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Research Article

Evaluating the Urban Aesthetics of Abuja Central Business District (CBD) Using the Townscape Assessment Method

Jideofor Akubue^{1*}, Chinwe Sam-Amobi¹, Ozoemenam Onyedibe¹

¹Department of Architecture, Baze University, Abuja, Nigeria

*Correspondence: akjideofor@yahoo.com

Abstract

The original master plan of Abuja city was designed as a pilot concept for developing a sustainable city ideology in Nigerian cities. While the city is regarded as one of the fastest-growing cities in the world, its master plan was designed to reflect the modern global trends in urban planning and development. Despite these efforts, current status reveals a city that is degenerating aesthetically beyond the original concepts owing to rapid population growth, master plan contraventions and land use regulation defaults. This study aims to identify the implications of factors like land-use alterations, physical development contraventions, lack of green spaces, poor urban landscaping and proliferation of unregulated activities in major districts within the city. It analyses the Central Business District of the city using Townscape assessment of core indicators, which includes a series of features like environmental conditions, land-use disposition, green spaces, water elements and urban furniture. These features were evaluated using field surveys and visual assessment analysis. The result of the study highlights the significance of integrating urban aesthetics into urban planning processes in order to ensure the sustainability of attractive urban spaces. This study further recommends the adoption of this assessment process as a component for monitoring the performance of urban districts, with major focus on improving the quality of urban environments. Government agencies and local administrators may adopt streamlined versions of Townscape Assessment methods, which may be tailored to suit the intended objectives of city or regional authorities

Keywords: Abuja city, townscape, townscape assessment, urban aesthetics, urban design

Highlights

- Urban aesthetics significantly impact planning and sustainability of attractive urban spaces
- Used qualitative/visual assessment with townscape indicators to analyse aesthetic standards
- Selected indicators are environmental/land use, green spaces, water and urban furniture

1 Introduction

Hypothetically, environments are divided into two major contexts, namely the natural environments and the constructed environments (Fátima, 2024). In the Nigerian context, the most significant and complexly constructed environments regarded as the urban environments (which include cities and metropolitan regions) are often treated as the central focus for exuding beauty and opulence, with excellently designed architectural features displayed in modern housing designs, office blocks and worship centres (Adebayo, 2002). Conversely, the disregarded environmental aesthetics in general, which include natural environmental aesthetics (or the aesthetics of nature), are often given lesser attention in the conceptualisation of urban aesthetics (Gobster et al., 2007).

According to Ayub (2024), the nature of the built environment is considered as integral to the attractiveness of cities. The morphological character of a city emanates from single building units, compounds, blocks, open spaces and street networks. Naturally, the views perceived from the streets of a city often define the aesthetic character of the city. Thus, city fabrics are defined by the architecture of the entire built environment, ranging from the individual building forms, collective-estate built forms, street profiles and city blocks (Li & Shan 2026). These combined elements form the major creative context delivered by architects whose architectural attributes contribute to the realisation of aesthetically pleasing streets and cityscapes.

The concept of urban aesthetics originated through the works of architects like Camillo Sitte in the 13th century. This concept refers to the practice in city planning that deals with expression of beauty, coherence, identity and character through architectural practice, spatial organisation and cultural symbolism (Hastaoglu-Martinidis, 2011). While this concept has been adopted significantly in the development of major European cities like Paris and Vienna, its application in Africa is mostly impeded through the escalation of policy contraventions and unregulated development (Asif, 2026). These adverse situations are mostly found in emerging cities like Abuja and Lagos, where building construction or land alteration done without necessary permits, approvals, or regulatory oversight is rife. This scenario is significantly connected to rapid urbanisation, informal building developments, and urban blight (Unah, 2025).

Studies by Blazeska, Milenkovski & Gramatnikovski (2015) suggest that visual attractiveness, especially with regard to the urban visual appeal, plays a key role in promoting economic development through the attraction of tourists and investors as well as enhancing the overall quality of life for residents and visitors. With the presence of scenic streets and iconic landmarks, visitors are drawn in swarms to these environments, which further contribute significantly to the development of hospitality industries, real estate and cultural attractions (Zhou, Zhang & Zhu, 2025). Similarly, visually compelling urban environments not only boost the image of a city on a global scale but also strengthen its economic competitiveness (Zawadzka, 2021). Planners and designers of cities are often tasked with the role of balancing urban aesthetics and the critical roles of infrastructure development, coupled with the provision of a satisfactory quality of life for its inhabitants. This task also stretches into the harmonisation of land uses, preservation of open spaces, environmental protection, maintenance of ecological aesthetics and promotion of social diversity (Davison, 2017). Adopting measures such as land use acts, zoning laws, building codes, and guidelines often helps achieve urban planning goals. These measures are fundamentally established to manage urban development as well as control disorderly growth and ultimately configure the visual and functional character of cities for the purposes of protecting public welfare and orderly/attractive urban environments (Okimiji et al., 2025).

The origin of today's urban aesthetics dates back to such a classic work entitled "Contemporary Aesthetics and the Neglect of Natural Beauty" written by Hepburn (1984). In that era, the dominant Western aesthetics that championed the origins of the townscape campaigns had almost been equalised with the "philosophy of art". Hepburn's paper focused principally on the elements of natural beauty while demonstrating the significance of applying philosophical investigation to the aesthetic experience of the world beyond the artwork. Thereafter, the natural environment became increasingly important in Western aesthetics (Hepburn, 1984). Most Nigerian cities, having been conceived on renowned city design models, are suffering from the effects of years of weak zoning ordinances, building codes, environmental inclusiveness and other regulatory vices that end up creating disorderly, colourless and unsavoury cities rather than centres of attraction (Ogunkan et al., 2025).

Historically, urban planning restrictions were established to regulate building development relative to urban aesthetics, which may include restrictions that impact alteration of land uses as well as alteration of building and city plans that would require consultation with local authorities. However, this is often not the case in emerging cities of third-world countries like Nigeria, where issues of physical development contraventions are rife (Bashua et al., 2025). With its rapidly growing population, rundown infrastructure, poor waste management and weak regulatory structures, the aesthetic values of Nigerian cities are declining (Ibrahim & Mai, 2020). Factors mostly regarded as responsible for this decline include uncontrolled commercialisation, land-use encroachment into public spaces, absence of green spaces, poor urban landscaping policies and the proliferation of unregulated activities like street trading, which contribute to the loss of the visual appeal of these cities (Abubakar & Doan, 2017). Studies further show that informal settlements and lack of adequate enforcement of urban zoning laws contribute to this decline in urban beautification (Okonkwo et al., 2025), whereas proper planning and adherence to regulations ensure a successful urban development while maintaining safety, usability, and urban aesthetic standards (Dhanaraj & Angadi, 2022). Instances of cities like Kigali in Africa and Singapore in Asia demonstrate that the adoption of global best practices improves the value of urban aesthetics when governments make sustainable development policies a priority in urban development (Arimah & Adeagbo, 2000). Based on these tenets, this paper aims to study the effects of these factors responsible for the decline of urban aesthetic values in Abuja City CBD.

1.1 Problem Statement

The initial concept of Abuja city as conceived by Kenzo Tange was for an urban design of a Central Business District with a proposal for its growth and development into a 21st-century city. This initial concept was to be a pilot for a series of urban designs across the nation (IPA, 1979). However, malfeasant practices of city officials, which neglected professional architectural inputs that may adopt theories like townscape assessment, became predominant, thus resulting in the growth of districts without proper aesthetical monitoring. Today what purports to be the Abuja urban design model is simply a plot-sharing process masterminded by both planners and surveyors. The outcome of this situation is the observed degeneration of numerous districts. The major factor responsible for the degeneration may be attributable to informal land-use conversion, environmental and land-use contraventions and improper development of the original master plan (Enoguanbhor et al., 2021). The impact of these conditions results in the general deterioration of the urban aesthetics of the nation's capital city. The actions of neglect and disregard for the health of the urban fabric as a persistent situation may result in the loss of the genial appeal being accorded to the nation's capital city.

