

Access to Historic Buildings and Traffic Flow in Tirana

Analysing Congestion and Urban Mobility Solutions

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Abstract - Tirana, the capital of Albania, stands as a clear example of the tensions between rapid urban growth and the effort to safeguard cultural heritage. These overlapping dynamics have created difficulties for mobility and urban planning. This paper examines how access to several key landmarks—Bunk'Art 2, the Pyramid of Tirana, the House of Leaves Museum, and the Et'hem Bey Mosque—shapes traffic conditions in the central area. By looking at the city's planning framework, the architectural value of these sites, and the current state of the transport network, the study identifies congestion points and considers the extent to which heritage buildings intensify mobility challenges. The study highlights that historical buildings serve dual purposes, functioning as invaluable cultural heritage sites and vibrant urban activity centres that consistently draw both residents and tourists, thus placing considerable strain on the city's transportation networks. Spatial analysis of traffic patterns and visitor behaviour underscores significant congestion attributed largely to inadequate infrastructure, insufficient parking facilities, and ineffective public transportation services. These inadequacies not only limit accessibility to cultural landmarks but also heighten frustration levels among residents and visitors. Addressing these pressing issues, the paper proposes a comprehensive urban mobility plan focused on optimizing public transportation networks, enhancing pedestrian infrastructure, and implementing effective parking management strategies. Experiences from other cities facing similar pressures are used as reference points, pointing to the benefits of integrated solutions. The study ultimately argues for policies that do not treat historic landmarks as isolated cultural sites, but as active parts of the contemporary city. By linking accessibility with heritage protection, Tirana has the chance to improve cultural engagement while also easing movement within its urban core.

Keywords - Historical Buildings, Traffic Congestion, Accessibility, Urban Mobility.

Introduction

Tirana is undergoing rapid urban expansion while at the same time working to protect its cultural and historical character. Modern infrastructure and new development projects continue to reshape the city, yet historic buildings remain central to its identity. They are not only reminders of the past but also living spaces that draw visitors, support education, and foster civic life. The difficulty arises in how these landmarks fit within a mobility system that is changing quickly and often unevenly. As congestion worsens and access to the central area becomes more difficult, the integration of heritage sites into the city's everyday circulation has turned into a pressing challenge.

The urban development of Tirana reflects, in many ways, the broader political, social, and economic

shifts that Albania has experienced over the last century. When the city was declared the capital in 1920, Italian architects such as Armando Brasini and Florestano Di Fausto prepared the first comprehensive plans, laying out wide boulevards and monumental public buildings that gave Tirana a sense of order and hierarchy. Under the communist regime, this pattern shifted toward socialist planning ideals, where collective housing blocks and state institutions took precedence over individual needs. The fall of communism in 1990 brought yet another transformation. Expansion was fast and often uncontrolled, with widespread informal construction that placed heavy strain on infrastructure and created enduring problems for planners. More recently, the adoption of the

General Local Plan "Tirana 2030" in 2016 marked an attempt to impose a more sustainable vision: introducing a new transport ring, enlarging green areas, and limiting construction at the urban edges to protect surrounding rural land.

This study focuses on four key historical buildings located in central Tirana: Bunk'Art 2, the Pyramid of Tirana, the House of Leaves Museum, and Et'hem Bey Mosque. Each of these sites contributes uniquely to Tirana's urban and cultural landscape. Bunk'Art 2 (Figure 2, left), situated near Skanderbeg Square, is a Cold War-era anti-nuclear bunker converted into a museum that attracts both international visitors and local school groups. The Pyramid of Tirana (Figure 2, right), a former museum and controversial symbol of the communist regime, is currently being transformed into a cultural and innovation centre, drawing daily foot and vehicular traffic. The House of Leaves Museum (Figure 4), Albania's former surveillance headquarters, now serves as a museum dedicated to the victims of state security. It lies in one of Tirana's most frequented central areas. Finally, the Et'hem Bey Mosque (Figure 5), one of the oldest religious buildings in the city, is located on the edge of Skanderbeg Square and remains an active religious and tourist site.

These buildings are not isolated monuments; they are central to Tirana's civic and cultural activity, and their proximity to one another in the densely built city core further intensifies urban traffic pressure. Although each site represents different historical narratives, they share common challenges: limited pedestrian access, minimal parking infrastructure, and heavy surrounding traffic. These issues raise important questions about the effectiveness of current urban mobility planning in accommodating access to heritage sites without compromising the quality of life for residents and visitors.

