effects.

At the core of this supermodern condition is the individual, now the primary architect of their identity, bridging the digital terrain and the fleeting spaces of non-places. This era signals a move toward extreme individualization, where the self is splintered and scattered across digital platforms, manifesting in a multitude of avatars and personas, each crafted for the gaze of an unseen, global audience. This fragmentation stands as a hallmark of the supermodern condition—a society where shared narratives give way to an intricate web of individual stories, each woven into the vast network of the global information ecosystem.

From Post-socialism to Supermodernity

In "The End of History and the Last Man", Francis Fukuyama argues that liberal democracy has marked the end-point of mankind's ideological evolution, predicting that all communism-oriented system of governance will gradually become liberal democracies. However, 30 years after, as most of former communist countries failed to become fully functioning liberal democracies, their cities progressed way faster and together with freedom absorbed also the drawbacks coming from its excessive use.

In venturing to shed light on the genesis of supermodernity in a post-socialist city like Tirana, this discussion does not seek to provide closure or a precise definition of supermodernity in post-socialist cities. Instead, it aims to illuminate the diverse aspects of supermodernity, tracing its impact on our collective architectural and social fabric, with the intent of igniting further dialogue about the potentiality and consequences of hyper-verticalization of historical city centers. Through the lenses of acceleration and spatial transformation, supermodernity unfolds as an invitation—an invitation to rethink, reimagine, and redefine our perceptions of space, time, and self in an urban landscape.

LITERATURE REVIEW

Non-places: A review

In the lexicon of modern anthropology, the term 'non-places' has emerged as a critical concept. These are the zones of supermodernity: airports, highways, shopping malls, spaces engineered for function over form, utility over sociality. Yet, the interpretation of non-places oscillates dramatically, contingent upon the lens through which they are viewed—be it the macroscopic gaze of societal context or the microscopic scrutiny of individual experience. Through the societal lens, non-places emerge as the very epitome of globalization and modernity, mirroring the velocity of contemporary existence and the sprawl of global networks. They are the offspring of homogeneity, the progeny of replicability, designed not for gathering but for the solitary passage (Koolhaas, 1994). Urban theorists critique these spaces for their role in the dissolution of traditional social fabrics, lamenting the displacement of communal spaces by zones where efficiency and consumerism reign supreme (Harvey, 1989). The environmental critique follows suit, condemning non-places for their contributions to unsustainable urban expansion and the alienation from the natural and the historical (Relph, 1976).

Yet, on the plane of the individual, the narrative shifts. For

some, non-places offer a canvas of anonymity, a liberating detachment from the rigid structures of identity and role. These are not voiding but shelters, arenas for introspection, creativity, perhaps even rebellion, free from the societal gaze (Zukin, 1995). In these liminal zones, fleeting yet meaningful connections emerge, defining a 'solitary contractuality' as Augé (1995) posits, born of shared, ephemeral experiences. The advent of the digital age further complicates this landscape, transforming the very essence of non-places. Virtual platforms, while embodying the characteristics of non-places—transience, anonymity, functionality—paradoxically become stages for community formation and identity expression (Rainie & Wellman, 2012). Here, in the digital non-place, traditional boundaries blur, challenging preconceived notions of space and place, of transient and permanent.

Thus, non-places stand as a testament to the dualities of contemporary life, simultaneously critiqued for the societal and environmental malaises they symbolize and are cherished for the personal sanctuaries they offer. Their essence, fluid and multifaceted, reflects the evolving dynamics between the individual and the collective, between society and space. As the contours of modern life continue to shift, so too will the interpretations of non-places, charting new territories in the ongoing discourse of space, place, and identity in the age of supermodernity.

In the heart of current urban evolution, high-rises – capable of declaring themselves as self-referential signs (Eisenman, 1984) - bloom as monuments of modernity, and their ground floors as battlegrounds between engagement and alienation. Tirana, a city pulsating with post-socialist palimpsest's vibrances, stands at the forefront of this contemporary paradox. The ground level, a threshold between the private ascent and the public domain, holds the key to transforming these vertical giants from mere structures into vibrant participants in this urban dialogue. Moreover, beyond their monumental verticality, they hold a crucial role in changing spatial dynamics within a city or even a simple building block. By distinguishing themselves within a given context, they have the potential to create or highlight different hierarchies regarding their socio-cultural impact.

Bearing this in mind, we need to consider and address the possibility of non-places' emergence and their potential

Figure 1. Alban Tower by Archea Associati, Tirana. Image courtesy of Pietro Savorelli.

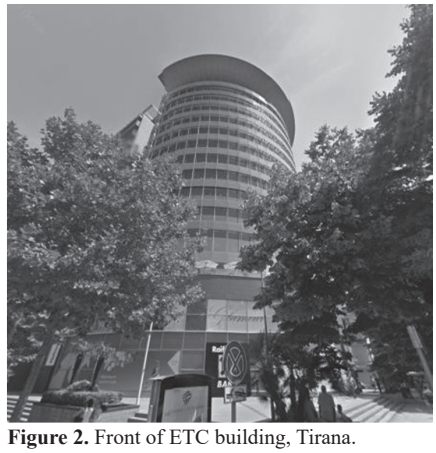

Figure 2. Front of ETC building, Tirana.

Figure 3. Front of SkyTower, before façade's intervention, Tirana.

risks due to “archi-puncture”-al strategic developments that position themselves in the middle of a pre-built contexts, and alienate from larger consolidated urban planning strategies. Non-places remain paradoxically peripheral in the grand visions of urbanism. In the pursuit of an urban utopia, there is a prevailing tendency to valorize the static, the idealized, constructing environments tailored for a hypothetical, uniform populace. This approach frequently sidelines the democratization of urban amenities, favoring instead the monumental, the aesthetically coherent, at the expense of addressing the multifarious needs of the city's denizens.

Consider, for example, the critiques leveled against Le Corbusier's 'Radiant City', with its laudable celebration of light, space, and verdure, yet marred by a sterility and homogeneity that neglects the communal, the spontaneous. Similarly, the Garden City movement, for all its aspirations towards self-sufficiency and ecological harmony, often culminated in enclaves of isolation, predicated on automotive mobility, and distant from the urban core's vibrancy and resources. These instances articulate a pressing imperative: that urban strategies recalibrate, to not only acknowledge but also valorize the dynamism, the heterogeneity inherent in urban existence, recognizing 'non-places' not as mere interstices but as essential elements in forging democratic, inclusive urban fabrics.

Saskia Sassen articulates how the ambition to achieve global city status, driven by the desire to integrate into worldwide networks of capital and information, often leads to urban projects that surpass the genuine demands of the local population (Sassen, 2001). This framework is particularly relevant in assessing Tirana's urban trajectory, where the rapid embrace of global standards and the pursuit of foreign investment have prompted developments potentially misaligned with the city's actual needs.

This synthesis underscores the importance of recalibrating urban planning strategies to prioritize local requirements over global aspirations. This recalibration is crucial to preventing the emergence of urban spaces that, while globally connected, may not reflect or serve the local community's needs, failing to ensure sustainable and inclusive urban growth. Consequently, Sassen's work calls for a balanced approach to urban development that harmonizes the global integration of cities with the imperative to address and resonate with the intrinsic needs of their inhabitants.