1.2 Aim and Objectives of the Study

The major significance of this study lies in identifying the urban attractiveness quality of Abuja CBD relative to urban aesthetic conditions using Townscape Assessment (TA). Townscape assessment components highlight the importance of integrating urban aesthetics into urban planning processes. Thus, the study's intention is to draw a relationship between uncontrolled urban developments and city attractiveness. The major objectives of the study are as follows:

- To examine the key factors influencing urban aesthetics in the CBD
- To analyse the effects of these key factors, like informal land use and alterations, on the urban aesthetics of the CBD using townscape assessment
- To identify the effects of the quality of development of urban features like green spaces, water elements and urban furniture on the urban aesthetics of Abuja CBD

2 Literature Review

The study by Bashua, Dare-Abel, Daramola & Ajayi (2025) shows that urban planning restrictions were established to regulate building development relative to urban aesthetics. These include restrictions that impact the alteration of land uses as well as the alteration of building and city plans that would require consultation with local authorities (Bashua et al., 2025). With its rapidly growing population, rundown infrastructure, poor waste management and weak regulatory structures, the aesthetic values of Nigerian cities are declining (Abubakar & Doan, 2017; Okonkwo et al., 2025). Conversely, informal settlements and lack of adequate enforcement of urban zoning laws contribute to this decline in urban beautification (Dhanaraj & Angadi, 2022), whereas proper planning and adherence to regulations ensure a successful urban development while maintaining safety, usability, and urban aesthetic standards (Arimah & Adeogbo, 2000). Owing to these outcomes, this paper aims to study the effects of these factors responsible for the decline of urban aesthetic values in Abuja City's CBD.

2.1 Key Theories

The major theories that underpin the study of urban attractiveness are the townscape theory and urban aesthetics. These two are intertwined concepts in urban design with a specific focus on the visual appeal and emotional impact of our surroundings. Whereas Townscape deals with the arrangement of urban elements like streets, buildings and spaces for better perception (Damayanti, Kossak, & Nurdiah, 2020), Urban Aesthetics, on the other hand, philosophically examines beauty and value in all environments, while bridging the gaps between art, ecology and the human experience to create meaningful, attractive and functional places (Elbaz & Alfasi, 2026). The nexus between these two ideologies relative to the development of a city may be attributable to the 'Vitruvian Triad', where utility (functionality), stability and aesthetics combine to form a wholesome city design (Zotic & Alexandru, 2013). Fundamentally, the Townscape ideology provides the specifics of "how to" make cities look good through the arrangement of their physical parts, and urban aesthetics offers the necessities for "why" this should be done by exploring the deeper feelings and values that are derivable from natural or built spaces in the city (Taylor, 1999; Pendlebury, 2025).

2.1.1 Urban Aesthetics

The term 'urban aesthetics' refers to the practice in city planning that deals with the expression of beauty, coherence, identity and character of a place through architectural practice, spatial organisation and cultural symbolism (Hastaoglou-Martinidis, 2011). It examines the relationship between the human experience, art and functionality within urban environments as a nexus towards understanding the roles of aesthetics in shaping environmental sustainability, social cohesion and human wellbeing during urban planning (Akramov, 2025). Studies reveal the shift in the practice of urban planning from the late 19th century towards the adoption of artistic ideologies of design became manifest all across Europe, which deviated from the common practice of design by simply carving out street openings within the regulation plans.

This novel approach was witnessed in various European countries expressing the concerns of architects and planners for an aesthetic dimension to the city, thus signalling the birth of the genuine art of spaces. Architects like Camillo Sitte are credited for the acts of re-establishing town planning away from engineers to architects by conceiving cities as products of 3-dimensional networks between public spaces (Hastaoglou-Martinidis, 2011). Sitte's description of the architect as champion and master of aesthetics irrespective of utility/functionality enabled the notion that the architect must be engaged in urban planning, which he considered an aesthetic task rather than just a technical task during the course of urban space design. With the acceleration of urbanisation globally, aesthetic aspects of urban centres have become increasingly crucial in realising sustainability, liveability and overall psychological comfort of human occupants (Hebe et al., 2025). This paper, therefore, believes that urban aesthetics has become a key aspect of urban architecture and urban design which must be implemented in order to enhance urban aesthetic values within spaces in urban areas.

2.1.2 Townscape Theory

Townscape theory is an urban design philosophy that emphasises the visual and emotional experience of cities (Cullen, 1971). The townscape concept can be regarded as a basis for architects and planners to channel the emotional focus of observers to the appearance of the city (Damayanti et al., 2020). The concept comprehends that the physical form of urban spaces is influenced and determined by the shape and mass of the buildings and the ambience of its environment. The townscape ideology creates a nexus which is only perceived psychologically and physically by the observer relative to the shape and arrangement of urban spaces (Reeve et al., 2007). The theory emphasises the establishment of a sense of place through organised placement of spaces, buildings and streets by adopting elements like focal points and the serial vision and comprehension of how people perceive places in order to evoke emotion that transforms cities into more meaningful and engaging environments. The theory emphasises the establishment of a sense of place through organised placement of spaces, buildings and streets by adopting elements like focal points and the serial vision and comprehension of how people perceive places in order to evoke emotion that transforms cities into more meaningful and engaging environments (Buchanan, 1994; Nute, 2021).

In the book *Concise Townscape*, Gordon Cullen emphasised the key contexts for experiencing urban centres as optics, place, and content (Damayanti et al., 2020). While 'optics' is associated with the human visual ability to enjoy scenic views, beautiful sequences and movements, they can also feel these experiences while walking through spaces in the streets. 'Place' relates to the quality of urban spaces and feelings of the environment. 'Content', on the other hand, relates to the details of urban space with

regard to elements like colour, texture, style, scale and distinctiveness. Studies by Anthony Raynsford, in the text "Urban contrast and Neo-Toryism", which centred on the social and political symbolism of the Townscape campaign by Architectural Review, traced the roots and growth of Townscape ideologies chronologically as a political and social project that is linked to the history of British planning theories (Raynsford, 2015). The study contended that Townscape theorised an anti-collectivist society model that is bound together through a composite ecology of personalised differences that are developed according to individual distinctive cultural character or bias rather than through a consensus of viewpoints. It posited that the townscape ideologies naturalised these differences and biases through a tripartite model that links social classes with a symbolic construct of society expressed as nature. Acknowledging the significance of these political and social symbolisms permits the redefinition of Townscape's restructuring of social complexities (Andrew, 2004).

The theoretical constructs drawn from Townscape ideology form a collection of approaches applicable in urban design studies that originate from human visual perception to solve urban spatial problems. In the urban planning process, townscape character assessments lead to the understanding of a city's value by providing ideal indicators for evaluation and managing development. These indicators range from architectural styles, street features, landmarks, green spaces and environmental appeal, which contribute to people's perception of the city (Ricardo da Costa et al., 2025). Further studies identified such indicators for scoring townscape quality in Townscape Assessment (TA) as environmental awareness, street furniture, green spaces (vegetation), building character, building maintenance, selected features like water bodies and water spaces, playgrounds, public eating facilities, public toilets, skylines, street quality, boundary maintenance, functional diversity, pedestrian environment, community compliances, etc. (Reeve et al., 2007).

2.2 Knowledge Gaps and Research Opportunities

Studies by Anthony Raynsford, in the text "Urban contrast and Neo-Toryism", which centred on the social and political symbolism of the Townscape campaign by Architectural Review, traced the roots and growth of Townscape ideologies chronologically as a political and social project that is linked to the history of British planning theories (Raynsford, 2015). The study contended that Townscape theorised an anti-collectivist society model that is bound together through a composite ecology of personalised differences that are developed according to individual distinctive cultural character or bias rather than through a consensus of viewpoints. Acknowledging the significance of these political and social symbolisms permits the redefinition of Townscape's restructuring of social complexities (Andrew, 2004). These theoretical constructs, drawn from Townscape ideology, form a collection of approaches applicable in urban design studies that originates from human visual perception to solve urban spatial problems. While Townscape as a theory has been inactive in general academic context since the 1970s down to the beginning of the 21st century, its application has become of significant value in monitoring and control of rapid urbanisation and globalisation. Though likened to the concept and definition of "landscape", which is described through an artist's eyes as not only the representation of individual objects perceived on a piece of land, it visualises the whole elements on the land together within the characteristics of aesthetic values. This suggests that the primary objective of Townscapes is the representation of urban attractiveness or aesthetics (Shuyun & Cristian, 2026).

