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**IKSAD INSTITUTE**  
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and Social Research

# YILDIRIM BAYEZİD

**SCIENTIFIC RESEARCH AND INNOVATION SYMPOSIUM-II**

*Bursa Technical University, Bursa, Türkiye*

**May 08-09, 2026**



## PROCEEDINGS BOOK

**EDITOR**

**Prof. Dr. Orhan ÇAĞLAYAN**

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Prof. Dr. Orhan ÇAĞLAYAN

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Face to Face & Online

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THE SPATIAL PLANNING CONCEPT OF THE YOGYAKARTA PHILOSOPHICAL AXIS  
CORRIDOR IN SUPPORT OF SUSTAINABLE TOURISM

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**ABSTRACT**

This paper examines the spatial planning concept of the Yogyakarta Philosophical Axis corridor as a strategic framework for supporting sustainable tourism while preserving its Outstanding Universal Value as a UNESCO World Heritage site. The Yogyakarta Philosophical Axis, conceived in the eighteenth century by Sultan Hamengkubuwono I, represents a unique cultural landscape structured along a cosmological imaginary line extending approximately five kilometres from Panggung Krapyak in the south, through the Keraton Yogyakarta (the royal palace), to Tugu Pal Putih in the north. This axis encodes a deeply rooted Javanese philosophical worldview that reflects the harmonious relationship between humans, nature, and the Divine. It also embodies a symbolic narrative of the human life cycle—from origin, through worldly existence, to spiritual transcendence—making it not only a physical urban corridor but also an intangible cultural construct of exceptional significance.

Despite its recognition on the UNESCO World Heritage List in 2023, the corridor faces increasing challenges related to urban pressure, inconsistent spatial quality, and inadequate visitor infrastructure. These issues threaten both the physical integrity and the interpretive clarity of the axis as a coherent cultural landscape. In response, this study aims to achieve two main objectives: first, to elucidate the philosophical and spatial significance embedded within the axis and its constituent elements; and second, to formulate a spatial planning concept that aligns heritage conservation with sustainable tourism development. The research adopts a rationalistic-qualitative methodology, integrating theoretical synthesis with empirical fieldwork. Data collection methods include direct observation, architectural documentation, structured interviews, and a visitor perception survey based on the *Sapta Pesona* framework, involving 29 domestic tourists.

The study conceptualises the corridor as a sequence of three primary spatial zones: the Southern Zone (Panggung Krapyak to the Palace), the Central Zone (the Palace complex and its surroundings), and the Northern Zone (the Palace to Tugu Pal Putih). Each zone exhibits distinct spatial characteristics, levels of preservation, and visitor experience quality. The analysis reveals that while the Central Zone maintains high levels of authenticity and spatial coherence, the Northern and Southern Zones suffer from varying degrees of fragmentation, infrastructural inadequacy, and weak interpretive connectivity.

A key contribution of the study lies in its detailed interpretation of the axis's six principal elements: the Southern Sea (Laut Selatan), Cepuri Parangkusumo, Panggung Krapyak, the Keraton Yogyakarta, Tugu Pal Putih, and Mount Merapi. Together, these elements form a continuous cosmological narrative that must guide any spatial intervention. The Southern Sea symbolises origin and spiritual power, while Panggung Krapyak represents birth and the primordial state. The Keraton serves as the centre of human life and governance, and Tugu Pal Putih symbolises spiritual culmination and unity with the Divine. Mount Merapi, visible along the axis, represents both natural fertility and cosmic energy. This layered symbolism underscores the importance of preserving not only the physical alignment of the corridor but also its philosophical meaning.

The visitor perception survey provides important insights into the experiential quality of the corridor. While overall perceptions are generally positive, significant deficiencies are identified in specific dimensions, particularly safety and orderliness at Tugu Pal Putih and Panggung Krapyak. For example, Tugu Pal Putih is located at a busy road intersection without adequate pedestrian crossings, creating safety concerns for visitors. Similarly, Panggung Krapyak is surrounded by dense and incompatible

urban development, limiting both accessibility and visual appreciation. Another critical finding is the lack of public awareness regarding the axis as a unified cosmological sequence, with a substantial proportion of visitors unaware of its philosophical significance. This indicates a gap in heritage interpretation and communication that must be addressed through design and management strategies.