The risk? A descent into 'non-places'—those zones of transience, devoid of identity, as Augé explains. Tirana's skyline, a testament to unbridled capitalist ambition, narrates a tale of high-rises that that perform in a poor way considering their socio-urban isolation, their ground floors failing to whisper to the passerby, to invite, to integrate (Figures 1,2,3). This architectural oversight renders them as islands in the urban stream, disrupting the flow of social fabric (Dino et al., 2017).

METHODOLOGY

RESEARCH CONTEXT & DATA COLLECTION

During the past two decades, Tirana has experienced an unprecedented urban metamorphosis, shedding its post-socialist form to undergo a “re-branding” political initiative towards a more international persona. This transformation is not merely a shift, but a radical departure from the archaic top-down urban planning ideologies of the communist era, towards a vibrant, bottom-up model, propelled by the tidal forces of urban migration and unregulated capitalism (Dino et al., 2017).

The initial years of liberation from dictatorship's grasp unfurled a cityscape ensnared in vehicular congestion, a chaotic testament to newfound freedoms. Yet, within this disarray, a vision for Tirana's urban renaissance began to crystallize. Strategic interventions like Skanderbeg Square's transformation, the birth of Pazari i Ri, the interventions on the Artificial Lake, and the genesis of a new boulevard—have not just reshaped, but redefined Tirana's built environment, elevating urban spaces to iconic statuses, celebrated by inhabitants and visitors alike.

This metamorphosis is underscored by a notable demographic increase, with Tirana's metropolitan population almost doubling its numbers in the last 30 years; swelling from 279,311 registered individuals in early 1994, to 528,100 registered in 2024 (World Population Review, 2024). Delineating from such statistics, due to its high economic activity, as well as proximity to impactful cities like Durrës, Elbasan or Fier, it is believed that Tirana’s daily occupancy regularly goes up to 1 million individuals, which reflects the everyday traffic congestion and further highlights the need of public investments on daily infrastructure.

Data gathered from Institute of Statistics (INSTAT) show that from 2010-2018 there were approximately 4.2 million square meters approved to be built with legal building permits in Tirana only, followed up by an impactful increase of 2.3 million more in only 5 years, for a grand total of 6.5 million square meters approved from 2019-2024. These numbers reflect a general surplus in built metropolitan areas, considering an average of 0.8-1.7% increase of metropolitan population from 2010-2024.

Such rapid urbanization mirrors the broader East European narrative post-socialism, marked by a seismic shift in land ownership within the shadows of an embryonic legal system, a shift that saw developers seizing open spaces with voracious appetite (Dino et al., 2017). Internationally, the demolition of the communist regime's barriers and the rekindling of ties with the West, notably with the USA in 1991, paralleled

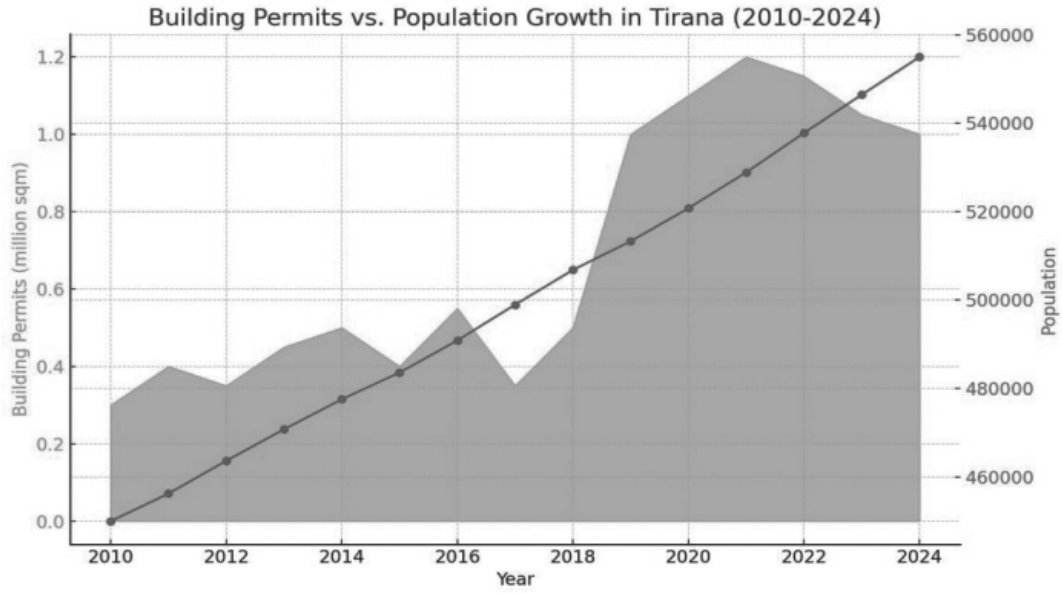

Figure 4. Chart by authors, from data gathered from INSTAT

Tirana's ascension on the global stage. The city's international airport, witnessing a record-breaking throughput of 7.25 million passengers in 2023, stands as a complementary testament to Tirana's burgeoning global allure (TIA, 2024).

ANALYSIS OF PLANNING VISIONS FOR POST-SOCIALIST TIRANA

Since 2004, when the French plan for Tirana was firstly introduced (Figure 5), the idea of a vertical city started planting its roots. The proposal of the Studio Architecture Paris envisioned a series of high-rises which were strategically positioned around the city center in way to emphasize different urban interventions like the central Skanderbeg square. Even though this plan won the competition at the time, it seems like the only thing that was inherited was verticality. In early 2015, almost a decade later, Grimshaw proposed an expansion of the city, following the traces of what the Italians envisioned during their invasive presence in Albania from 1939 to 1940. The plan retakes the concept of a monumental boulevard which links Tirana's city center to the northern river of the city, by promoting a new development around this new axis. The new boulevard, in fact, was perfectly designed and planned according to a sustainable expansion that centers human needs (walkability score, shading experience etc.) though advanced urban computational techniques. They maintained the idea of vertical expansion by proposing a new archipelago across this new boulevard axis, by changing scale and resolution of regulated building masses. Again, even though this masterplan was approved and still serves as a reference for actual building regulations, it suffers from high-flexibility, since the only inherited attribute seems to be the change of building's scale that contrast the existing urban landscape (Figure 8). Facing the challenges of unbridled urban sprawl, the final Tirana 2030 Plan (strongly allocated with Stefano Boeri's vision masterplan for Tirana which was made public in 2017, Figure 7) emerges as a manifesto for the future, envisioning controlled development that harmonizes advanced infrastructure with green arteries and new ring-roads, cherishing the city's architectural heritage while forestalling the encroachments of urban sprawl with a verdant embrace of two million new trees. This plan articulates a narrative of development that is measured, deliberate, and sustainable, an antithesis to the unchecked expansions of yesteryears

Figure 6. GRIMSHAW– Tirana Masterplan (2015)