Whereas studies by Raynsford (2015), Andrew (2004) and Pendlebury (2025) all demonstrated Townscape as a movement adopted in the campaigns for the

modernisation of European cities, this paper considers its value as a model by which the evolution of modern-era cities like Abuja can be evaluated and guided towards attaining the aesthetic component in urban design. Some of the primary research opportunities identified through this study include the following:

- Adoption of townscape thinking as a tool adoptable for urban visual perception of Abuja city evolution and management by creating an essential nexus between historical, theoretical and contemporary urban development scenarios.
- Discerning the townscape through its historical undertones down to its application as a tool for evaluating urban development in the context of Abuja city's aesthetical values
- Development of an assessment function projected towards the use of Townscape in the evaluation of Nigerian cities' developments and urban aesthetics

3 Methodology

This study aimed at identifying the existence and extents of deteriorating urban aesthetics within Abuja City's CBD. It also focused on identifying the conditions that impede the improvement of the urban fabrics as it affects the CBD area against the approved original master plan.

3.1 Research Design

The research workflow adopted started from identification of relevant principles to support the townscape assessment methodology and then was followed by data acquisition from the CBD (townscape features) using field surveys and interactions with relevant respondents, and finally, analysis of acquired data to determine urban aesthetics values. The Townscape Analysis (TA) tool adopts the use of indicators that are derived from Townscape theories by which environmental beauty and urban aesthetic values are applied to public urban spaces. Reeve et al. (2007) provided a connection between the Townscape method of urban structure assessment and aesthetics in determining the efficacy of the Townscape Heritage Initiative (THI) regeneration programme in the UK. His study combined such indicators for scoring townscape quality in Townscape Assessment (TA) as environmental awareness, street furniture, green spaces (vegetation), building character, building maintenance, selected features (water spaces, playgrounds, public eating facilities, public toilets), skylines, street quality, boundary maintenance, functional diversity, pedestrian environment, and community compliances.

This initiative further combined indicators for measuring townscape quality in Townscape Assessment (TA) as follows:

- i. Environmental awareness,
- ii. Street furniture,
- iii. Green spaces (vegetation),
- iv. Building character and building maintenance,
- v. Selected features like water spaces, play grounds, public eating facilities, public toilets,
- vi. Sky lines,
- vii. Streets' quality,
- viii. Boundary maintenance,

- ix. Functional diversity,
- x. Pedestrian environment and
- xi. Community compliances, etc.

Out of these indicators, a six-point scale comprising six variables was selected for assessment. This indicates that not all of the indicators mentioned would be obtainable for all conditions, as cities differ from one another, and so may select applicable factors according to peculiar circumstances. Therefore, with its significantly distinctive conditions, Abuja city's development status may not be as elaborate as that of European cities, and thus this study considered the use of the most significant TA elements derived from townscape theories by which environmental beauty and urban aesthetic values are applied to public urban spaces (Reeve et al., 2007). A total of five distinctive indicators were selected from the above-listed options for scoring townscape quality for the evaluation of the FCT's Central Business District. Likewise, a five-point scale is derived from these indicators as variables and applied to the study area using field surveys and visual assessment to produce the most significant results that express the level of aesthetics in the district. These selected indicators are described as follows:

- a) Environmental conditions
- b) Land-use disposition
- c) Green space quality
- d) Water Elements quality
- e) Urban furniture quality

The methodology for this research involves a mixed research scheme which combines two approaches that are considered suitable because it enables the researcher to obtain information from both key regulatory stakeholders as well as case studies of the district under review.

3.2 Qualitative approach

A qualitative method was adopted in the study through the use of inspections and evaluation responses from staff of relevant monitoring and regulatory offices. This method aided in the identification and measurement of the extent of the problems within the context of land-use default and urban-aesthetics depreciation. This is similar to the approach adopted by Gjerde (2011) for gathering survey responses from focus groups in discussing and identifying characteristics of urban settlement conditions. This method is appropriate because the responding professionals have specialised knowledge about urban planning policies, regulatory enforcement, and the effects of land-use and building functional conversion on the urban aesthetics of the city's built environment (Azzuni et al., 2026). In this study, a semi-structured approach was adopted in obtaining the primary data used. A series of appraisal questions were developed which comprise questions bordering on levels of environmental compliance, levels of land use compliance, tenement rate payment compliance and quality of urban furniture. The respondents comprise staff of regulatory departments in the departments of physical planning, environmental management and development control offices. The instruments developed were used to gather data from principal staff on the status of land-use and environmental contraventions/compliances within the CBD area. The target staff (regulators) included planners, architects, accountants and environmentalists. The major instruments for data gathering include structured interview question forms (TOWNSCAPE

EVALUATION FORM – 1 [TE Environmental Compliance], TOWNSCAPE EVALUATION FORM – 2 [TE Landuse Compliance]), urban feature and urban furniture records. This instrument contained sections A and B and utilised a five-point Likert scale for scoring. The instrument was face-validated by three experts in each of the Physical Planning and Environmental Management departments.

Whilst the primary data obtained from the semi-structured interviews were gotten from the most executive staff of AEPB under the Abuja Municipal Area Council (AMAC) office, three management-level supervisors monitored the responses received from the 12 key respondents in each of the departments of waste management, sanitation, enforcement and finance who were interviewed and provided responses on the performance of the district covered. The performance factors were derived from twelve parameters set for the tenement owners/occupiers within the Abuja Phase-1 area. These performance factors are covered in the analysis section of this paper and captioned P1 to P12 (for the environmental compliance study) and P1 to P5 (for the land-use compliance study). Finally, the data and records of performance on the above enumerated factors are scored using a five-point Likert scale ranging from 1 to 5 (where the number '1' represents the lowest performance value and '5' represents the highest performance value). Finally, the survey data collected will be processed using coding techniques to collate and clean up the collected data from each regulatory unit. The data will further be processed using means (averages), standard deviations, and variance as well as margins of error (confidence intervals) to further validate the values obtained.

3.3 Case Study and Systematic Observations

In the second approach, a case study process was adopted in conjunction with organisational and descriptive analysis of identified urban furniture and green space development in order to ascertain the level of the impact of misuse on urban aesthetics of the CBD. The systematic observation utilised a structured approach for effective highlighting, capturing and categorisation of observed conditions using the townscape and visual assessments. This method is deemed appropriate for the identification of real-time conditions and reporting processes as adopted by Zhang et al. (2024) in the analysis of the effects of different urban park space environment constructions in Linyi People's Park, Lanshan Youth Park, and Yumin Park in Beijing, China. Direct on-site assessments were employed to document various urban conditions, including urban physical features that comprise greens, water elements, parks, and urban and street furniture, as well as the presence of informal structures and overall urban landscape alterations. The availability and development status of green spaces, water elements, and urban furniture within the CBD area is rated using a five-point scale, where the number '1' represents low development/utilisation and '5' represents highest development/utilisation.

3.4 Description of assessment parameters

3.4.1 Environmental conditions

The context of environmental awareness in cities is relevant in establishing a holistic consciousness of environmental conditions and their impacts due to human activities on the natural environment (Zhou & Ding, 2024). This context is of significant value in the ecological aesthetics of the city, as it supports the involvement of individuals living in cities in the protection of the environment by encouraging conducts that contribute to environmental sustainability in order to eliminate environmentally induced dangers like

pollution, health hazards and even climate change. Environmental compliance, however, deals with the context of adherence to environmental laws and regulations. Its main functions include ensuring the maintenance of standards that are designed to safeguard the environment and protection of public health (INECE, 2009; Brown, 2021). In the case of Abuja city, the Abuja Environmental Protection Board (AEPB) was established in 1997 solely for the maintenance and protection of the environment within the FCT, with a core focus on the management of the city's cleaning and sanitation, as well as promoting public awareness and mitigating the effects of physical developments on the city's ecosystem.

