



# **Sustainable Landscape Planning Approach in Urban Identity Protection**

**M. Emin Bariş<sup>a</sup> and Sara Zolnoun Kaygusiz<sup>a\*</sup>**

<sup>a</sup> *Department of Landscape Architecture, Faculty of Agriculture, Ankara University, Turkey.*

## **Authors' contributions**

*This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.*

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## **ABSTRACT**

Under the influence of rapidly changing global dynamics and urbanization, the unique identities of cities are in danger of being obscured by the monotony of uniform urban landscapes. In this context, emphasizing the critical importance of sustainable landscape planning, this article provides an in-depth perspective on how to preserve and contribute to the unique identities of cities. By considering different urban design approaches and techniques, the paper provides a detailed analysis of how sustainable landscape elements, ranging from natural vegetation conservation to modern stormwater management practices, can be incorporated into the urban landscape in an integrated manner. How these elements can act in synergy with a city's historical heritage, cultural values and ecological dynamics is explained with concrete examples. The findings reveal that sustainable landscape planning not only offers environmental benefits but also contributes to the revitalization of local culture and community pride by strengthening residents' attachment to the city. This also emphasizes the need to develop urban areas sustainably, not only physically but also emotionally and socio-culturally. It is therefore recommended that urban planners, architects and policymakers should adopt sustainable landscape planning approaches to preserve and enhance the distinctive identities of cities.

\*Corresponding author: E-mail: [sara.zolnoun@gmail.com](mailto:sara.zolnoun@gmail.com);

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## 1. INTRODUCTION

In the multifaceted field of urban planning, the concept of urban identity has long occupied an important place. Urban identity encompasses more than the physical and tangible aspects of a city; it integrates the intangible values, cultural nuances, histories and shared experiences that bind residents to their environment [1]. However, this identity faces threats in the era of rapid urbanization and globalization, and cities sometimes risk turning into homogeneous landscapes devoid of distinct character [2]. Parallel to the urban identity discourse, the emphasis on sustainability in urban planning is also increasing. The Brundtland Report defines sustainability as the capacity to "meet the needs of the present without compromising the ability of future generations to meet their own needs" [3]. This requires a holistic approach to urban planning that not only addresses economic and infrastructural development but also promotes ecological balance and cultural continuity.

The synthesis of these parallel discourses leads to the concept of sustainable landscape planning as a strategy for the preservation of urban identity. Proposed by Ndubisi, sustainable landscape planning advocates an integrative approach that encompasses ecological, socio-cultural and aesthetic considerations [4]. Given the dual imperatives of preserving the distinct character of urban areas and promoting sustainable development, there is a need to critically examine how sustainable landscape planning can be used strategically to preserve urban identity. This paper therefore explores the intersection of urban identity and sustainable landscape planning and identifies potential ways in which sustainable landscape strategies can support the preservation of urban identity.

## 2. DEFINITION AND ELEMENTS OF URBAN IDENTITY

As urban landscapes evolve, so does the quest to understand the key elements that make up their unique essence or identity. Urban identity is a complex construct encompassing the tangible and intangible qualities that define a city and distinguish it from others [5]. In essence, it is the collective understanding and recognition of a city's character and its distinctive physical, cultural or experiential elements. The basic

understanding of urban identity usually starts with physical elements. Landmarks, street layouts, open spaces and architectural styles are some of the tangible features that contribute to a city's unique image [1]. These structures and spaces function as markers of a city's evolution, embodying its historical narratives, cultural shifts and socio-economic developments over time [6]. For example, the Eiffel Tower in Paris and the Colosseum in Rome are not just architectural marvels; they play important roles in shaping urban identity by placing cities in historical contexts.