Figure 5. Studio Architecture Paris – Tirana Masterplan Proposal (Winner-2004)

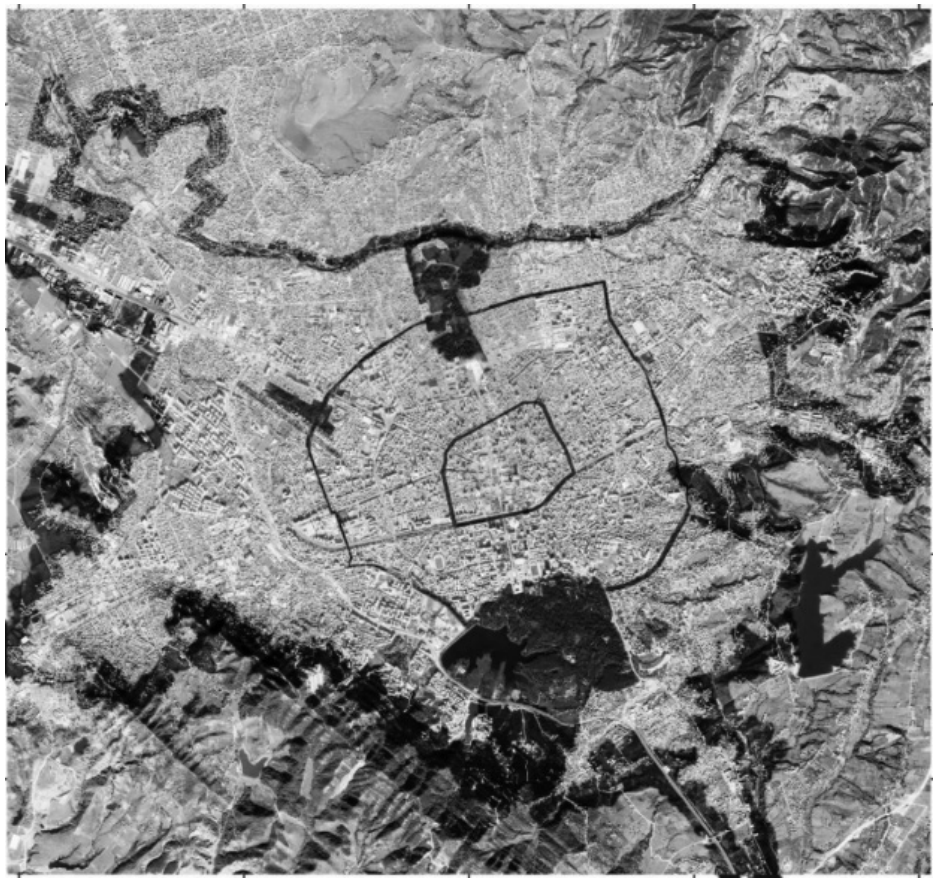

Figure 7. Tirana 2030: General Local Plan. Masterplan by Stefano Boeri Architetti, UNLAB and IND Offices

Nonetheless, detractors contend that the flexibility of these plans to be constantly prone to changes due to unprecedented politically reconceived legal frameworks (like the KKT), could transform Tirana to the point of unrecognizability and obliterate its historical legacy (Bateman, 2021). Furthermore, there is a need to acknowledge the complexity and impact of this ever-changing socio-political landscape of a rapidly-transitioning country like Albania, where the democratization and transparency must find their institutional paths in infiltrating urban planning strategies, alongside the undergoing Justice Reform.

Consequently, a dilemma arises: Is Tirana's growth a response to actual demand or a symptom of excessive development? The demographic boom and the influx of international visitors suggest a real need for urban expansion, juxtaposed against the narrative of rapid, uncoordinated growth at a national level. Architecture though, despite non-being a panacea for political dissent nor a stand-in for the process of politics itself, must nonetheless engage vigorously with the undercurrents of society, the seismic shifts within the economic and political landscapes. It is incumbent upon this discipline to craft responses, not as mere reactions but as proactive engagements with the dominant political discourses, propelled by the imperative to innovate, to challenge, and to redefine (Schumacher, 2014). Without the need to analyze the benefits or disbenefits of the high-rises found in Tirana, numbers prove their strong and positive impact on tourism and economy alike.

However, real estate experts came up with a number standing between 40,000 to 50,000 empty apartments in Tirana as for 2023, suggesting a peak in the market alongside the highest ever-recorded prices (Euronews, 2023). The experts highlight the increasing interest of citizens to invest on individual-based leisure amenities like AirBnBs, where one individual owns up to 4-5 properties. Drawing a parallel to the phenomenon observed in New York’s Billionaires' Row, where a significant number of luxury apartments remain vacant, Tirana's real estate market similarly showcases an overabundance of empty properties. This surplus, driven by doubtful investments and the proliferation of leisure amenities like AirBnBs, underscores the city's alignment with global urban trends, resulting in spaces that increasingly cater to transient, rather than permanent, residents

The economic implications of this trend are multifaceted. On one hand, the influx of investment in high-rise developments has undoubtedly contributed to the local economy, spurring job creation in the construction sector, boosting demand for related industries, and increasing property tax revenues for the municipality Additionally, the rise of short-term rental markets such as AirBnB has injected a steady flow of income from tourism, benefiting local businesses and service providers. However, the overemphasis on high-rise developments and the resulting surplus of vacant apartments also presents significant challenges.

The high number of unoccupied properties, estimated between 40,000 to 50,000, indicates a peak in the market that could lead to an artificial inflation of property prices. This situation mirrors the dynamics of Billionaires' Row, where properties often serve more as investment vehicles than as homes, thereby distorting the local housing market. Moreover, the focus on transient accommodations over permanent housing can exacerbate the creation of non-places—spaces devoid of social significance and community engagement. As more properties are converted into short-term rentals, the availability of affordable housing for permanent residents diminishes, potentially leading to displacement and gentrification. These non-places, characterized by their lack of identity and cultural relevance, contribute to the fragmentation of the urban fabric and undermine community cohesion and social stability. The increased presence of temporary visitors over stable residents can also strain local infrastructure and public services, which are often designed to support a more permanent population.