Based on these findings, the study proposes a comprehensive spatial planning concept grounded in two overarching principles: philosophical coherence and sustainable visitor experience. Philosophical coherence requires that all design interventions reinforce the underlying cosmological logic of the axis, ensuring that spatial modifications do not disrupt its symbolic meaning. Sustainable visitor experience focuses on improving measurable aspects of tourism quality—such as safety, comfort, and accessibility—while maintaining the integrity of the heritage site. These principles are operationalised through two key design strategies: the integration of green open space (ruang terbuka hijau) and the application of Javanese vernacular architectural elements, particularly joglo and pendopo structures.

In the Northern Zone, the proposed interventions aim to equalise the pedestrian environment, enhance cultural legibility, and introduce new public spaces. This includes redesigning the pedestrian infrastructure along Jalan P. Mangkubumi to match the high standards of Jalan Malioboro, incorporating wider sidewalks, shaded seating, street trees, and accessibility features. The introduction of pendopo pavilions serves both functional and symbolic purposes, providing rest areas, cultural spaces, and interpretive nodes that connect visitors to the philosophical narrative of the axis. Additionally, underutilised urban spaces are reimagined as heritage public gardens, contributing to both ecological sustainability and visitor experience.

In the Central Zone, the focus is on conservation and sensitive enhancement. Given its high level of authenticity, interventions are designed to support rather than transform the existing spatial structure. This includes maintaining traditional materials, preserving iconic landscape elements such as the beringin trees, and managing commercial activities to prevent encroachment. A key emphasis is placed on improving heritage interpretation through subtle and non-intrusive means, such as ground-based installations, multilingual signage, and structured visitor pathways that communicate the cosmological significance of the site.

The Southern Zone requires more transformative interventions due to its degraded spatial condition. The proposed design includes the creation of a heritage plaza around Panggung Krapyak, establishing a clear visual and spatial buffer that enhances its prominence and accessibility. Traffic management measures are introduced to improve safety, while new pedestrian infrastructure connects the zone to the broader corridor. The development of a Southern Cultural Gateway integrates visitor facilities, green space, and organised commercial areas, providing a structured and culturally coherent entry point to the axis.

Building upon these design proposals, the study further situates the Philosophical Axis within the broader framework of the Historic Urban Landscape (HUL) approach, emphasising the integration of heritage conservation with contemporary urban dynamics. In this perspective, the axis is understood as a living landscape shaped by ongoing social, economic, and environmental processes. Enhancing visitor engagement is therefore considered a key strategy for heritage preservation, as meaningful experiences foster greater public appreciation and stewardship.

Environmental considerations are also central to the proposed concept. The integration of green infrastructure not only reflects the symbolic connection between the axis and the natural world but also addresses urban microclimate challenges. The introduction of tree canopies, shaded pathways, and permeable surfaces contributes to thermal comfort, reduces heat island effects, and encourages pedestrian activity. This climate-responsive approach strengthens the corridor's role as both a cultural and ecological asset.

From a socio-economic perspective, the study advocates for the inclusive integration of local economic activities within the spatial design. Rather than displacing informal vendors, the concept proposes their reorganisation into designated areas that align with the corridor's architectural and cultural identity. This approach supports local livelihoods while enhancing spatial order and visual coherence.

Governance and stakeholder collaboration are identified as critical factors for successful implementation. Effective management of the corridor requires coordination among government agencies, heritage institutions, local communities, and private stakeholders. The study highlights the importance of regulatory frameworks, participatory planning processes, and public awareness initiatives in ensuring long-term sustainability.

The concept of connectivity—both physical and conceptual—is emphasised as a unifying principle. Physically, the corridor must function as a continuous and accessible pedestrian route. Conceptually, it must communicate a coherent narrative that links all elements of the axis into a meaningful cultural journey. Emerging technologies, such as augmented reality, are proposed as future tools to enhance interpretation and engagement, offering immersive ways for visitors to experience the historical and philosophical dimensions of the site.

In conclusion, the Yogyakarta Philosophical Axis represents a rare and complex cultural landscape where spatial form, philosophical meaning, and everyday life intersect. The proposed spatial planning concept demonstrates that sustainable tourism development can be achieved through an integrated approach that respects cultural authenticity while enhancing visitor experience. By combining green infrastructure, vernacular architectural principles, and improved pedestrian systems, the study provides a practical and theoretically grounded framework for managing the corridor as a World Heritage site. Future research should expand empirical data collection, incorporate international perspectives, and explore digital innovations to further strengthen the corridor's role as a model for sustainable heritage tourism.

**Keywords:** : Philosophical Axis; sustainable tourism; corridor spatial planning; Javanese architecture; Yogyakarta; UNESCO World Heritage.