In this study, the value of environmental compliance within the CBD is measured through the analysis of reports derived from interviews and interactions with the relevant departments/staff of the AEPB in the Abuja Municipal Area Council (AMAC) office.

3.4.2 Land use disposition

While urban land use refers to the general context of land management by way of zoning of different activities that involves the categorisation of land functions into commercial, industrial, institutional, residential, recreational, transportation and agricultural (Brown, 2021, p. 16), its broader definition also encompasses the deliberate reservation of undeveloped areas for purposes of conservation and ecological sustenance (FAOUN, 2017). Modern-day land-use changes are often driven by activities and policy/non-policy decisions (Umoren, 2017). Land-use changes and illegal conversion of building functions are known to significantly impact urban aesthetics (Ogunbode, Oyebamiji, Sanni, Akinwale, & Akinluyi (2025). Their impacts include degrading the visual appeal, muddled landscapes, loss of green spaces, and increase in population density leading to traffic congestions and pollution, as well as diminished quality of life through unplanned developments. In the case of Abuja city, these contraventions, apart from compromising the economic and social function of the city, also disrupt the city's spatial order, thereby making it challenging for the authority (FCDA) to enforce rational planning. The inconsistency of the FCDA can be attributed to the appearances of informal settlements and illegal alterations that encroach into formally designated land uses, such as conversions of residential or recreational spaces to commercial usage. For the purpose of this research work, land-use contraventions within the CBD are recorded through surveys and interviews of the Development Control department in the FCDA office. The level of contraventions in each district is studied and adopted for measuring the compliance values.

3.4.3 Green Spaces

Areas in urban environments (with vegetation) reserved for activities like recreation, beautification and landscaping form part of the most significant features for environmental sustainability in cities. Apart from their recreational and aesthetic values, green spaces, which are often regarded as the lungs of the city, also provide ecological services that include regulation of local climate, wildlife/fauna habitats and air quality boosters. Research indicates that the availability of green spaces impacts the health, social and psychological wellbeing of inhabitants (Lovell, 2009) as well as boosts the aesthetic appreciation of the environment, thereby attracting individuals to various activities within the urban environment (Rodilloso, 2022; Danaci, 2012). The FCDA's Department of Parks and Gardens manage the urban green infrastructure in Abuja city. In this study, the sustenance of green spaces within the CBD was measured using a physical survey and reports gotten from interviewing the staff of the Department of Parks and Gardens.

3.4.4 Water Elements

Water features in urban environments embody nature and therefore add to the ecological aesthetics dimension of the urban landscape. Studies of townscape indicate that the presence of water in a city significantly improves the visual impression. The presence of waterscapes enhances the interactive experience of inhabitants in multiple dimensions, with activities such as boat riding, swimming, and fishing contributing to the auditory, visual, and tactile aspects that improve people's perception of the landscape (Gawde, 2023). The inclusion of waterscapes was amongst the significant elements of the Abuja master plan; however, this study believes that its effectiveness in enhancing the urban aesthetics of the city is quite underutilised. This study measured the presence and value of water elements within the CBD using physical surveys and visual assessment in order to determine the impact of the water elements on the city's aesthetic value.

3.4.5 Urban Furniture

The presence of urban furniture serves practical functions like seating, lighting, waste management, and vehicular and pedestrian guidance, as well as enhancing the aesthetic value of urban areas. Most modern cities provide amenities such as clock towers, street lights, traffic signage, seating objects in open spaces, shading elements at stations, devices for drinking water, snack kiosks, exercise facilities, gathering squares, water fountains, trash bins for environmental cleanliness, symbolic statues and sculptures at corners, sports and communal outdoor centres and playgrounds, all meant to enhance aesthetic values within social spaces for improved urban experiences (Rinaldi, 2025). Whilst the Abuja city master plan incorporated the elements of urban street furniture as components of municipal landscaping with the aim of creating healthy neighbourhoods, the survey, however, suggests that these facilities are yet to be fully developed within the CBD. This study thus measured the presence and value of urban furniture within the CBD using physical surveys and visual assessment in order to determine the impact of urban furniture on the city's aesthetic value.

3.5 Description of Study Area

According to the United Nation's urbanisation data, Abuja city is regarded as one of the fastest-growing cities in the world (World Urbanisation Prospect, 2025). The city is strategically located at a geographical centre within the region known as the Federal Capital Territory (FCT). While the city functions primarily as the seat of the Nigerian government, it also houses the country's key national institutions, buildings and landmarks which spread across the 50 districts within the FCT region. The FCT administration in 1976 established a federal capital development authority (FCDA) to oversee the general development of Abuja. The city's master plan was designed to reflect the modern global trends in urban planning and development. Abuja's Central Business District, or Central Area as it is called, is the city's primary administrative hub located in Phase 1 of the FCT master plan. The district also serves as the governmental centre of the city, featuring major landmarks like Eagle Square, the Three Arms Zone, and the World Trade Centre (figure 1). The major justification for the selection of this area for the urban aesthetics study is due to the status of development of the FCT Phase-1, which is almost fully developed compared to other phases in Abuja. Table 1 shows the status of development in the Central Area.

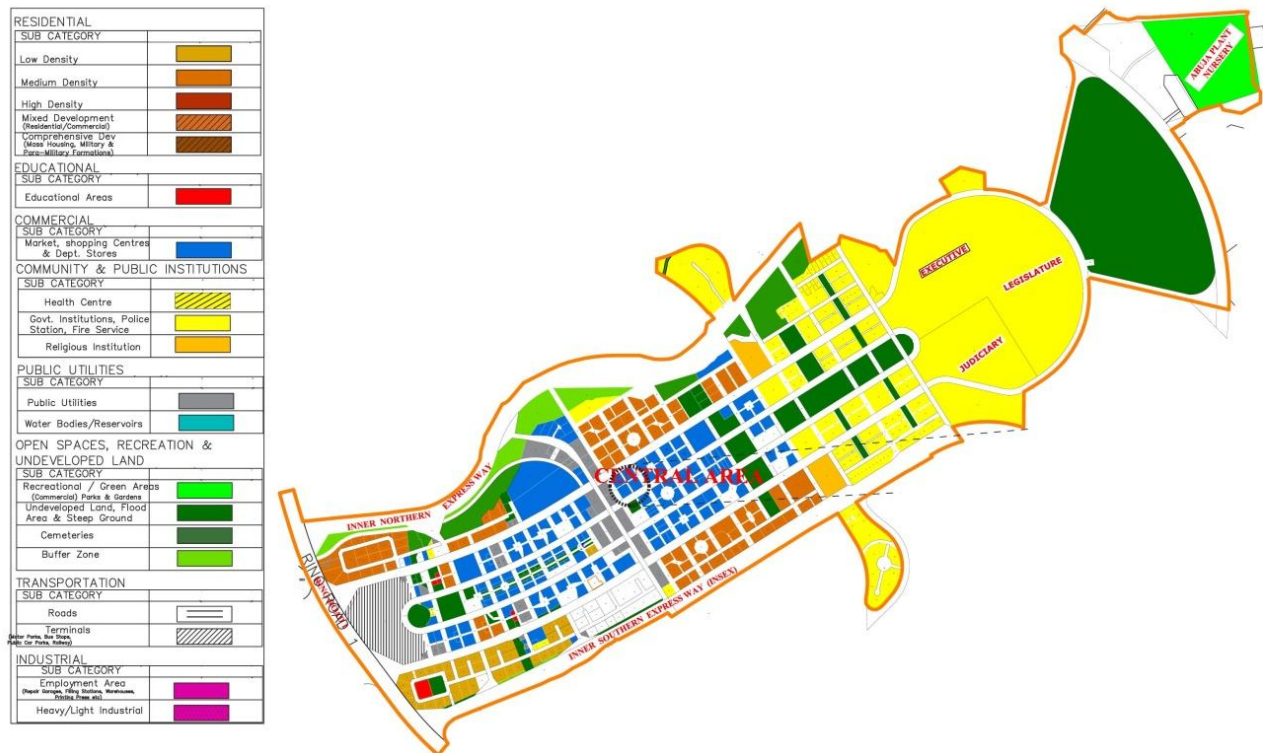


Figure 1. Map of Abuja's Central Business District (Central Area).