However, urban identity is not only based on physicality. Cultural practices, traditions, shared memories and histories contribute significantly to the identity matrix [2]. Cities are often described as melting pots of cultures where different ethnicities and communities come together, each leaving an indelible mark on the fabric of the city. The rhythms of daily life, festivals, culinary traditions and even dialects enrich the identity of the city, making it a living tapestry of experience [7]. However, the experiential dimension of urban identity goes beyond cultural expressions. Personal and collective memories, perceptions and emotions associated with urban spaces play an important role in shaping urban identity [8]. An alleyway may be remembered for live street performances, a square for a historic protest, or a bridge for romantic sunset views. These personal and collective memories, intertwined with tangible and cultural elements, solidify the city's identity in the collective consciousness.

According to Prohansky, Fabian and Kaminoff, the identity of a city as a place gains meaning at the intersection of personal identity, memories, thoughts, interpretations, ideas and feelings about specific physical locations [9]. By emphasizing a sense of belonging, they underline the interplay between a sense of place and its intrinsic identity. In addition, an interesting perspective suggests that for a place to be truly defined as a "place" it must be endowed with a special meaning. A "place" is thus the embodiment of both space and meaning, suggesting that a place's identity is constructed when it has character, significance and distinctiveness [10]. Relp's pioneering work in 1976 demonstrates the importance of place by examining human experiences associated with place [11]. Basing his explanations on primary

human behaviour, Relph attempts to distinguish between space and place. He argues that the quality of a place depends to a large extent on human thoughts, actions and experiences. This coincides with the idea that identity is not only about the distinctive characteristics of individual places but also about the common characteristics that different places may share. Cultural traits may manifest similarly across different geographies, and different cultural nuances may emerge in places that share physical similarities. Thus, the identity of a place develops through consistent similarities and convergences that are deeply influenced by people's interactions and experiences with that place.

Norberg-Schulz sheds light on the distinctive spirit of each place by arguing that the identity of a place emerges from certain imperatives [6]. The character of a place or space is a result of environmental factors, including its colour, texture and form. When these qualities come together, they create a characteristic ambience of the place. A place has a distinctive ambience or atmosphere. Factors such as climatic conditions, differences in sunlight between day and night, the colours they reveal, the textures they accentuate, the play of light and shadow, and the general condition of the buildings in the place come together to reflect the unique spirit of a city. This spirit is also influenced by environmental factors and becomes embedded in the individual's memory. Over time, inhabitants transfer their cultural nuances and lifestyles to the city, ensuring that the city has a lasting memory. Schulz further emphasizes the mutual influence between the identity of a place and the identity of an individual, arguing that the latter develops in response to the natural environment in which they live. This identity is manifested in the skills and habits that develop in relation to place [12].

Echoing Schulz's perspective, Bott, Cantrill and Myers emphasize the physical and cultural characteristics of a place and how these are seamlessly integrated through individual interactions and needs [13]. In Bott's identity approach, there is an acceptance of symbolic representations that depict unique and distinct symbols that are emotionally motivated. In place identity discourse, these symbols often represent the first impressions or experiences that one associates with a place upon first encounter [13]. As mentioned above, the discourse on urban identity reveals that defining this identity requires

a multifaceted approach. Urban identity is neither static nor singular; it is an amalgam of the physical contours of the city, its cultural heartbeat and the myriad of experiences it offers, constantly reshaping itself in an ever-evolving urban narrative.

### **3. THE IMPORTANCE OF URBAN IDENTITY**

Urban identity refers to the unique characteristics, values and image associated with a particular city. It encompasses the collective identity of residents as well as the external perception and reputation of the city. Urban identity plays an important role in shaping the social, cultural and economic development of a city. It affects how residents perceive and relate to their city, as well as how the city is perceived by outsiders [14]. An important aspect of city identity is the sense of belonging and attachment that residents feel to their city [15]. Research has shown that individuals with a strong civic identity are more likely to engage in pro-social behaviour, participate in community activities, and contribute to the overall well-being of the city [15]. Urban identity can also foster social cohesion and community resilience by promoting a sense of pride and collective memory among residents [16].