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Figure 8. Tirana from top – Change of building's scale, Alienation

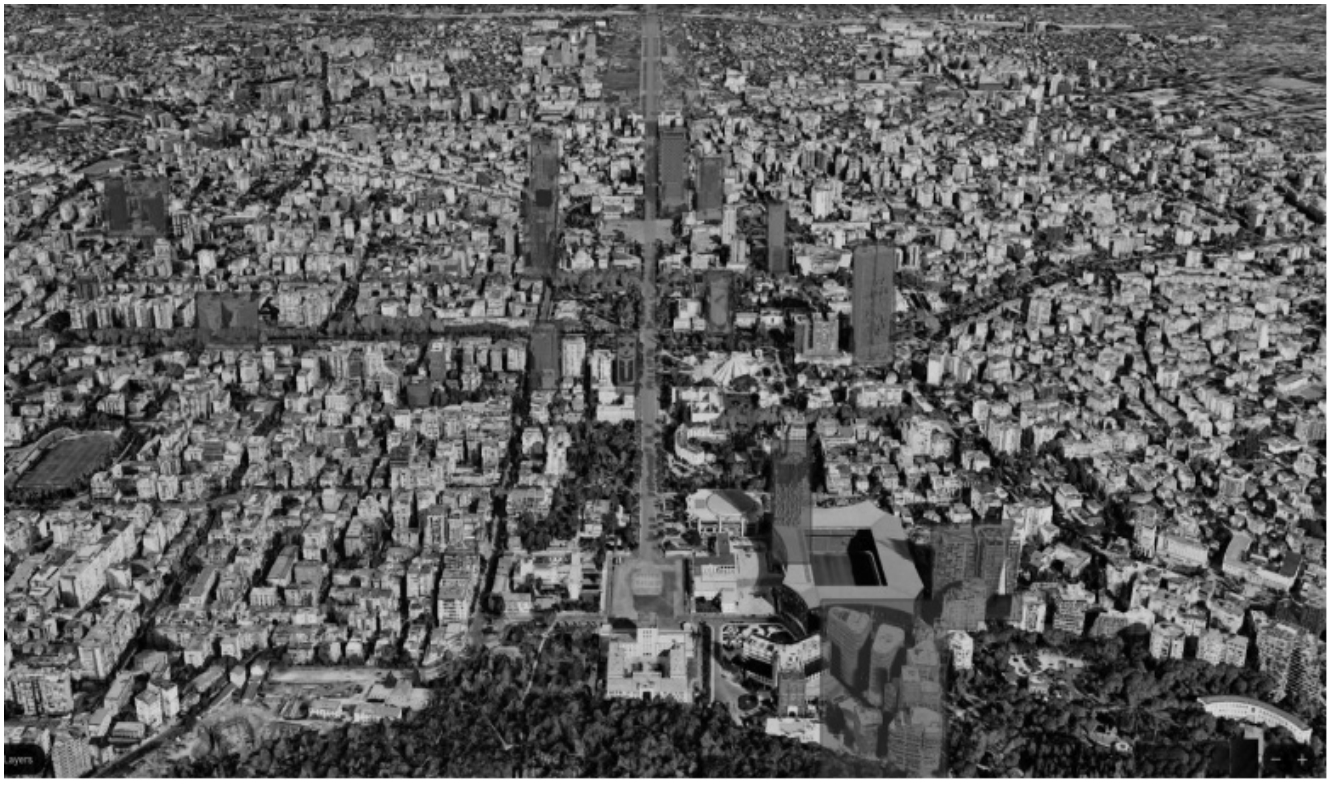

Figure 9. Tirana from top – Inconsistency of positioning in relation to public Masterplans & visions

increased presence of temporary visitors over stable residents can also strain local infrastructure and public services, which are often designed to support a more permanent population. Thus, the narrative of Tirana's evolution from a post-socialist relic to a beacon of innovation and international charm is a complex conglomerate of internal motivations and global engagements. Amidst this, strategic urban planning emerges not just as a tool but as a vision for a sustainable, deliberate march towards the future - requiring continued inquiry into the intricate balance between demand-driven expansion and the specter of excessive development. Interdisciplinary solutions must navigate the complexities of societal evolution, embedding within their very fabric the potential to influence, if not reshape, the trajectory of our collective future.

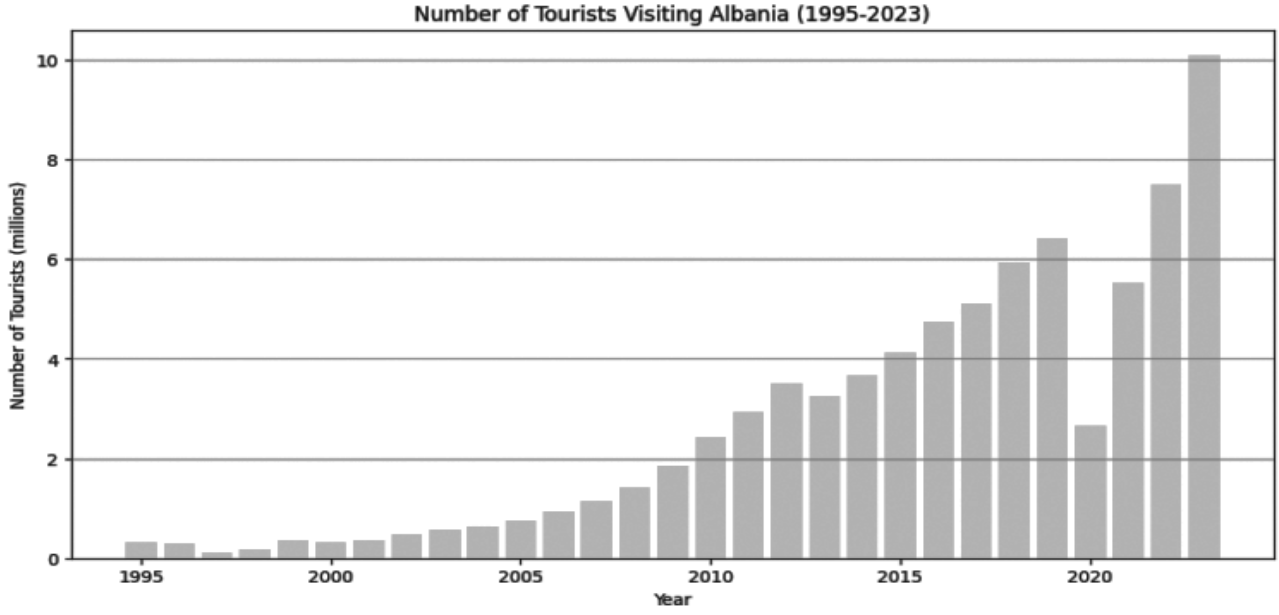

Figure 10 - Graph by authors, data gathered from WordData.info

Analyzing Factors Which Impact The Contextualized Phenomenon's Emergence

CASE STUDY 1: ALBAN TOWER

The Alban Tower in Tirana by Archea Associati, a manifestation of modern architectural ambition, serves as a pertinent case study for examining the intricate dynamics between urban high-rises and their contextual embedding within the fabric of a city. This building, through its positioning and structural design, exemplifies the paradoxical relationship between architectural identity and the urban landscape it seeks to complement. Positioned strategically at the heart of Tirana, the Alban Tower not only punctuates the skyline but also redefines the relational aesthetics of its surrounding area. The building's substantial footprint and the consequential out-of-the-matrix approved height in relation to distances, impose a significant visual and physical presence, which can either forge new spatial hierarchies or disrupt existing urban continuities. The challenge here lies in the towers' ability to align with the granular textures of Tirana's urbanism without overwhelming them. From a structural perspective, the tower employs a design that prioritizes verticality and spectacle over the porosity of ground-level interactions, characterized by concrete shear walls with no columns. Its reliance only on concrete walls and minimal ground-level openings contributes to a fortress-like facade that, while impressive, risks diminishing the permeability so crucial for vibrant urban life. The ground level, dominated by the tower's imposing structure, may lead to a public realm that feels underutilized—a space where pedestrian flows are more peripheral than integrative. The facade of the Alban Tower, articulated with materials that are both foreign and technologically advanced, tries to introduce a dialogue between local architectural vernaculars and the global language of high-rise design. This interplay is critical, as it reflects on the tower's capacity to either alienate or engage the citizenry. The choice of facade materials and the design approach can create a visual dissonance that either intrigues or repels, thereby influencing the building's acceptance within the local cultural milieu. Hence, the Alban Tower stands as a critical inquiry into how high-rises can embody the tension between being a landmark that aspires to global standards and a structure deeply embedded in the local context. The balance it seeks to maintain between innovation and alienation is a

potent reminder of the complex role architecture plays in shaping not just cityscapes but also social spaces within the urban framework. As a result, by analyzing the contextualized built example, we can deduct at least three main factors which can cause the emergence of non-places in high-rises: positioning in the urban fabric (impact on existent granularity), structural development, as well as façade design and used materials.