Source: FCDA & Elsworth (2008)

Table 1. Abuja Master Plan Land use summary.

S/N	LAND-USE CATEGORY	DEVELOPMENT RATE (%)
1	Community & public institutions	25.8
2	Commercial	12
3	Transportation	31
4	Recreation	18.2
5	Public Utilities	3.1
6	Educational	1.1
7	Residential	2.7
8	Mixed-use	6.1
Overall development status of the CBD		25%

Source: Jiriko (2015)

4 RESULTS

The research workflow adopted for this study starts from the identification of relevant principles to support the Townscape Assessment methodology. This is followed by data acquisition from the CBD (townscape features) using field surveys and interactions with relevant respondents, then finally, analysis of acquired data to determine urban aesthetics values.

The major data utilised in this study were gathered from primary sources, while reviews of literature and administrative documents provided secondary data. The method used in the collection of primary data involved image gathering through field surveys, GIS images, oral interviews of stakeholders and staff of the FCDA, as well as physical observations of facilities within the study areas. Secondary data were taken from archived literature as provided by the Abuja master plan reports.

4.1. Analysis of Environmental Compliance

The Abuja Environmental Protection Board (AEPB) enforces the city's environmental laws, abatement of environmental nuisance and degradation as well as the impact of physical development on the city's ecosystem. The data for this study (figure 2) were obtained from interviews with relevant staff of AEPB under the Abuja Municipal Area Council (AMAC) office.

CENTRAL BUSINESS DISTRICT	ENVIRONMENTAL COMPLIANCE INFORMATION (AMAC/AEPB)	
	ENVIRONMENTAL COMPLIANCE PARAMETERS	RESPONDENT'S AVERAGE RATING
	● Upkeep of lawns, flowers and Hedges	2.7
	● Maintenance of drains	3.7
	● Upkeep of Vegetation (trees and shrubs)	4
	● Absence of Illegal structures like batchers, kiosks and sheds	3.7
	● Proper waste disposal	4.3
	● Limited noise pollution	3.3
	● Absence of unsightly displays	3.3
	● Absence of farming and animal breeding	3.7
	● Management of construction waste	4
	● Limited encroachment into river valleys	4
	● Connection to sewer lines	5
	● Payment of waste management tenement rates	3.7

SEPTEMBER 2025

Figure 2. Environmental compliance and performance within the Abuja CBD.

The performance factors were derived from twelve parameters set for the tenement owners/occupiers within the ten districts, covering the following:

- Keeping of lawns, flowers and hedges (P1)
- Maintenance of drains running through tenement areas (P2)
- Controlling vegetation (trees and shrubs) within permitted tenement areas (8-metre radius) (P3)
- Regulation of illegal structures like batchers, kiosks and sheds within permitted (8-metre radius) tenement areas (P4)
- Regulation of waste disposal in approved AEPB waste disposal containers (P5)
- Regulation of noise pollution (P6)
- Regulation of unsightly displays (P7)
- Regulation of farming and animal breeding (P8)
- Regulation of construction waste within construction sites (P9)
- Regulation of encroachment into river valleys (P10)
- Regulation of sewer lines (P11)
- Payment of waste management tenement rates (P12)

The performance of individual districts on the above-enumerated factors is recorded using a five-point scale ranging from 1 to 5 (where the number '1' represents the lowest performance value and '5' represents the highest performance value). The summary of the environmental compliance in the CBD is presented in Table 2.

Table 2. Summary of environmental compliance in the Phase-1 districts.

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	SD	Variance	MOE (Confidence Interval)	Total (Mean)
CBD	2.7	3.7	4	3.7	4.3	3.3	3.3	3.7	4	4	4	3.7	0.430	0.185	0.124	3.7

4.2 Analysis of Land Use Compliance

The Department of Development Control (DDC) and Abuja Geographic Information Systems (AGIS) within the Federal Capital Development Authority (FCDA) regulate compliance with land use activities in the FCT. The data for this study (figure 3) were collected from interviews with relevant staff of the DDC and AGIS in the FCDA office. Respondents from the AGIS, DDC, monitoring and inspection departments were interviewed and provided responses on the performance of the districts covered. The performance factors were derived from five parameters set for the tenement owners/occupiers within the ten districts, covering the following:

- Regulation of conversion of approved land uses (P1)
- Regulation of conversions of flood plains and green areas (P2)
- Regulating development of slums and squalid settlements (P3)
- Regulation of illegal building conversion (P4)
- Regulation of construction guidelines (building heights, setbacks and designed function), (P5)

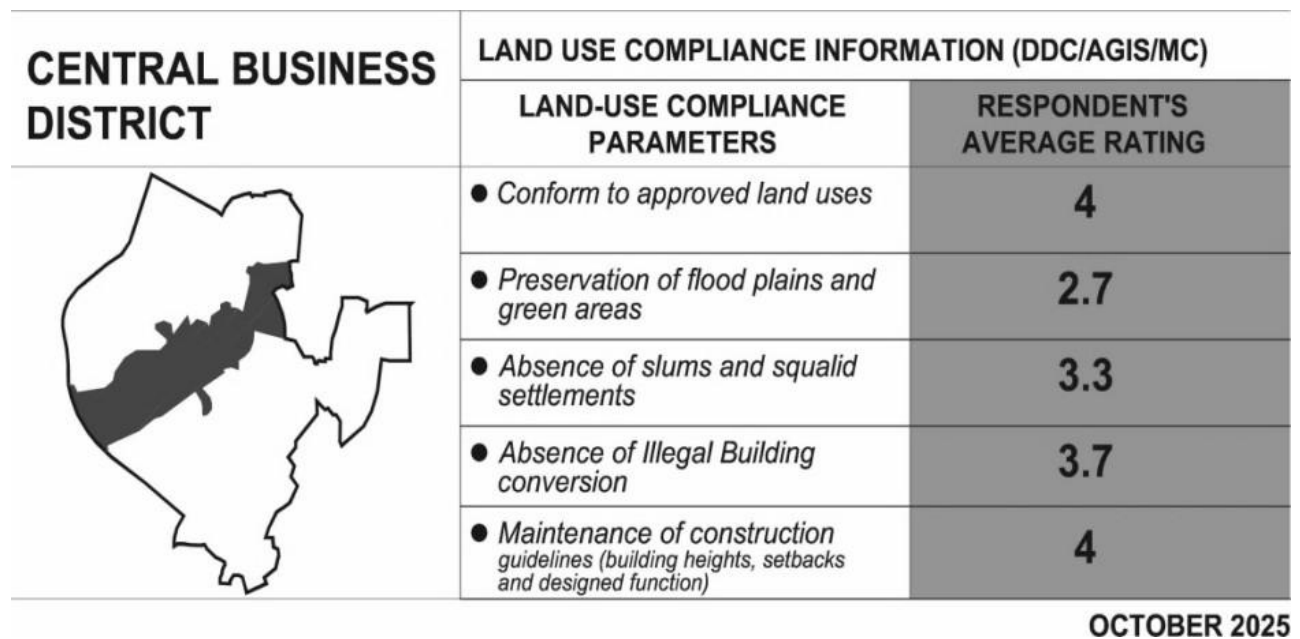


Figure 3. Land use compliance and performance within the Abuja CBD.

The performance of individual districts on the above-enumerated aspects is recorded using a five-point scale ranging from 1 to 5 (where the number '1' represents the lowest performance value and '5' represents the highest performance value). The summary of the land-use compliance in the CBD is presented in Table 3.

Table 3: Summary of land-use compliance within the Abuja CBD.

	P1	P2	P3	P4	P5	SD	Variance	MOE (Confidence Interval)	Total (Average)
CBD	4	2.7	3.3	3.7	4	0.550	0.303	0.246	3.5

4.3 Analysis of Green Spaces

For the purpose of analysis, the distribution of the available green spaces and the extents of the developed (landscaped) green areas are captured as shown in Figure 4. Surveys identified that significant green spaces within the CBD were either unkempt or outright abandoned. This study, therefore, evaluated the aesthetic attention employed in the maintenance of green space using a five-point rating in order to ascertain the green landscaping quality of each district as shown in Figure 5.