Moreover, city identity has a significant impact on tourism and economic development. A positive and distinctive city identity can attract tourists, investors and businesses, leading to increased economic opportunities and growth. Cities with a strong and well-defined identity often have a competitive advantage in attracting visitors and investment. For example, heritage cities that have preserved their historical and cultural identity can capitalize on their unique assets to attract tourists and generate revenue [17]. Urban identity is shaped not only by a city's physical features and landmarks but also by the social and cultural dynamics within it. Factors such as the diversity of the population, the presence of cultural institutions, and the availability of entertainment and leisure activities contribute to a vibrant and inclusive urban identity [18]. The creative class, including artists, designers and innovators, can also play an important role in co-creating and shaping a city's brand identity [19]. However, urban identity is not static and can change over time. Urban regeneration and development projects can influence the transformation of a city's identity [20]. For example, post-war reconstruction efforts can help

restore and redefine a city's urban identity [20]. Migration and demographic changes also affect urban identity, with new residents bringing their own cultural and social identities to the city [21].

#### **4. DEFINITION AND IMPORTANCE OF SUSTAINABLE LANDSCAPE PLANNING**

Sustainability is a widely discussed and studied concept in various fields, including urban planning, environmental science and corporate governance. However, the lack of consensus on a comprehensive definition of sustainability leads to ambiguity and different interpretations of the concept [22,23,24]. Sustainability can be understood as the continuous delivery of a program or intervention, maintaining desired outcomes over time, and the ability to adapt and respond to changing conditions [22]. It involves the integration of economic, social and environmental considerations to ensure the long-term well-being of individuals, communities and the planet [24,25]. Sustainability encompasses the principles of equity, justice and intergenerational responsibility [26]. In the context of cities, sustainability refers to the ability of urban areas to meet the needs of current and future generations while protecting and enhancing the natural and built environment [23,27]. Sustainable urban design involves promoting economic development and civic engagement. Sustainable cities strive to strike a balance between economic growth, social equity and environmental protection. It is important to note that sustainability is a dynamic and evolving concept. As societal values and priorities change, the understanding and interpretation of sustainability may also change [28].

Sustainable landscape planning is an emerging field that emphasizes the critical convergence of ecological integrity, societal needs and aesthetic appeal in the planning, design and management of space. According to Steiner, sustainable landscape planning is essentially a comprehensive approach that integrates ecological principles with land use planning [29]. It entails the conservation, restoration and enhancement of the natural environment while at the same time addressing the needs of the human population and ensuring that future generations can enjoy both the ecological and socio-cultural benefits of well-designed landscapes. It can be argued that the essence of sustainable landscape planning lies in a systemic perspective. Ahern argues that it takes into

account both biophysical and socio-economic systems and how they interact in a spatial context [30]. Instead of isolated interventions, this form of planning recognizes landscapes as dynamic systems and aims to ensure their resilience over time. The importance of sustainable landscape planning is becoming particularly evident in the contemporary era, characterized by rapid urbanization, habitat degradation and the increasing impacts of climate change. As noted by Forman & Godron, the need for a sustainable approach to landscape planning is driven by increasing anthropogenic pressures on land, resulting in habitat destruction, biodiversity decline, water scarcity and deterioration of human well-being [31]. These consequences are not only ecologically harmful but also jeopardize the socio-economic fabric of societies.

As Wu points out, sustainable landscape planning offers a promising way to balance development goals with ecological conservation [32]. By promoting resource-efficient practices, enhancing biodiversity, promoting local participation and ensuring adaptability, sustainable landscape planning offers opportunities to revitalize degraded landscapes, protect ecosystem services and improve the quality of life of residents. Sustainable landscape planning takes into account social and economic factors as well as ecological considerations. It aims to balance the needs of communities with the conservation of natural resources [33,34]. This includes promoting social equity, community participation and cultural preservation [35,36]. Sustainable landscape planning recognizes the importance of involving stakeholders in decision-making and taking their perspectives and aspirations into account [35,36]. It also aims to create opportunities for economic development and job creation while ensuring the long-term viability of the landscape [33].