As highlighted by Jiménez Martín et al. (2022), cities with World Heritage status often face compounded mobility issues due to the historic character of their urban cores. These cities are typically structured in ways that challenge conventional transportation planning, particularly in terms of pedestrian accessibility and vehicle circulation within protected areas. Imnadze and Vardosanidze (2024) further emphasize that cultural heritage buildings must

be harmoniously integrated into the evolving structure of modern cities. Their research shows that preservation and urban function can coexist if supported by thoughtful planning and community engagement.

The strain on Tirana's transportation network is intensified by limited public transport connectivity, scarce parking facilities, and inadequate pedestrian infrastructure around these heritage zones. These issues reflect broader tensions between conservation goals and the demands of a growing city.

While previous studies in heritage-rich European cities have highlighted the conflict between heritage preservation and traffic management (UNESCO, 2011; Gehl, 2010), Tirana remains underrepresented in this field. Therefore, this study seeks to fill that gap by exploring the relationship between historic building accessibility and traffic congestion, with a focus on strategic mobility solutions.

The aim of this research is to analyze the urban planning context and accessibility conditions of the four selected historic landmarks and assess their contribution to congestion in surrounding areas. Furthermore, it proposes a set of urban mobility strategies that balance the need for heritage access with sustainable traffic and transportation planning.

Literature Review

Cities that contain significant historic buildings often struggle to balance accessibility with the preservation of architectural and cultural values. Recent scholarship has increasingly pointed to the need for integrated strategies that bring together heritage conservation and mobility planning. For example, Jiménez Martín et al. (2022) analyze pedestrian routes in Spanish World Heritage cities and show how tourist flows, combined with inherited street layouts, complicate circulation in historic cores. Their work highlights the importance of accessibility plans that account for the structure of the urban fabric, the behaviour of pedestrians, and the placement of landmarks. In a different context, Imnadze and Vardosanidze (2024) discuss the changing role of heritage buildings in contemporary Tbilisi, arguing that effective adaptation requires blending modern infrastructure and technologies

with preservation goals. This argument has clear implications for Tirana, where the push for modernization frequently overlaps—and at times conflicts—with the city's historical identity. Sáez-Pérez and Marín-Nicolás (2023) contribute a practical methodology for improving accessibility in heritage buildings. Their support tool divides buildings into analytical zones and identifies architectural barriers, offering a blueprint for retrofitting historic structures without compromising cultural integrity. This method is applicable in Tirana's context, where interventions must be sensitive to both tourist and local usage patterns. Gil-Mastalerczyk and Gardyńska-Kielis (2023), in their study on Kielce, emphasize the need for inclusive architectural design in historic public buildings, particularly in aging societies. They advocate for user-centered planning and flexible infrastructure solutions that serve diverse populations, including people with disabilities and elderly residents. From a broader urban policy perspective, Marín-Nicolás et al. (2023) analyze how accessibility enhancement correlates with public engagement in museum spaces situated within heritage buildings. They show that improved access not only increases visitor numbers but also promotes sustainable use of cultural assets—an outcome that aligns with Tirana's goals of cultural

tourism and civic enrichment. The role of tourism in shaping mobility challenges is addressed by Kuçak Toprak (2022), who investigates how historical and new buildings at the peripheries of Turkish city squares are impacted by tourist density. Her findings reveal a direct link between accessibility shortcomings and negative effects on both visitor experience and urban functionality. Finally, accessibility challenges in Tirana resonate with themes identified by Altin and Güngör (2022), who emphasize that access to historic buildings is a human rights issue. They argue that the urban design process should prioritize inclusion and equity, especially in the adaptive reuse of cultural heritage spaces. Collectively, the literature demonstrates that accessibility to historical buildings must be viewed as part of a broader urban ecosystem that balances preservation, functionality, and inclusivity. These findings provide a robust foundation for analyzing Tirana's unique context and for proposing actionable mobility solutions. In *Tirana: The Challenge of Urban Development* (2003), authors offers a foundational perspective on the evolution of Tirana's urban form during the post-socialist period. They argue that Tirana's urban transformation has often occurred without a clear regulatory framework, resulting in uncontrolled

densification, the erosion of public space, and poor integration between new developments and historical landmarks. Authors emphasizes that while urban growth is inevitable, the failure to synchronize it with heritage preservation and accessibility planning creates long-term dysfunctions in mobility and social cohesion. Their analysis of informal urban expansion and infrastructural lag provides critical context for understanding the city's current accessibility challenges around cultural landmarks. These insights directly support the findings of more recent studies such as those by Imnadze and Vardosanidze (2024), and Jiménez Martín et al. (2022), which advocate for the harmonious integration of historic environments into modern city systems.

