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Phytodesign as a Driver of Destination Image: Visual Synthesis of Tourist Attractiveness and Green Architecture in Chernihiv (2023–2025)

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Abstract

The article explores the role of green architecture in shaping the tourist appeal and visual image of Chernihiv (Ukraine) between 2023 and 2025. Based on 19 original visual case studies (photographic documentation), a spectrum of landscape techniques is analyzed: from the sacral-relict plantings of the Dytynets (11th century) to modern residential areas (21st century). It is proven that the strategic use of phytodesign (introduction of magnolias, creation of multi-layered mixborders, preservation of relicts such as Prunus mahaleb) acts as a driver for destination branding. The results demonstrate how green architecture mitigates visual dissonance in urban development and creates a “multi-scale perception” of the city, ensuring its sustainable development as a cultural and tourist hub.

Keywords: *Green Architecture, Chernihiv, Destination Image, Tourist Attractiveness, Urban Branding, Visual Synthesis.*

Introduction

In the modern global tourism market, the attractiveness of ancient cities is no longer determined solely by the presence of historical monuments. Contemporary tourists seek an “integrated atmosphere” where architectural heritage is balanced by high-quality public spaces (Lynch, 1960). According to Kavaratzis (2004), the image of a city is a complex construct where physical landscape and psychological perception intersect. The challenge for many historic centers is to transform “static” stone monuments into “dynamic” destinations that offer emotional comfort and visual diversity (Ashworth & Page, 2011).

The pivotal role in this transformation belongs to green architecture. Unlike standard urban landscaping, green architecture acts as a “soft” structural material that can frame views, mask architectural dissonance, and create a unique seasonal identity for the city (Beatley, 2017). Recent studies by Sukosyah et al. (2025) suggest that high-quality urban greenery significantly enhances the perceived value of a destination and encourages revisit intentions. Furthermore, Kaplan and Kaplan (1989) emphasize that the aesthetic coherence of natural and built environments is a key factor in reducing urban stress and improving the tourist experience. For ancient urban centers, the strategic synthesis of botanical and architectural elements becomes a primary tool for destination branding (Hanna & Rowley, 2008) and psychological remediation of the urban fabric.

Chernihiv (Ukraine), one of the oldest cities in Eastern Europe, is traditionally perceived through the prism of its medieval sacral heritage, often referred to as the “Fortress City” (Bondar, 2014). While its historical value is world-renowned, its identity as a “Garden City” remains significantly under-explored

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in academic and tourist discourses. The green architecture of Chernihiv is not merely a background for its 11th-century cathedrals but a complex, multi-layered system that defines the city's hospitality and visual appeal. Ornamental trees and shrubs of the city's green architecture play an important role in shaping Chernihiv's green infrastructure (Lukash et al., 2024).

The aim of this study is to analyze the visual synthesis of green architecture and urban space in Chernihiv (2023–2025) and to evaluate its impact on the city's tourist attractiveness.

Materials and Methods

The research is based on field studies conducted in Chernihiv during the period of 2023–2025. To analyze the visual image of the city, a multi-method approach was applied, combining botanical inventory with architectural and compositional analysis. *Field observation and photographic documentation*. Systematic photo-fixation was performed across 10 key urban locations, ranging from historical heritage sites (Dytynets) to modern residential areas (Masany). This method aligns with the Visual Resource Management (VRM) system, which evaluates the aesthetic value of landscapes (U.S. Bureau of Land Management, 1980). *Botanical identification and taxonomic nomenclature*. Plant species and cultivars were identified using the documentation of the Municipal Enterprise "Zelenbud" of the Chernihiv City Council and named according to The World Flora Online (WFO, 2025). The assessment of their decorative role was based on the landscape-taxonomic approach (Kushniruk et al., 2025), focusing on the interaction between plant habit (form) and architectural scale. *Visual landscape quality assessment (VLQA).* The study utilized the method of compositional analysis of "viewsheds" (Smardon et al., 1986). We evaluated the "visual dialogue" between biological components (textures, colors, seasonal dynamics) and architectural elements (shapes, materials, historical styles). *Spatial zoning.* The city's territory was categorized into three functional zones: sacral-historical, public-recreational, and residential-dormitory, to compare different strategies of green architecture.