Figure 11 - Alban Tower Tirana - Non-place of ground level

Figure 12 - Alban Tower Tirana - Analysis by author – Original images are courtesy of Archea Associati

CASE STUDY 2: TIRANA GARDEN BUILDING

The Tirana Garden Building, through its pronounced deviation from established masterplans and its considerable scale, serves as a vivid exemplar of how the misalignment of building scale with its urban context can engender what urban theorists' term 'non-places' within high-rise urban developments. On the other hand, on-site monitoring suggests that buildings which starkly contrast with the scale and planning strategy of their environments do not merely stand in isolation; they actively reshape the surrounding urban experience. The imposing scale and extended linear form of the Tirana Garden Building carve out urban corridors—expansive tracts of space dominated by the structure's presence, which contest the city's established fabric. These corridors, while architecturally commanding, typically lack the essential elements of human-scale interaction and accessibility that are vital for a thriving urban existence. The edifice's vast scale and its separation from other urban constructs not only cast a shadow over adjacent areas but also obstruct the organic flow of pedestrian and vehicular movement, culminating in a diminished level of public engagement and interaction at the pedestrian level. This positioning disrupts uniform urban development and may create a 'blocking node' within the urban fabric, impeding both physical and visual connectivity. This severance is aggravated by the design of the building's ground floor which, lacking sufficient permeability with one open passage across a linear expansion of more than 90 meters, fails to promote public access or interaction, thereby facilitating the transformation of the area into a non-place. This scenario concerning the Tirana Garden Building accentuates the imperative for urban design strategies that prioritize considerations of scale, placement, and activation of the ground level in high-rise constructions in relation to proportions. To alleviate the detrimental impacts and to foster more inclusive urban environments, it is crucial to implement design solutions that enhance ground floor permeability and integration, advocating for active frontages that encourage public interaction and contribute to the creation of a sense of place.

Figure 13 - Tirana Garden Building - Bird-Eye View

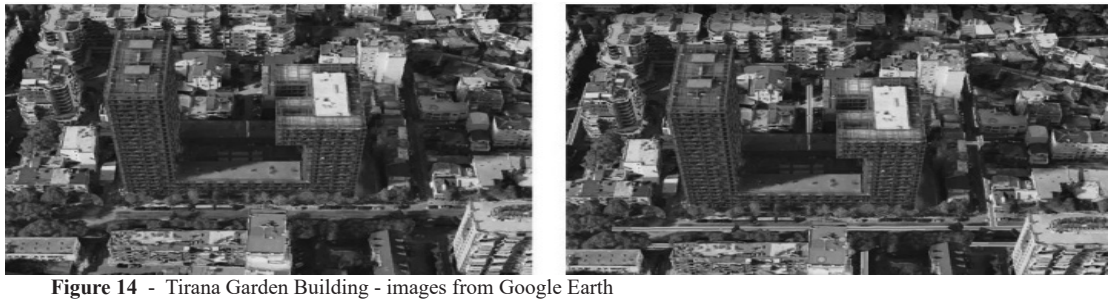

Figure 14 - Tirana Garden Building - images from Google Earth

SUCCESSFUL PRECEDENTS

The challenge before us is clear: architects and urban planners must consider reimagining the high-rise, not as an isolated spire, but as a node of activity, a connector rather than a divider. This reimagining is not merely architectural; it is a reclaiming of urban space, a statement of inclusivity and vibrancy in the face of modern urbanization's challenges. These “archi-puncture”-al fungi, when performing in high levels, have the capabilities to create a new connection web as an additive layer to the city’s evaluative readability. Yet, the solution lies within reach. The ground floor, when envisioned as a canvas of mixed-use, becomes a vibrant agora, a place of exchange and interaction. Retail, leisure, and community services bring life into these structures, anchoring them firmly within the urban narrative (Jacobs, 1961). Within the context of spaces that defy traditional definitions and the ascendancy of architectural structures toward the sky, the oeuvre of Renzo Piano emerges as a subject of profound inquiry. His approach to the design of the ground level is marked by a distinctive openness and clarity, creating a seamless interface between the built and natural environments. This harmonious fusion is a testament to the symbiotic relationship between architectural form and its surroundings, as vividly demonstrated in the Eighty-Seven Park endeavor, where the transparent ground floor merges the external park with the interior space of the From a functional perspective, Piano's architectural language promotes enhanced accessibility through the strategic placement of service components, such as elevators, on the building's facade. This facilitates not only an unobstructed and adaptable interior layout but also underscores his dedication to public inclusiveness. This commitment is palpable in the Jerome L. Greene Science Center at Columbia University, where the ground level, embracing a Wellness Center, an Education Lab, and commercial venues, is openly accessible, thereby knitting the fabric of the community with the institutional (Piano, 2018). Furthermore, Piano's collaborative efforts with Skidmore, Owings & Merrill, alongside the municipal authorities to craft zoning regulations for the “Special Manhattanville Mixed Use District,” highlight the emphasis on public accessibility within urban development projects. Such strategic design interventions underline the integration of Piano's architectural practice with sustainable and inclusive urbanism, in an age characterized by the vertical expansion of cities. In doing so, we do not merely design buildings; we sculpt the urban experience, fostering spaces that are not only inhabited but lived, celebrated, and cherished