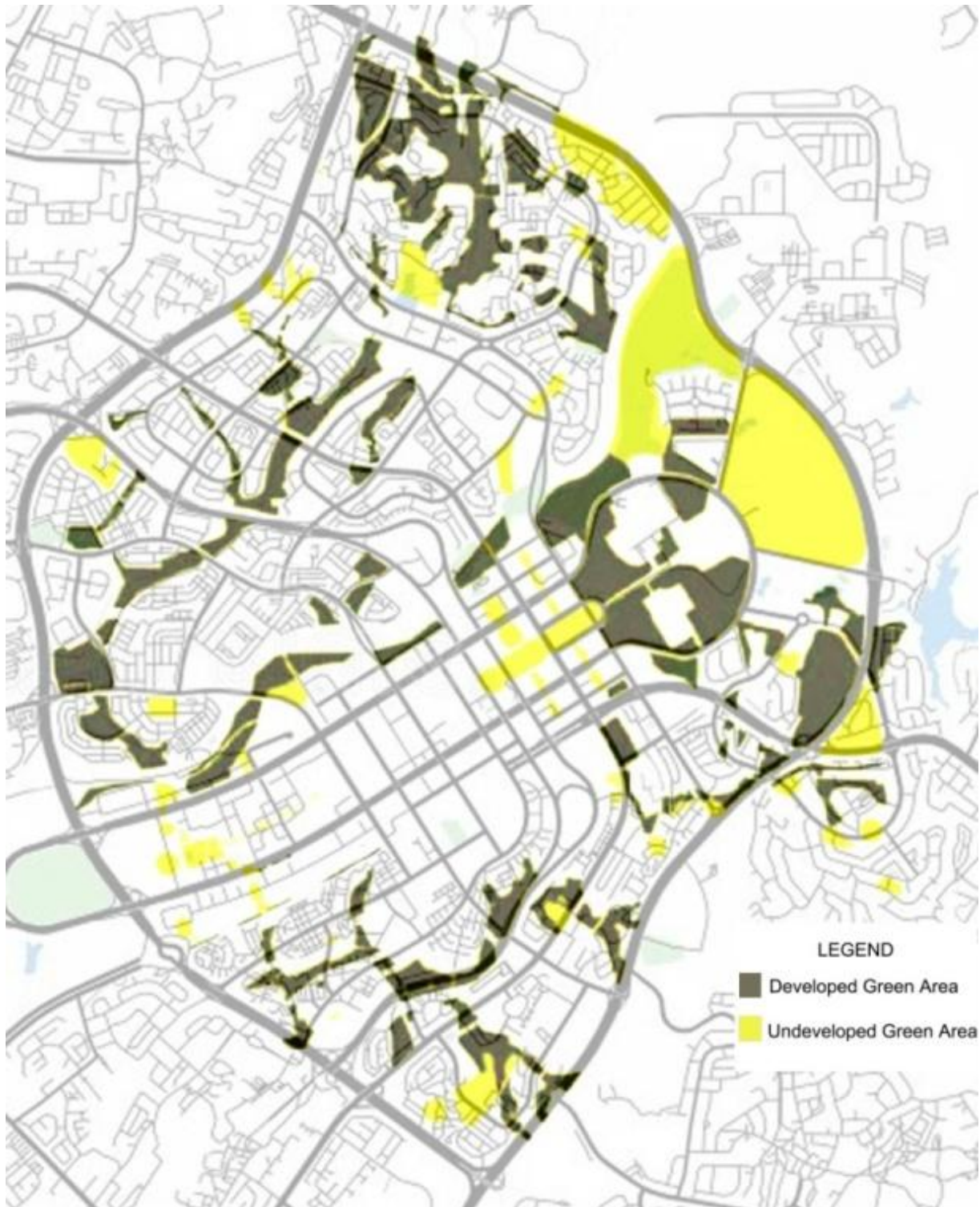


Figure 4. Overview of designated green areas in the Phase-1 districts of Abuja city.

Source: Authors' analysis of urban aesthetic elements using the Abuja district map from the Abuja Geographic Information Systems (AGIS, 2025).

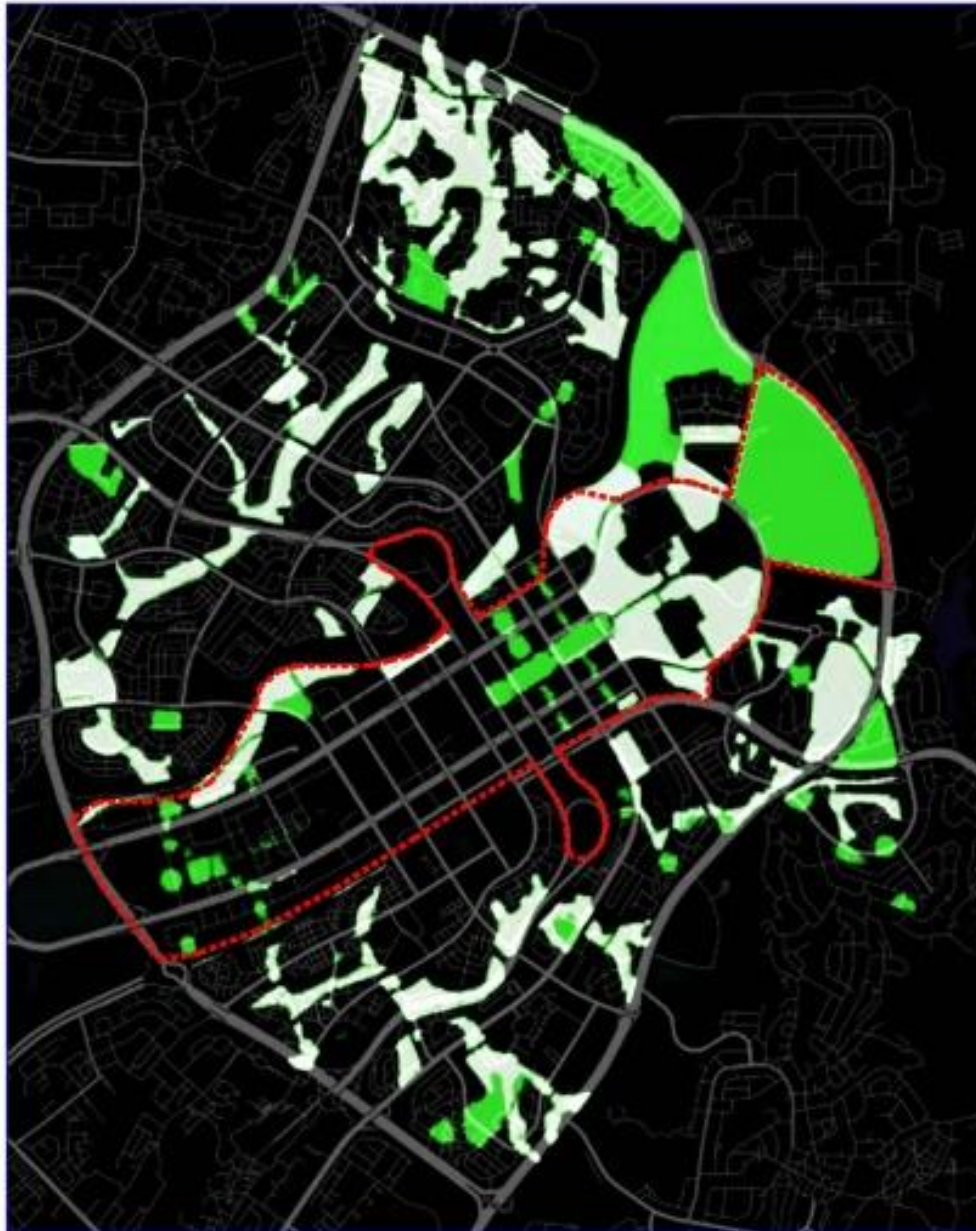


Figure 5. Analysis of green space development within the Abuja CBD.

Source: Authors' analysis of urban aesthetic elements using the Abuja district map from the Abuja Geographic Information Systems (AGIS, 2025).