Results: Typology of Green-Architectural Complexes

Based on 19 original visual case studies of the Chernihiv`s green architecture objects in the interesting for tourists city's district, a spectrum of landscape techniques was obtained.

The Entrance Panorama: Identity And Topography (Fig. 1).

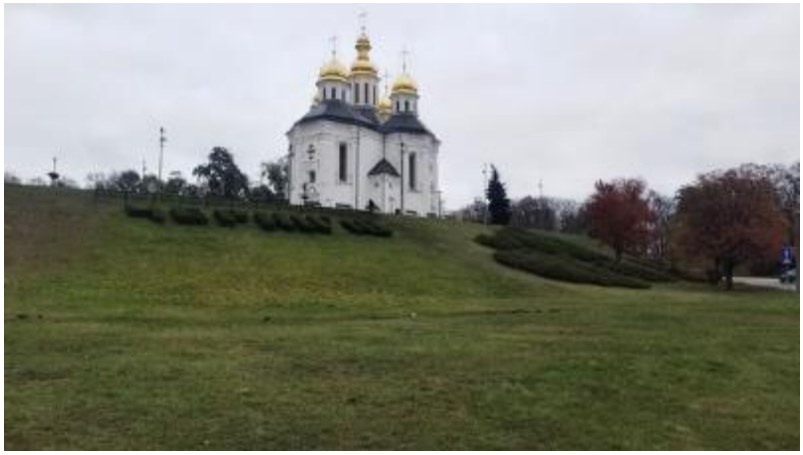

Fig. 1. Entrance panorama of Chernihiv: topographic branding through living toponymy (*Buxus sempervirens*) and color accents of *Juniperus sabina* and *Picea abies* (Photo by O. Lukash, Autumn 2024).

This shot captures the technique of multi-layered visual branding. The inscription "CHERNIHIV", crafted from *Buxus sempervirens*, serves as a living toponymic marker. It is visually supported by a dense group of *Juniperus sabina*, which creates a stable, deep-green horizontal line that "holds"the slope's composition. The contrast between the static church architecture, the low-growing juniper group, and the dynamic crimson accents of deciduous trees adds emotional depth to the landscape. The solitary *Picea abies* to the right of the temple balances the vertical axis, providing green color stability that harmonizes with the autumn sky.

Geometric rigor and seasonal framing: the Alley of Heroes axis (Fig. 2).

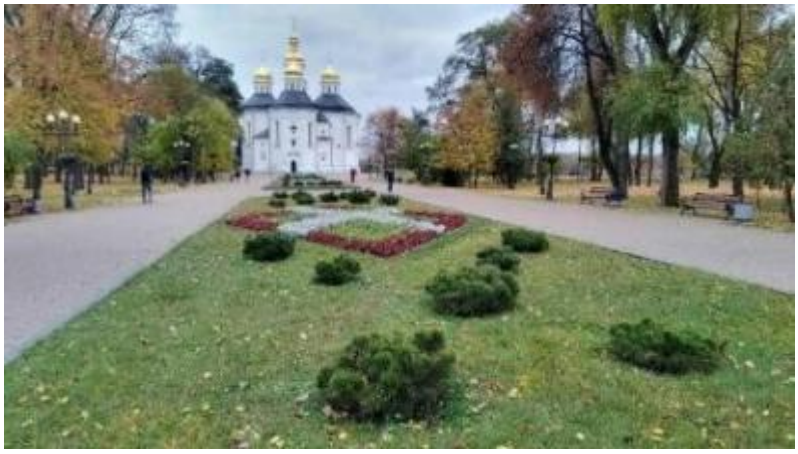

Fig. 2. Formal parterre design on the Alley of Heroes: geometric synthesis of *Jacobaea maritima*, *Begonia semperflorens*, and *Pinus mugo 'Varella'* as a visual prelude to the Catherine Church (Photo by O. Lukash, Autumn 2024).