The importance of sustainable landscape planning lies in its potential to create harmonious and resilient landscapes that benefit both people and the environment. By integrating ecological, social and economic considerations, sustainable landscape planning can contribute to biodiversity conservation, natural resource protection and the enhancement of ecosystem services [33]. It can also improve the quality of life of communities by providing access to green spaces, recreational opportunities and cultural heritage. Furthermore, sustainable landscape planning can contribute to climate change adaptation and mitigation efforts

by promoting sustainable land use practices and reducing greenhouse gas emissions [34].

## **5. SUSTAINABLE LANDSCAPE PLANNING APPROACHES**

Sustainability is a multifaceted term that has been extensively researched in various academic fields ranging from urban planning to environmental science and corporate governance. Despite being widely discussed, a common and comprehensive definition of sustainability seems to be elusive, leading to different interpretations of the concept across disciplines [22,23]. In essence, sustainability can be defined as the continuous achievement and delivery of desired outcomes, demonstrating resilience and adaptability to changing conditions over time [22]. Such an approach requires bringing together economic, social and environmental aspects to ensure lasting prosperity for individuals, wider communities and the wider environment [24]. At the heart of sustainability principles are the themes of equity, justice and responsibility towards future generations [26].

Extending to urban contexts, sustainability relates to the ability of urban centres to adequately meet the needs of current residents while preserving and enhancing both their natural and built environments for future generations. Beyond mere conservation, sustainable urban design integrates economic incentives and active civic engagement. The overall goal is to harmoniously weave economic progress, social inclusion and sound environmental safeguards. It is important to understand sustainability as a fluid concept, open to changing interpretations as societal perspectives and priorities shift over time [28]. At the intersection of ecological conservation, social requirements and aesthetic concerns, the field of sustainable landscape planning emerges. As Steiner explains, this is a holistic approach that combines ecological principles with principles of space-use planning [29]. The essence of this endeavor is not only to protect the environment but also to do so while addressing contemporary human needs and ensuring a sustainable legacy of both environmental and socio-cultural richness for future generations.

Going back to its philosophical roots, the essence of sustainable landscape planning can be perceived as a systemic lens. As Ahern puts it, such a perspective comprehensively considers

the interaction between biophysical landscapes and socio-economic matrices within spatial frameworks [30]. Rather than a series of isolated solutions, sustainable landscape planning interprets landscapes as dynamic ecosystems and focuses on enhancing their long-term resilience. Given rapid urban sprawl, environmental degradation and the exacerbating effects of climate change, the urgency of sustainable landscape strategies is evident. Anthropogenic activities have increased pressure on natural habitats, causing ecological damage, biodiversity erosion, water crises and jeopardizing human well-being [31]. Such harmful consequences not only lead to ecological destruction but can also weaken the socio-economic structures that underpin societies.

Wu emphasizes that sustainable landscape planning is emerging as an optimistic way to reconcile development goals with ecological imperatives [32]. This entails advocating resource prudence, biodiversity enhancement, grassroots participation and adaptive strategies, paving the way for rejuvenating damaged landscapes, preserving vital ecosystem functions and raising human living standards. In addition to ecological aspects, sustainable landscape planning is deeply intertwined with socio-economic aspects. It seeks a balance between societal expectations and the imperatives of natural resource conservation [33]. Integral to this process are the principles of social equity, community participation and cultural preservation, which emphasize the important role of stakeholder engagement in informed decision-making [37]. It also promotes opportunities for economic growth while ensuring the long-term environmental viability of regions.

In short, sustainable landscape planning promises to create resilient and adaptive places that are beneficial for both people and the wider environment. By integrating the triad of ecological, social and economic considerations, it can ensure biodiversity conservation, the wise use of natural resources and the strengthening of ecosystem services. It goes beyond conservation by improving the quality of community life through access to green spaces, recreational opportunities and cultural landmarks. It can also play an important role in climate change mitigation by promoting sustainable land use and reducing greenhouse gas footprints [33].