4.4 Analysis of Water Elements

The original master plan of the Abuja FCT Phase-1 area recommended the use of water bodies to serve the function of dams/irrigation, beautification and recreation, as seen in Figure 6; however, only a handful of the districts have fully developed these water bodies. The field survey identified the locations of these water bodies and the extents of their development/utilisation within the districts. The availability of water elements and levels of utilisation within each district are measured using a five-point scale, where the number '1' represents low utilisation and '5' represents highest utilisation. The CBD area holds a minute fraction of the water bodies in the city's Phase-1 area. This earns it an average of a 1.0 rating in the five-point scale.

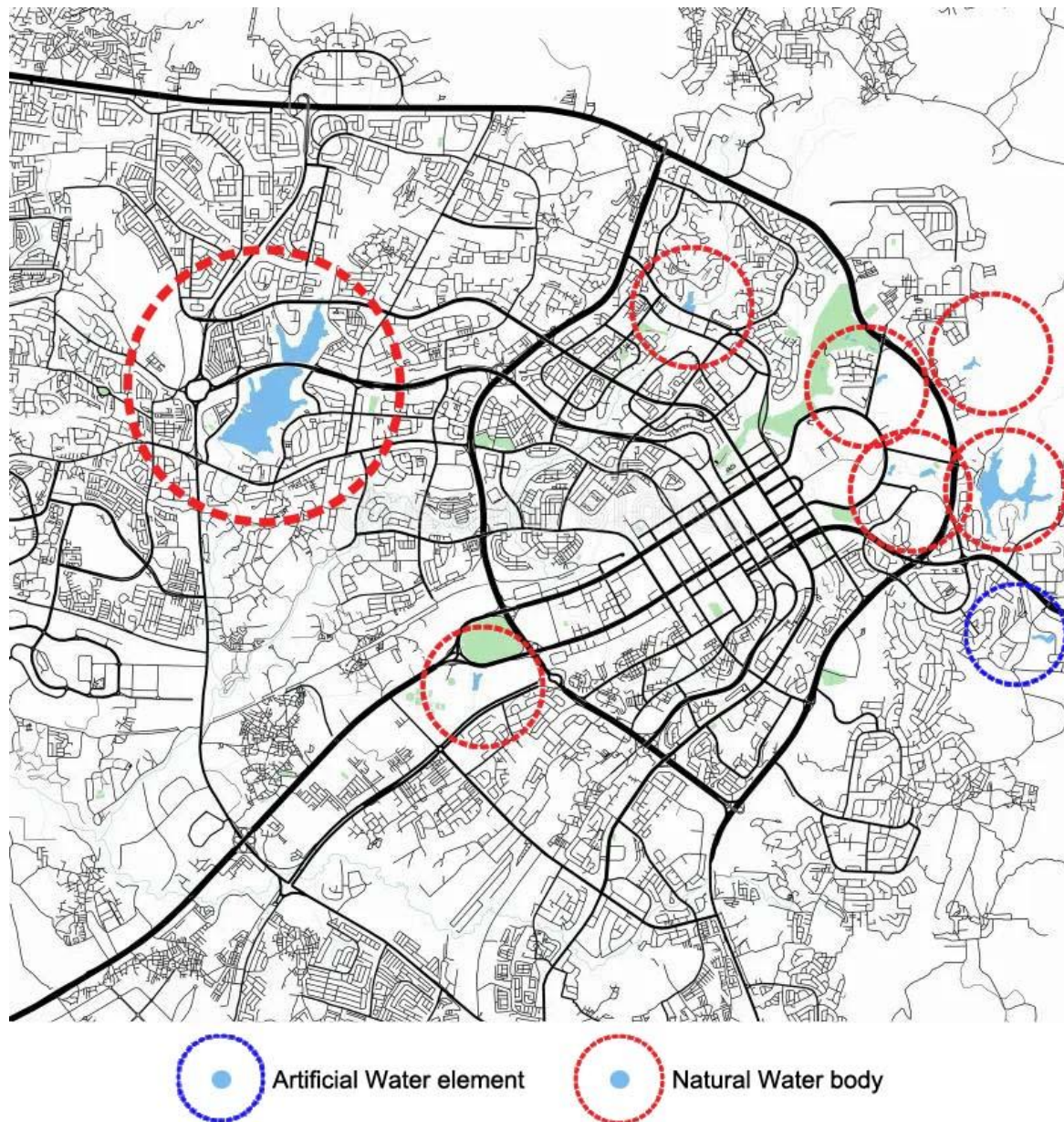


Figure 6. Location of water bodies within the Abuja Phase-1 districts (the majority are found in the CBD area).
Source: Authors' analysis of urban aesthetic elements using the Abuja district map from the Abuja Geographic Information Systems (AGIS, 2025).

4.5 Analysis of Urban Furniture

According to the 2008 report prepared by Albert Speer & Partner GmbH (AS&P) for the Abuja FDCA (Department of Urban and Regional Planning), the original concept by Kenzo-Tange defined the city's open spaces, vista planning and landscaping as interrelated features (FCDA & Elsworth, 2008). For the Abuja city design, it categorised open space elements as comprising features like street space, parks and gardens, national/city squares, national and district/neighbourhood parks, Cultural monuments, Pedestrian ways that consists of Squares and Porticos, Courtyards, Outdoor games, Children playgrounds and Sport centres. Following the description above, field survey was conducted to identify the extents of developments of above mentioned features. The study thus grouped the identified urban furniture elements into four major categories namely Street furniture (traffic lights, street lights, street signage) Parks (comprising of outdoor game areas, picnic spots, cultural zones, pedestrian ways), Squares and

monuments (comprising of Street resting spaces, neighbourhood squares, sitouts) and Sporting environments (comprising of Stadiums, outdoor sporting courts, street workout amenities). The total number of these urban furniture components were taken during the field survey of the CBD and presented in Table 4. More so, the levels of development of these elements for community utilization were measured using a five-point scale, where the number '1' represents low utilization and '5' represents highest utilization. The quality of urban furniture development for community utilization is presented in Tables 4 to 8.

Table 4. Total number of urban furniture components discovered in the CBD.

DISTRICT	PARKS	SPORTS	SQUARES	TOTAL
CENTRAL BUSINESS DISTRICT	5	1	20	26

Table 5. Quality of street furniture development in the CBD

DISTRICT	STREET LIGHTS	TRAFFIC LIGHTS	SIGNAGE	TOTAL (AVERAGE)
CENTRAL BUSINESS DISTRICT	3	4	3	3.3

Table 6: Quality of recreation park development in the CBD

DISTRICT	OUTDOOR GAMES	PEDESTRIAN WAYS	PICNIC SPOTS	TOTAL (AVERAGE)
CENTRAL BUSINESS DISTRICT	2	2	2	2

Table 7. Quality of squares and monuments development in the CBD

DISTRICT	SQUARES	SITOUTS	SCULPTURAL GARDEN	TOTAL (AVERAGE)
CENTRAL BUSINESS DISTRICT	3	1	2	2

Table 8. Quality of sporting environment development in the CBD

DISTRICTS	STADIUMS	OUTDOOR ARENAS	STREET WORKOUT	TOTAL (AVERAGE)
CENTRAL BUSINESS DISTRICT	2	2	1	1.7

Table 9: Summary of Abuja city CBD's Urban Aesthetics values relative to the TA elements

DISTRICT	ENVIRONMENTAL COMPLIANCE	LAND USE COMPLIANCE	GREEN SPACE DEVELOPMENT	WATER ELEMENT DEVELOPMENT	URBAN FURNITURE DEVELOPMENT	TOTAL (AVERAGE)
CENTRAL BUSINESS DISTRICT	3.7	3.5	2	1	3.3	2.7