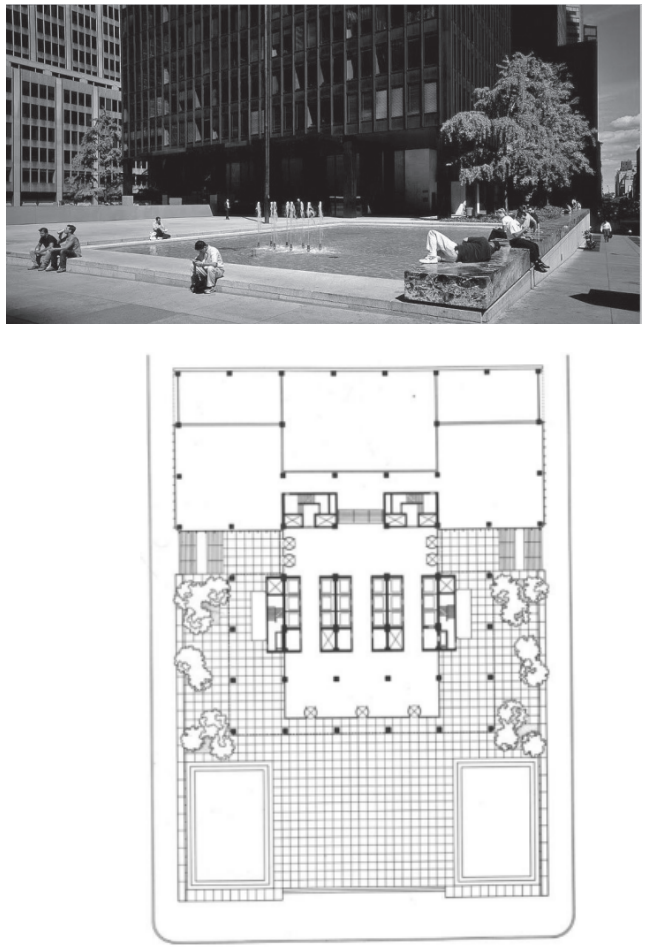

Figure 15 - AThe iconic Seagram Building – Mies van der Rohe. Ground floor and Plaza

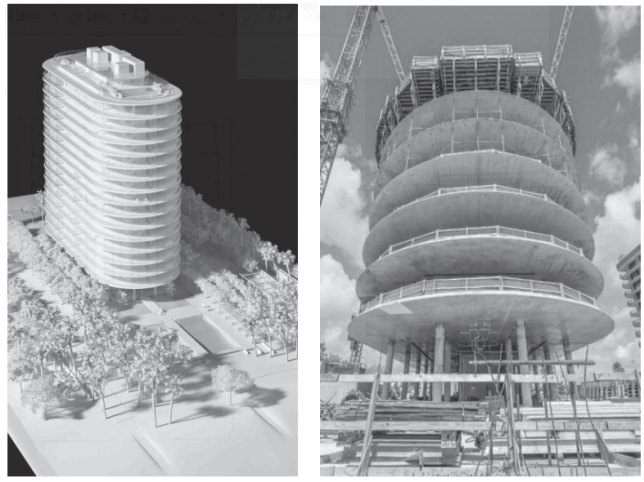

Figure 16 - Model (1) & Construction image (2) on ground level. Eighty-Seven Park by Renzo Piano. Image

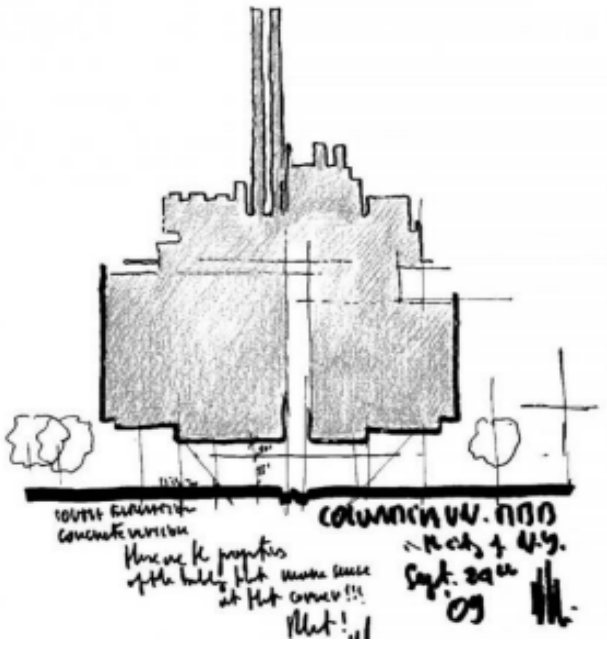

Figure 17. Sketch. Jerome L. Greene Science Center integrated in the Columbia University Campus Masterplan by Renzo Piano in collaboration with SOM. Image courtesy of RPBW courtesy of RPBW

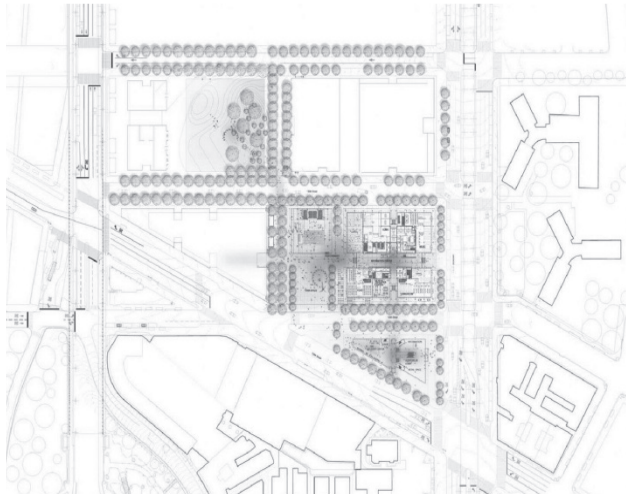

Figure 19. General Plan. Columbia University Campus Masterplan by Renzo Piano in collaboration with SOM. Image courtesy of RPBW

HOLISTIC QUANTITATIVE EVALUATION

The interdisciplinary approach related to the phenomenon of non-places emergence makes it difficult to objectively evaluate existing buildings or new proposals based only on quantitative inputs and outputs. Nevertheless, algorithms can be partially introduced to analyze buildings' attributes in way to automate, facilitate and further optimize decision-making techniques to minimize the impact of non-places emergence around the city or its parts. Taking hints from known Generative Design approaches that are now used world-wide to analyze and evaluate decision-making scenarios regarding urban planning, we tried to test as a first step, an algorithm that evaluates existing high-rises in relation to their proximities around Tirana's city-center. The algorithm employed in this study aims to evaluate and improve the walkability score and integration of high-rise developments within Tirana's urban center. By leveraging computational design and data-driven analysis,

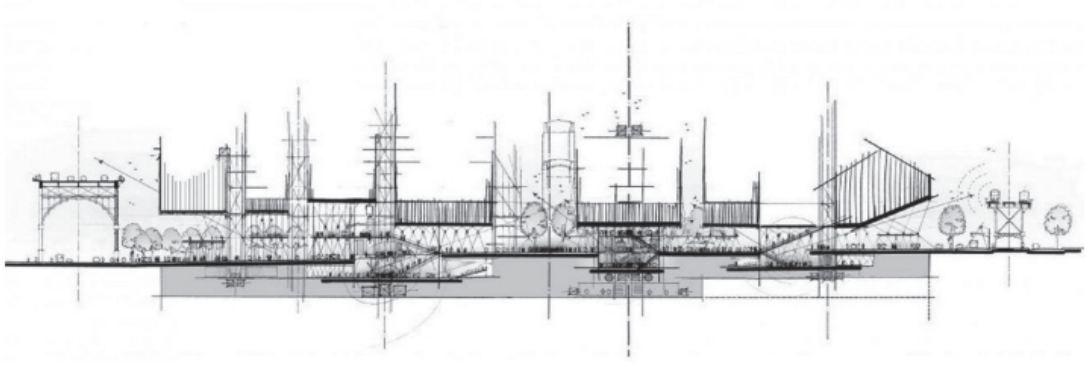

Figure 18. Section. Columbia University Campus Masterplan by Renzo Piano in collaboration with SOM. Image courtesy of RPBW.

the algorithm provides insights into urban dynamics and helps propose more sustainable urban design scenarios. A city's walkability score is influenced by several factors, including:

Sidewalk Infrastructure: The presence, width, and condition of sidewalks and pedestrian paths.