## 6. SUSTAINABLE LANDSCAPE COMPONENTS

The components of a sustainable landscape can vary depending on the context and objectives of a particular landscape project. However, there are a few key components that are commonly considered in sustainable landscape planning. These components are as follows:

1. **Ecological Integrity:** Sustainable landscapes prioritize the conservation and enhancement of ecological systems and biodiversity [38]. This includes protecting and restoring natural habitats, conserving native plant and animal species, and promoting ecological connectivity.
2. **Water Management:** Sustainable landscapes include some strategies for efficient water use and management. These include implementing rainwater harvesting systems, using drought-tolerant plants, and minimizing runoff and pollution [39].
3. **Soil Health:** Sustainable landscapes focus on maintaining and improving soil health (Sekban & Düzgüneş, 2021). Practices such as soil conservation, organic matter management and minimizing soil erosion are included in this scope [39].
4. **Energy Efficiency:** Sustainable landscapes aim to reduce energy consumption and promote energy efficiency. Energy-efficient lighting can be achieved by using renewable energy sources and design strategies that optimize natural ventilation and shading [40].
5. **Sustainable Materials:** Sustainable landscapes prioritize the use of environmentally friendly and locally sourced materials. For example, selecting materials with low embodied energy, using recycled or reclaimed materials, and minimizing waste generation are some of them [39].
6. **Social and Cultural Considerations:** Sustainable landscapes take into account the needs and aspirations of communities that interact with the landscape. Therefore, social equity, cultural preservation and community participation are promoted [41].
7. **Multifunctionality:** Sustainable landscapes are designed to serve multiple functions and provide a range of benefits. These include providing recreational opportunities, supporting local food production and enhancing ecosystem

services such as pollination and carbon sequestration [33].

8. **Resilience:** Sustainable landscapes are designed to be resilient in the face of environmental and social change. Therefore, the impacts of climate change should be considered, adaptive management strategies should be implemented, and biodiversity and ecosystem resilience should be promoted [42].
9. **Stakeholder Engagement:** Sustainable landscapes involve the active participation and collaboration of stakeholders throughout the planning and implementation process. This includes involving local communities, landowners and relevant organizations to ensure that diverse perspectives and information are taken into account [33].
10. **Long-term management and maintenance:** Sustainable landscapes require ongoing management and maintenance to ensure their continued sustainability. This includes implementing necessary maintenance practices, monitoring the performance of landscape elements and adapting management strategies when necessary [43].

It is important to note that the components of a sustainable landscape can vary depending on the specific objectives, context and local conditions of the landscape project. Therefore, it is crucial to consider the specific characteristics and requirements of each landscape when developing a sustainable landscape plan.

## 7. RELATIONSHIP BETWEEN URBAN IDENTITY AND SUSTAINABLE LANDSCAPE

Urban identity and sustainable landscape practices are increasingly coming together in modern urban planning and design discourses. The convergence of these two concepts reflects a growing recognition that cities and urban areas not only serve functional roles but also profoundly influence and are influenced by the socio-cultural fabric of societies. As urban areas around the world grapple with issues such as population growth, environmental degradation and climate change, the interaction between urban identity and sustainable landscape design has emerged as a vital area of study and practice. Urban identity can be understood as the unique character and sense of place that

distinguishes one urban environment from another. This identity is shaped by a multitude of factors such as historical context, architectural styles, cultural landmarks, social interactions and collective memories. In essence, urban identity encapsulates the distinctive spirit or personality of a city and offers its residents a shared sense of belonging and continuity [44].