The literature review provides a solid conceptual and methodological foundation, yet there is still a clear gap when it comes to research that addresses Tirana's own socio-spatial realities. International case studies are valuable for framing the discussion, but their direct transfer to the Albanian context risks overlooking cultural practices, informal patterns of urban life, and the political constraints that shape infrastructure planning. A key issue is how historic buildings are woven into everyday mobility. This cannot be understood only through data-driven

accessibility models, since they rarely capture the informal uses of public space by local residents. For this reason, the present research seeks to narrow that gap by grounding the analysis in empirical observations and by situating it within the specific spatial context of Tirana's urban core.

Tools and Methodology

This study was conducted to analyze the impact of accessibility to historical buildings on traffic flow in the city of Tirana, with a particular focus on the central urban area where some of the most visited cultural and historical landmarks are located. The methodology is structured in several phases, involving the use of analytical tools, field observations, and spatial data collection.

Four key heritage sites were selected for the study, as previously mentioned. As illustrated in Figure 1, these buildings are situated in close proximity to each other, forming a dense cultural zone. The Et'hem Bey Mosque, for example, is located just 60 meters from Bunk'Art 2, which is 1.4 kilometers from the House of Leaves Museum. All sites are clustered around Skanderbeg Square, a central area that serves as a major touristic attraction in Tirana. This square is also home to many of the country's most important institutions, including



Fig. 1. Map of central Tirana showing the locations of Bunk'Art 2, the Pyramid of Tirana, the House of Leaves Museum, and Et'hem Bey Mosque.

Source/ : Edited by author.



Fig. 2. Bunk'Art 2 - Entrance to the Cold War-era bunker museum (left) and The Pyramid of Tirana(right).

Source/ : TripAdvisor & MVRDV



Fig. 4. Buffer Zones and Street Network around selected buildings.

Source/ Author.



Fig. 3. House of Leaves Museum (left) and Et'hem Bey Mosque (right).

Source/ : gettyimages & gettyimages

Historical Site	Pedestrian Access	Parking Availability	Public Transport Access	Traffic Congestion Level
House of Leaves	Moderate (sidewalks present, but narrow)	Limited (few small lots nearby)	Good (several bus stops within 300m)	High (near major road intersections)
Et'hem Bey Mosque	Good (central square, pedestrian-friendly)	Very limited (mostly pedestrian-only zone)	Good (bus stops directly adjacent)	Moderate (mostly pedestrianized, less vehicle flow intersections)
Bunk'Art 2	Moderate (surrounded by mixed traffic and pedestrian routes)	Limited (informal street parking)	Moderate (few stops within reach)	High (adjacent to busy routes)
Tirana Pyramid	Good (wide pedestrian areas nearby)	Moderate (some parking lots within 300m)	Good (stops nearby on major boulevards)	Moderate to High (varies by time of day)

Tab. 1. Assessment of accessibility and mobility conditions. Source/ : Author.(2025)

Intervention Focus	Primary Objectives	Expected Outcomes
Pedestrian Prioritization	Establish safe, high-quality pedestrian domains	Better visitor experience, fewer conflicts, improved preservation conditions
Vehicular Management	Rationalize access while ensuring essential flows	40–50% reduction in peak-hour traffic, cleaner air, lower noise levels
Alternative Transport Modes	Provide viable non-car options	Increased use of public transport and cycling, broader accessibility

Tab. 2. AProjected Outcomes of the Integrated Mobility Framework Source/ : Author.(2025)

the Municipality of Tirana, various ministries, and the National Opera House, making it a hub of both civic and cultural activity. In addition, the Tirana Pyramid—located approximately 1 kilometer from Skanderbeg Square—is included in the study due to its high public appeal and multifunctional use. It attracts both foreign tourists and local visitors thanks to its dynamic programming and the open, friendly environment it offers. The accessibility and surrounding infrastructure of these heritage buildings are presented in the maps below, which include information on road networks, pedestrian pathways, buffer zones, and the availability of nearby parking areas. This map illustrates the location of four major historical and cultural landmarks in central Tirana—House of Leaves (red pin), Et'hem Bey Mosque (green), Bunk'Art 2 (purple), and the Tirana Pyramid (blue). Around each site, a 300-meter buffer zone is drawn to represent the spatial influence and potential accessibility area for pedestrians and vehicles. The map also distinguishes main roads (grey) and secondary/local streets (pink), offering insight into the connectivity and mobility conditions within the heritage-rich urban core of Tirana. To assess the spatial influence and urban accessibility of these sites, a 300-meter buffer zone was created around each building. This distance was selected based on its wide use in urban analysis literature as a standard for pedestrian catchment areas, equivalent to a 4–5 minute walking radius (Gehl, 2010). The buffer zones help visualize not only the potential accessibility area but also the overlaps between zones, which signal