Safety: Low crime rates, well-lit streets, safe crossings, and pedestrian-friendly traffic signals.

Proximity to Amenities: Accessibility to essential services and amenities such as grocery stores, schools, parks, restaurants, and public transit

Street Connectivity: A grid-like street network that reduces walking distances and increases route options.

Density: Higher population density and mixed-use development that places residential, commercial,

and recreational spaces close together.

Aesthetic and Environmental Quality: Presence of green spaces, trees, clean streets, and visually

appealing architecture.

Traffic and Speed Limits: Lower traffic volumes and speed limits that enhance pedestrian safety.

Public Transportation: Availability and convenience of public transit options that complement walking.

Due to the lack of metadata for all the above mentioned and more, the comparative methodology we used considers street connectivity, proximity to amenities (only mapped ones), traffic and speed limits, public transportation as well as approximate density for urban areas extending to a radius of 50 meters from each vertical development.

The primary purpose of the algorithm is to:

Assess the walkability score of high-rise developments.

Analyze spatial relationships between buildings and their surroundings.

Identify non-places and areas with low walkability.

Components of the Algorithm

Data Collection and Processing:

Spatial Data: Extracted from Open Street Map (OSM) and other sources to create a detailed 3D model of Tirana's city center.

Building Permits and Demographic Data: Obtained from the Institute of Statistics (INSTAT)

to understand building densities and population trends.

Metadata Integration: Additional data such as traffic volumes, public amenities, and sidewalk

conditions are integrated into the model.

3D Model Creation:

Rhinoceros 3D and Grasshopper: Used to create a digital twin of the city center, including detailed representations of buildings, streets, and other urban elements.

Geometric Objects: Generated from the spatial data and enhanced with metadata describing their attributes.

3. Algorithmic Analysis:

Walkability Score Calculation: Evaluates the pedestrian-friendliness of areas based on factors like sidewalk infrastructure, proximity to amenities, and traffic conditions.

Iterative Scenario Testing: Simulates different development scenarios by adjusting parameters such as building height, density, and distance from amenities.

Visualization: Generates maps, graphs, and diagrams to depict the spatial impacts of high-rise developments.

Workflow of the Algorithm

1. Model Setup:

Import spatial data from OSM and other sources into Rhinoceros 3D.

Use Grasshopper to generate geometric objects representing buildings, streets, and other urban elements.

Integrate metadata into the 3D model using tools like Urbano and Colibri.

2. Data Processing:

Clean and preprocess the spatial data to ensure accuracy and completeness.

Assign metadata to geometric objects, including information on sidewalks, traffic volumes, and public amenities.

3. Walkability Score Calculation:

Evaluate the presence, width, and condition of sidewalks.

Assess the proximity to essential services and amenities.

Analyze street connectivity and intersection density.

Consider traffic volumes, speed limits, and public transportation availability.

Calculate the walkability score for each high-rise development and its surrounding area.

4. Iterative Scenario Testing (Figure 20, 21):

Simulate various urban design scenarios by adjusting parameters such as building height and density.

Evaluate the impact of each scenario on the walkability score and spatial relationships.

Identify scenarios that improve walkability and integration with the urban fabric.

5. Visualization and Interpretation:

Generate visual outputs, including maps, graphs, and diagrams, to represent the data and findings.

Use these visualizations to communicate the spatial impacts of high-rise developments and propose design improvements

Application and Impact

The algorithm's application in this study has several significant impacts:

Identification of Non-Places: The algorithm identifies areas with low walkability scores, indicating the presence of non-places. These areas are characterized by poor pedestrian infrastructure, limited access to amenities, and high traffic volumes.

Impact Assessment: The algorithm assesses the spatial impacts of high-rise developments, revealing how isolated

developments can disrupt the urban fabric and create non-places.

Design Recommendations: Based on the findings, the algorithm proposes design improvements to enhance walkability and integration. These recommendations include better sidewalk infrastructure, improved connectivity, and increased proximity to amenities.

- Policy Implications: The algorithm's outputs inform urban planning policies, advocating for the integration of computational tools to optimize urban development strategies.

After testing the performance of the algorithm in this simple case study, we came to the conclusion that decision-making based on iterative processes' evaluation can further contribute to the social sustainability discourse of new urban developments in Tirana. These computational techniques can be implemented in preas well as post-planning scenarios once optimized and consolidated.

The limitations in the existing metadata shall be updated and enrich further research and policy considerations.

In the meanwhile, we are working on optimizing as well as enlarging the scope of action of our algorithms in the specific context of Tirana, by implementing evolutionary solving algorithms in existent equations. Some workshops are being ideated together with the students of Polis University, in way to contribute in enlarging the availability of these metadata for Tirana.

To enhance the transparency and reproducibility of this study, all data sources, analytical frameworks, and computational models are documented and available upon request

CONCLUSIONS & FURTHER RECOMMENDATIONS

The transformative impact of skyscraper development on Tirana's urban landscape is both profound and emblematic of a seismic shift from conventional urban planning paradigms to an era defined by supermodernity. In a state of ongoing transition imposed by the historical circumstances, post-socialist Tirana quickly embraced hyper-verticalization in this rush for modern life. This transition, marked by rapid vertical growth, is driven by a nexus of political ambitions and economic incentives. The findings of this research reveal critical insights into the consequences and opportunities presented by this urban evolution.

This synthesis distills the essence of the original argument, presenting a visionary critique and a call to action for the design of high-rise buildings, particularly their ground floors, in the urban landscape of Tirana. It emphasizes the necessity of integrating these structures into the city's social and cultural fabric to prevent them from becoming 'non-places'.

One of the study's most significant revelations is the emergence of non-places—spaces devoid of cultural significance and social engagement. These areas, birthed from the city's rapid and often unplanned vertical expansion, are characterized by anonymity and transience, failing to foster a sense of community or identity.

Tirana's post-socialist urban development strategies, when critically evaluated, highlight how these non-places stem from the disjointed and isolated nature of high-rise developments that do not integrate seamlessly with the surrounding urban fabric.

The utilization of an algorithm to dissect and visualize the spatial impacts of high-rise developments introduces a novel approach in urban studies. Integrated within the Grasshopper platform, this algorithm enables the creation of a digital twin of Tirana's city center, facilitating detailed analysis and risk assessment. The spatial distribution and characteristics of non-places are revealed through compelling visual outputs—graphs, maps, and images—that are pivotal in communicating the study's findings and advocating for more sustainable and socially cohesive urban design scenarios

The algorithmic analysis underscores the urgent need to re-evaluate current planning policies. The evidence suggests that existing policies have often favored rapid development and economic gains over social cohesion and cultural significance. There is a clear advocacy for a shift towards planning strategies that incorporate computational tools to better assess and mitigate the risks associated with high-rise developments.