On the other hand, sustainable landscape practices emphasize ecological health, resilience, social equity and economic viability. As cities expand and transform, the need to weave sustainability principles into the fabric of urban design and planning becomes paramount. Sustainable landscapes not only counteract environmental degradation but also contribute to the overall well-being and quality of life of urban residents [45]. Urban identity and sustainable landscapes are closely linked, and understanding their relationship is crucial for promoting sustainable urban development. Urbanization has led to significant changes in landscape patterns, resulting in landscape degradation, urban sprawl and loss of cultural identities [46]. These unsustainable landscapes not only have negative impacts on ecosystem function and services but also pose a threat to human health and well-being [47]. Therefore, it is of great importance to explore strategies that contribute to the sustainability of the urban landscape.

Nature-based solutions (NBS) have been identified as a potential approach to improve urban landscape sustainability. NBS can contribute to environmental, sociocultural and economic indicators of urban landscape sustainability [47]. By applying NBS, urban landscapes can become more sustainable by adapting to ecological and climatic conditions. NBS can also help to efficiently utilize resources and address key challenges facing societies while ensuring individual well-being [47]. In addition, the NBS can play a role in controlling urban expansion and protecting ecological space, which is crucial for sustainable urban development [48]. In addition to NBS, the concept of Historic Urban Landscape has also gained importance in urban conservation discourse. Historic Urban Landscape enhances local identity and contributes to urban sustainability by recognizing the connections between past, present and future. Collaborating with local communities in setting improvement priorities for historic urban landscapes can further enhance the cultural and social aspects of urban landscapes based on residents'

satisfaction. This approach recognizes the interdependence between people and landscape, seeing the urban landscape as a reflection of residents' values and aspirations [49].

Strategic planning and management are essential to achieve sustainable urban landscapes. Strategic urban landscape planning can help protect the environment, improve human comfort and promote sustainable development [50]. Effective urban management with community participation plays an important role in comprehensive planning and environmental control [36]. Landscape architects have an important role in bringing people, structures, activities and communities together in harmony with the living world (Soemardiono and Gusma, 2014). Their work covers a variety of fields, including environmental planning, the design of public spaces and parks, and the remediation of abandoned areas [51]. Understanding the spatio-temporal patterns of urbanization is also crucial for promoting urban sustainability. Urbanization is a complex process that involves shifting dominance between different modes of urban growth, such as infill, boundary expansion, and sprawl [46]. Urbanization patterns and processes have profound impacts on the ecology, planning, and sustainability of cities. By analyzing the spatial integration patterns of urban agglomerations, it is possible to gain insights into sustainable regional development and urban planning [48]. Measuring the integration characteristics of urban agglomerations can provide scientific support for urban landscape planning [48].

## **8. CONTRIBUTIONS OF SUSTAINABLE LANDSCAPES TO URBAN IDENTITY**

Cities are continuously shaped over time by a variety of socio-economic, political and ecological forces. As urban environments have evolved, the importance of landscape, particularly sustainable landscapes, in creating a distinctive urban identity has increased [52]. Sustainable landscapes can enrich a city's identity by protecting and showcasing its unique natural and cultural heritage, promoting a sense of place and belonging among residents, and attracting visitors and investment. In addition, sustainable landscapes can contribute to the overall well-being and quality of life of urban residents by providing recreational spaces, improving air and water quality, and mitigating the effects of climate change.

One of the most important contributions of sustainable landscapes to urban identity is the protection and promotion of a city's natural and cultural heritage. Sustainable landscapes can serve as living museums that preserve and showcase a city's unique flora, fauna and geological features. This can foster a sense of pride and connection with the natural environment among residents and attract tourists who want to experience the city's unique biodiversity. For example, in Yantai, China, landscape identity is shaped by natural features such as mountains, rivers and coastlines that are protected and integrated into the urban fabric [53]. Similarly, in Anuradhapura, Sri Lanka, urban agriculture is used to build a healthy and sustainable city that reflects local Buddhist culture and values [37]. In addition to preserving natural heritage, sustainable landscapes can also contribute to a city's cultural identity. By incorporating elements of local art, architecture and design, sustainable landscapes can reflect and promote a city's unique cultural traditions and history. For example, in Newcastle, Australia, the gentrification and revitalization of inner-city areas have transformed the city's identity from a "troubled city" to a more cosmopolitan and vibrant place [54]. This transformation is reflected in the emergence of more cosmopolitan landscapes within the city that capitalize on the cultural diversity and creativity of its inhabitants.