areas of concentrated pedestrian flow and mobility pressure. The table below provides a comparative overview of four historical landmarks in Tirana based on four key criteria related to urban mobility and access: pedestrian infrastructure, parking availability, proximity to public transportation, and level of traffic congestion. Conditions for each site were evaluated based on a combination of field observations, spatial proximity to infrastructure, and publicly available planning data. These were synthesized into a comparative matrix to highlight variations in accessibility and urban mobility conditions. Although the methodology provides valuable insight into urban accessibility around cultural landmarks, it is not without limitations. The lack of real-time traffic data and the reliance on on-site observations inevitably introduce some degree of subjectivity, particularly when assessing congestion. Even so, the spatial mapping and comparative indicators developed in this study create a dependable basis for understanding mobility patterns and shaping strategies in areas where cultural sensitivity is essential. The evidence points to an unavoidable reality: the historic core of Tirana was never intended to sustain the intensity of modern mobility demands. The clustering of prominent landmarks gives the district its vitality and appeal, yet it also generates constant tension between pedestrian flows, motor traffic, and the delicate preservation of heritage structures. In light of these challenges, the research proposes an Integrated Mobility Framework. This approach combines three complementary measures: giving

priority to pedestrians within the cultural heart of the city, restricting and regulating vehicle access in designated heritage areas, and strengthening alternative transport solutions at the urban periphery. At the heart of the proposal is a pedestrian zone around Skanderbeg Square, linking the Et'hem Bey Mosque, the House of Leaves, and Bunk'Art 2. Car access would be restricted to essential vehicles (emergency, utility, scheduled deliveries). This would reduce direct conflicts, limit emissions, and protect delicate historic fabric. The space released from traffic could be reimagined with greenery, seating, and shading, enhancing the square's civic atmosphere. Encircling this core, a Heritage Access Zone would extend toward the Tirana Pyramid. During peak hours or tourist seasons, an odd–even license plate restriction (similar to Athens' Daktylios) would reduce traffic volumes by almost half, while still allowing residents, taxis, public transport, and persons with disabilities to enter. The HAZ acts as a filter, ensuring that congestion is managed within the district rather than simply pushed outward. Finally, to make restrictions effective, mobility hubs would be introduced at the HAZ perimeter. These hubs would integrate buses, cycling infrastructure, shared mobility, and parking facilities. Real-time service information and priority lanes would make transfers quick and reliable, encouraging people to leave their cars behind. The Integrated Mobility Framework provides a structured yet flexible response to the challenges facing Tirana's historic center. By shifting the balance from car dependence to pedestrian and sustainable mobility, the framework aims to relieve congestion, protect cultural assets, and improve overall urban livability. More than a technical solution, it reframes heritage as part of a dynamic urban system—one where cultural identity and modern accessibility reinforce rather than undermine one another.

Conclusions and Recommendations

The analysis carried out in this study shows that the close concentration of historical landmarks in Tirana's centre places heavy pressure on the city's mobility systems. Sites such as Bunk'Art 2, the Pyramid of Tirana, the House of Leaves Museum, and the Et'hem Bey Mosque lie within walking distance of each other, but their proximity channels overlapping flows of cars and pedestrians into streets that were never designed to handle them. Narrow sidewalks, weak public transport links, and the absence of adequate parking combine to produce frequent bottlenecks. These not only reduce the comfort and quality of visits but also pose risks to the preservation of delicate heritage structures. The challenge is not their cultural importance but their spatial context: the historic core was shaped in a time with very different mobility demands and is now forced to absorb the pressures of a fast-growing capital. Responding to these conditions calls for mobility policies that treat heritage sites as both cultural anchors and active magnets of daily life. One useful step lies in managing the timing of urban activity. If administrative, commercial, and educational functions are better staggered across the day, pressure on streets and transport could ease during peak hours, allowing the historic centre to function more smoothly. At the same time, the city must rethink vehicular access. Introducing a regulated entry system that filters car traffic into the core would cut congestion, improve air quality, and protect the atmosphere of heritage zones. Integrated with strong public transport and shared mobility options, such a system could also promote greater equity in how the city is used. Equally urgent is the shift toward pedestrian-centred design.

Extending car-free areas around Skanderbeg Square and nearby landmarks would create safer, cleaner, and more attractive public spaces. These interventions go beyond transport efficiency: they frame accessibility itself as a cultural value, ensuring that heritage buildings are not only preserved but also actively woven into everyday civic life. Together, these strategies sketch out an integrated mobility framework that balances heritage protection with contemporary accessibility. Instead of viewing cultural sites as immovable monuments in tension with urban circulation, this approach repositions them as living parts of a dynamic city. By reducing dependence on cars and favouring sustainable and pedestrian modes of movement, Tirana has the opportunity both to safeguard its cultural legacy and to create a more inclusive, liveable, and resilient urban environment.

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