Such strategies would emphasize inclusivity, connectivity, and the integration of high-rises into the broader urban context.

The research also elucidates the socio-economic implications of the current urban development trajectory.

While the influx of investment in high-rise developments has spurred economic growth, it has also introduced significant challenges. A substantial number of vacant apartments indicate a potential oversupply and market saturation, driven by speculative investments and the proliferation of short-term rentals like AirBnBs. This phenomenon mirrors global trends seen in New York's Billionaires' Row. The focus on transient accommodations over permanent housing exacerbates the creation of non-places, undermining community cohesion.

The findings suggest that integrating computational tools, such as the algorithm employed in this study, can significantly enhance urban planning practices. These tools offer a data-driven approach to evaluating the spatial and social impacts of urban developments, enabling planners to make more informed decisions. The study demonstrates how computational techniques can simulate and assess different development scenarios, optimizing urban growth to promote sustainability and social cohesion.

In an era where the vertical expansion of cities is both inevitable and indicative of broader socio-political dynamics, the integration of skyscraper development within the urban fabric must be handled with a nuanced

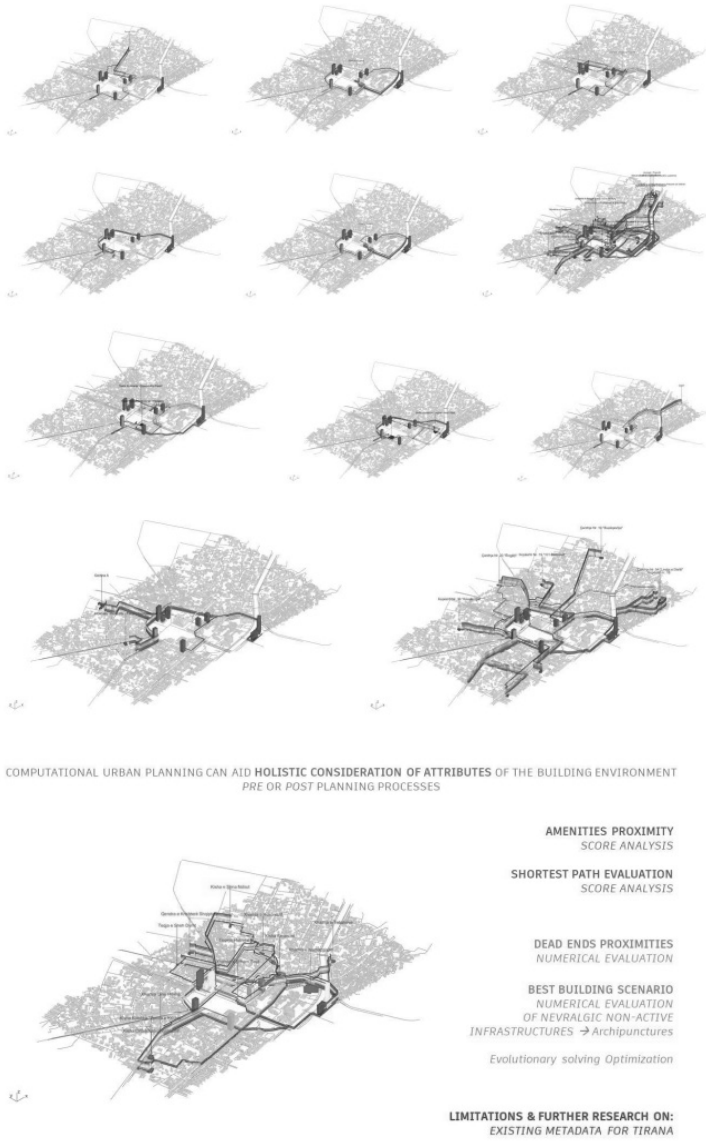

Figure 20. Iterative Scenario of Tirana's City Center - Analysis of proximity/amenities

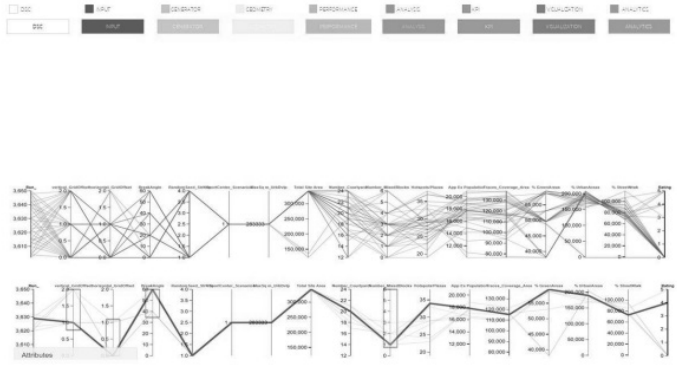

Figure 21. Evaluation Space of Scenarios based on output scores - GeD

and balanced approach. This research underscores the need for policies that not only accommodate growth but also preserve and enhance the social and cultural vibrancy of urban spaces. The use of advanced computational tools in urban planning provides a pathway towards achieving these goals, ensuring that the evolution of cities like Tirana leads to sustainable, inclusive, and cohesive urban environments.

Recommendations for Future Urban Development

Based on the findings, several recommendations for future urban development in Tirana and similar post-socialist cities are proposed:

Adopting a balanced approach to development that aligns global aspirations with local needs.

Ensuring high-rise developments are integrated into the existing urban fabric to avoid creating isolated non-places.

Utilizing computational tools for comprehensive risk assessment and decision-making in urban planning.

Promoting inclusivity and connectivity in urban design to foster a sense of community and identity.

Addressing the surplus of vacant properties through policies that encourage permanent residency and affordable housing.

Policy Framework Suggestions for Skyscrapers' Development Based on the deductions, a structured policy framework to guide skyscraper development, integrating walkability metrics:

Comprehensive Planning: - Develop a new dedicated master plan for skyscraper integration within existing dense urban contexts that incorporates walkability as a key criterion. - Conduct walkability assessments for all proposed skyscraper projects.

Regulatory Requirements: - Implement zoning regulations that mandate the inclusion of pedestrian-friendly infrastructure in skyscraper projects. - Require developers to submit walkability improvement plans as part of their development proposals.

Incentives for Developers: - Offer incentives, such as density bonuses or tax breaks, for projects that significantly enhance walkability. - Provide grants or subsidies for incorporating green spaces and public amenities within skyscraper developments.

Community Engagement: - Engage with local communities to identify specific walkability needs and preferences. - Involve residents in the planning process to ensure that skyscraper developments align with community goals.

Monitoring and Evaluation: - Establish a monitoring system to regularly evaluate the walkability of areas around skyscrapers. - Use data from walkability assessments to make ongoing improvements and updates to planning policies

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