Furthermore, sustainable landscapes can contribute to a sense of place and belonging among urban residents. Sustainable landscapes create opportunities for social interaction, recreation and community engagement by providing accessible and well-designed public spaces such as parks, plazas and waterfronts. These spaces can serve as gathering places for residents, fostering a sense of community and belonging. For example, integrating water as a unified natural element into urban master planning visions leads to a more sustainable future for cities globally, while also improving livability and sense of place for residents [55]. Similarly, the concept of biophilic urban development emphasizes the importance of connecting urban dwellers with nature through the design of green spaces and the integration of natural elements into the built environment [56].

Furthermore, sustainable landscapes can contribute to the overall well-being and quality of life of urban residents. By improving air and water quality, reducing noise pollution and

providing opportunities for physical activity and relaxation, sustainable landscapes can have positive impacts on the physical and mental health of urban residents. For example, the protection and restoration of urban wetlands can help reduce the environmental impacts of urbanization while providing important ecosystem services such as water filtration and flood control [57]. Similarly, the integration of green infrastructure such as urban forests and green roofs can help regulate temperature, reduce energy consumption and improve air quality in cities [56]. Thus, sustainable landscapes play an important role in shaping a city's identity. By protecting and showcasing a city's natural and cultural heritage, promoting a sense of place and belonging, and enhancing the well-being of residents, sustainable landscapes contribute to the overall sustainability and liveability of cities. These contributions are important for creating cities that are not only environmentally and socially sustainable but also culturally vibrant and resilient.

## **9. EXAMPLES OF SUSTAINABLE LANDSCAPE PRACTICES IN URBAN IDENTITY PRESERVATION**

Sustainable landscape practices play an important role in preserving and enhancing urban identity. These practices contribute to preserving cultural heritage, integrating nature into the urban fabric and promoting sustainable development. Thanks to sustainable landscape practices, cities can preserve their unique character, improve the quality of life of their inhabitants and attract visitors. Various examples of sustainable landscape practices in preserving urban identity are discussed below. A prominent example of these practices can be seen in Melbourne, Australia. The city has integrated sustainable water management landscapes, including rain gardens and permeable pavements, to maintain its urban identity in the face of rapid urban development. These practices not only combat urban flooding but also reflect Melbourne's history tied to waterways, thus reinforcing a unique connection to its natural heritage [58]. Similarly, Portland, Oregon's commitment to sustainable urban landscapes demonstrates its ethos of green living and community wellbeing. The city's "Green Streets" program, which involves the strategic placement of vegetation to manage stormwater, has become a distinctive feature of its urban identity. By interweaving functionality and aesthetics, Portland has solidified its identity as a leading green city [59].



In Europe, Copenhagen's goal of becoming a carbon-neutral city by 2025 is well known. Central to this goal is the city's sustainable landscape design, which includes extensive green roofs, urban forests and eco-parks. These initiatives aim to increase biodiversity, improve air quality and reduce the urban heat island effect. They serve as powerful symbols of Copenhagen's commitment to environmental stewardship and reinforce its identity as a pioneer in sustainability [60]. The "Superkilen" park in Copenhagen is particularly noteworthy. Embracing multiculturalism, this urban space has integrated sustainable landscape designs from around the world to represent the diverse communities living in its surroundings. It is a testament to how sustainable landscapes can be utilized to celebrate cultural diversity and enhance community identity [61].