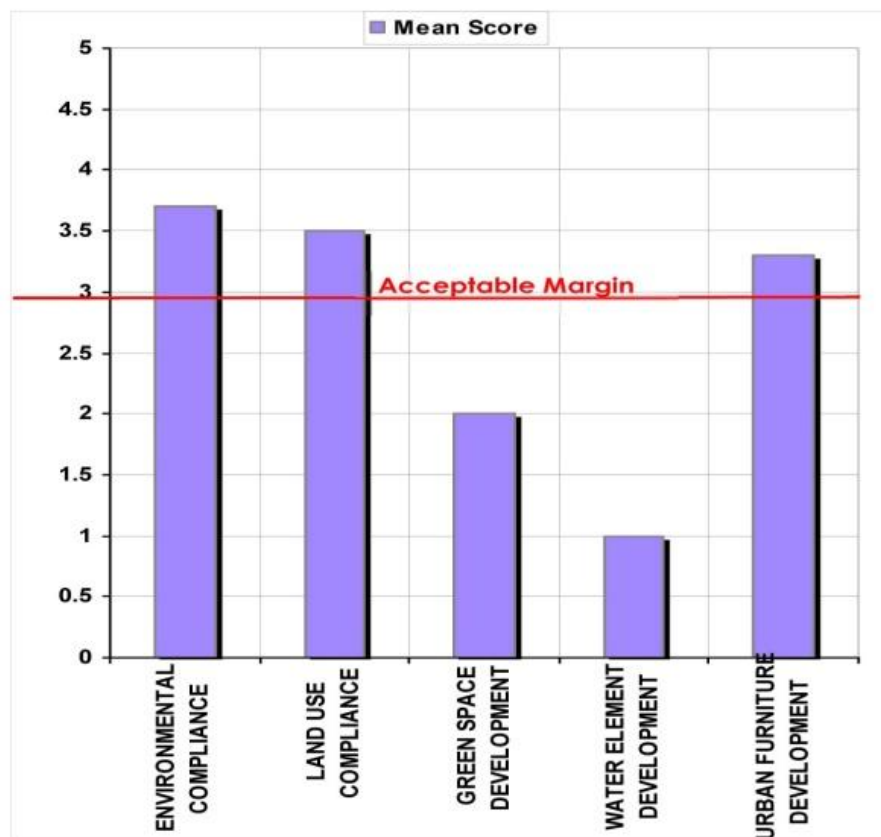


Figure 7. Summary of performance of TA elements in Abuja city's CBD, specifying the acceptable margin

5 Discussion

Through the field surveys and analyses, this study revealed a number of outcomes through which the urban aesthetics values of Abuja city's CBD can be distinguished. The summary of the five townscape factors which demonstrates the urban aesthetic value for the district is calculated and presented in Table 9. With reference to the Linkert-type (5-point) scales for quality, the number "3" represents the average score at which a condition is regarded as normal or acceptable. Correspondingly, values below the number "3" are regarded as unsatisfactory (hence substandard), while values above the number "3" are regarded as remarkable (Koo & Yang, 2025; Vogt, 1999). Therefore, from the summary of the values in Table 9, the CBD environmental compliance, land compliance and urban furniture development values can be rated above average with scores of 3.7, 3.5 and 3.3, respectively, while the green space and water element development quality are rated below average at 2.0 and 1.0, respectively.

Findings from the study identified the lax engagement process by the Abuja physical development establishments. The process of administration may be responsible for the low performance rates recorded in all sections of the evaluation exercise. Whereas the major factors stipulated by the Abuja Environmental Protection Board (AEPB) for regulating compliance (items P1 to P12) were observed to be weak in the CBD area, this strongly connotes regulatory lapses and administrative challenges. The ratings provided by this work will help enforcement offices focus on significant factors with weak performances, such as the upkeep of greens, unsightly displays, and noise pollution, by channelling enhanced monitoring mechanisms towards these areas. Similar attention is expected for the land-use compliance factors (items P1 to P5), where factors like preservation of

floodplains, preservation of green areas and presence of slums/squalid settlements also exposed weak enforcement actions, which the relevant regulatory administrators may focus on in order to promote a more structured and aesthetically coherent urban environment.

Findings from this study also revealed that the CBD area of Abuja city relies largely on three (3) major factors for the current quality of the city's urban aesthetics. This result agrees with studies by Olubi (2020), which *identified underlying factors that impact urban aesthetics*. These major factors, which recorded above-average scores as seen in figure 7 of this paper, include the quality of environmental compliance of its inhabitants, land-use compliance and the urban furniture development quality. With performance that is classified as above average by the city regulators and compliance enforcers, the CBD of Abuja City may thus be placed as a benchmark when accessing other districts within the city. This benchmark element may be referred to during consideration of investments in districts. This finding is in line with the study by Reeve et al. (2007), which presented the summary scorecard for the city of Bodmin in Cornwall (England) at the baseline stage before any investment under the THI programme.

On the other hand, the low performance of the green space and water element development quality indicates the need for intensifying development agendas focused on the improvement of the quality of open spaces by the city administrators. These findings are in line with the research by Hebe et al. (2025) titled 'Examining indicators of quality green and blue space: A mixed method study investigating multi-functionality' as well as the Scottish government External Affairs Directorate's publication on the future opportunities and challenges of Scotland's changing population (Scottish Government 2021). These studies posited that high-quality green space and water elements, commonly referred to as 'blue-green development', are essential for integrating ecological health, aesthetic design, and community accessibility for the inhabitants. These elements, when incorporated into the environment, are essential for effects like urban resilience, localised climate cooling improvements, public health enhancement/wellbeing, and improvement of the overall urban aesthetics/attractiveness of a city.

While revealing the urban aesthetic settings within the city's districts, the findings from the current study offer valuable insights into the state of Abuja CBD's physical development conditions. With a cumulative mean value of 2.7 as shown in the urban aesthetics summary in Table 9, the outlook of the city could be summarised as below acceptable standards (hence fairly attractive). More so, visual observation across the streets of the CBD denotes the failures in urban management standards. The practical implications of the findings in this study within the districts covered showcase the need for a review of the monitoring/enforcement processes adopted by the physical planning and development control authorities. Whereas in the past, the monitoring process adopted by the authorities neglected an appraisal component and performance reporting, which creates a void between enforcement of land-use laws and evaluation of the impacts of the laws. This void often leads to the decay of urban visuals. This is evident in the recent outcries by residents through the news media, which further decries the state of the city's visuals. Mostly affected in this regard are the environmental and land use conditions, examples of which are narrated in the recent posts by popular media outlets calling out the failures in environmental compliance, which is a major component of urban aesthetics.

6 Conclusion

This study perused the status of Abuja CBD relative to urban aesthetic conditions using Townscape Assessment (TA). The study enlisted indicators selected from a list of Townscape Assessment components. The selected indicators include environmental and land use conditions, green spaces, water elements and urban furniture. The findings revealed that the CBD was generally fair in all aspects of the Townscape Assessments. The study also identified the specific conditions that resulted in the best and worst TA performance. While the assessment system adopted in this study exposes the attitudes, actions and resultant effects of residents, it also enables regulators to examine the various administrative areas that may be performing or underperforming within the stipulated regulations for managing the city's development. The study likewise highlights the significance of integrating urban aesthetics into the urban planning processes to ensure the sustainability of attractive urban spaces.

Having recognised that the CBD area of Abuja city relies largely on three (3) major factors for the current quality of the city's urban aesthetics that comprise the quality of environmental and land-use compliances coupled with the urban furniture development, city regulators and compliance enforcers may thus rely on these elements for the categorisation of development rating and investment destinations within city districts. Similarly, the disclosure of the low development quality of green space and water elements further highlights the need for improvement of the quality of open spaces by the city administrators, which ensures the integration of ecological health, aesthetic design, and communal/social activities of inhabitants. With the incorporation of these elements into the environment, the city's CBD essentially benefits from sustainable effects like urban resilience and localised climate cooling as well as public health and wellbeing, which eventually impacts significantly on the overall urban aesthetics and attractiveness of the city. Finally, this paper recommends the adoption of this assessment process as a component for monitoring the performance of urban districts with a major focus on improving the quality of urban environments. Government agencies and local administrators may adopt streamlined versions of townscape assessment methods in preparing policy documents, which may be tailored to suit the intended objectives of city or regional authorities for evaluation and advisement.

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Data Availability Statement

The authors confirm that the data supporting the findings of this study are available within the article and its supplementary materials, available at the behest of the authors.

Conflicts of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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