Seoul, South Korea provides another compelling example with the transformation of the Cheonggyecheon stream. Once lined with elevated highways, this waterway has been restored using sustainable landscaping techniques and transformed into a vibrant urban oasis. The revitalization of Cheonggyecheon not only promoted environmental well-being but also reconnected residents to their historical roots and shared identity [62]. These examples therefore underline the profound impact of sustainable landscapes on the preservation of urban identity. Through innovative designs and practices, cities can preserve and even enhance their distinctive character, allowing their unique identity to flourish in the face of the challenges of the modern world.

## **10. CONCLUSION**

The link between urban identity and sustainable landscape planning is emerging as a cornerstone of contemporary urban development discourse. As urban environments develop rapidly, the need to preserve their distinctive cultural, historical and social traces while adhering to the principles of environmental sustainability has become paramount. This research underscores that the preservation of urban identity is not just a nostalgic endeavour, but rather an essential component that can enhance community consciousness, promote economic development, and foster a sense of belonging. As explained throughout this study, sustainable landscape planning plays an important role in achieving this balance. It advocates a symbiotic relationship

between nature and urban forms, creating spaces that resonate with the historical and socio-cultural essence of the urban environment while ensuring ecological resilience. The approaches highlighted, from the inclusion of native vegetation to the prioritization of local materials and the promotion of community-oriented design processes, demonstrate the broad potential of sustainable landscape planning as both a protector and enhancer of urban identity.

Furthermore, the participatory nature of sustainable landscape planning ensures that the local community remains at the centre of decision-making processes. This inclusiveness not only validates the lived experiences of the inhabitants but also ensures that the implemented designs are deeply embedded in the distinctive character of the urban area. In conclusion, this paper argues that in an era of global homogenization, for cities to truly thrive and retain their unique identities, sustainable landscape planning principles must be carefully and consciously integrated. Only through such an integrated approach can urban areas celebrate their uniqueness while charting a sustainable future. As urbanization pressures and environmental challenges continue to intersect, the insights from this study are not only timely but also important for forward-thinking urban planning paradigms. In light of the complex relationship between sustainable landscape planning and urban identity preservation, several actionable recommendations are emerging that can guide policymakers, urban planners and community stakeholders. These recommendations aim to support the preservation of unique urban identities while ensuring that sustainable landscape planning principles are harmoniously integrated into urban development efforts.

**Strengthening Policy Frameworks:** Local and national governments must develop policy frameworks that prioritize the dual goals of sustainability and preservation of urban identity. Policies should encourage the use of local vegetation, promote water conservation and encourage buildings that incorporate local architectural traditions.

**Enhanced Collaborative Efforts:** Collaboration between urban planners, ecologists, historians, and community representatives can result in holistic landscape plans that match the unique character of the urban area. Interdisciplinary

approaches can lead to richer, more informed results.

**Community Engagement:** The local community must be recognized and heard. Participatory design processes where communities are actively involved from conception to implementation will ensure that urban areas reflect the collective memory and aspirations of their residents.

**Education and Awareness:** There is a need to raise awareness among residents about the importance of preserving urban identity while embracing sustainability. Initiatives focusing on the education component can foster a sense of responsibility among citizens, making conservation efforts more sustainable.

**Infrastructure Investments:** Governments and municipalities should invest in green infrastructure projects that prioritize both ecological resilience and cultural preservation. Such initiatives, such as green corridors or urban parks with historic elements, can serve as models for future urban areas.

**Research:** Continued research on the symbiotic relationship between sustainable landscapes and urban identity is crucial. Documenting successful case studies can serve as a beacon for other urban centres by providing concrete pathways for integration.

**Promote Sustainable Practices:** Governments should offer incentives, such as tax breaks or grants, to encourage developers and homeowners to adopt sustainable landscape planning that reflects local urban identity.

By adhering to and implementing these recommendations, cities can create a future that does not require them to sacrifice their unique identity for development. Instead, cities can pave the way for urban futures that build on their historical and cultural heritage while adapting to the imperatives of environmental sustainability.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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