This shot demonstrates the technique of formal parterre design, forming a ceremonial perspective towards the Catherine Church. The use of precise geometric shapes (angular groups of *Pinus mugo 'Varella'* and diamond-shaped flower beds) structures the space, providing rhythmic consistency. A key role is played by textural and color contrast: the silvery cross of *Jacobaea maritima* graphically separates the deep burgundy foliage of *Begonia semperflorens 'Ambra'*, while the white-flowering *Begonia semperflorens 'Bicola'* creates internal luminous accents that visually correlate with the white-stone architecture of the temple. The diverse arboreal background – from the golden *Quercus robur* and fiery *Acer platanoides* to the olive-toned *Tilia cordata* – serves as a natural "polychromatic frame" that enhances the monumentality of the historical landmark.

Plastic dialogues: geometric rhyming of *Thuja occidentalis* and church architecture (Fig. 3).

Fig. 3. Interaction of spherical *Thuja occidentalis* forms with the monumental walls of the Catherine Church: a study of scale and geometric rhymes (Photo by V. Morskyi, Autumn 2024).

This photograph captures the technique of creating an intimate recreational space using a group of *Thuja occidentalis*. The crown-like forms of the *Thuja* visually contrast with the strict verticality of the Catherine Church walls, while simultaneously subtly echoing the curvature of its domes, creating a compositional "rhyme" of forms. The cobblestone paving and park benches in front of the plant group form a zone for static contemplation of the monument. This combination of natural volumes and urban furniture helps to bridge the scale gap between the individual and the monumental structure, creating a psychologically comfortable environment.

Botanical identity as an element of the city's visual myth: the case of *Prunus mahaleb* (Fig. 4).

Fig. 4. Blooming *Prunus mahaleb* on the Val: a synthesis of botanical relict and urban legend (Photo by O. Lukash, Spring 2023).

Spring photographs of the Val (Dytynets) highlight the blooming *Prunus mahaleb*. Close-up shots of flowering branches with snow-white inflorescences against the canopy of ancient deciduous trees create a “lace architecture” effect, softening the monumentality of the historical landscape. Despite the myth popular in the media and among tourists that these trees were planted by Taras Shevchenko, modern research proves the natural origin of this species in Chernihiv. Specifically, the analysis of Illychevskyi’s (1931) works and recent studies by Lukash (2021) confirm that Chernihiv is the most remote locality of *P. mahaleb* beyond its continuous range. This indicates the relict nature of thermophilic communities on the Chernihiv slopes. Thus, *Prunus mahaleb* serves not only as an aesthetic symbol but also as a scientific and natural emblem of the city's ecosystem continuity.

The phenomenon of visual concealment: phytoscreening of historical monuments (Fig. 5).

Fig. 5. Visual screening of the Chernihiv Collegium (a) and Transfiguration Cathedral (b) through dense groups of *Picea abies* (c) and *Carpinus betulus* (b, c) (Photo by V. Solodovnyk, Autumn 2025).

This photographs capture the technique of multi-layered phytoscreening. A dense group of 11 mature *Picea abies* trees (Fig. 5c), combined with a formal hedge of *Carpinus betulus* (Fig. 5b, c), creates an opaque “green curtain” that almost entirely conceals the facades of the Chernihiv Collegium (Fig. 5a) and the Transfiguration Cathedral (Fig. 5b). This results in an effect of visual isolation for the monuments, where the architecture becomes perceptible only in fragments. The yellow-brown palette of the hornbeam and the dark green spruce needles form a rich chromatic backdrop against which the graphic silhouette of the park lantern stands out prominently. Such a technique of dosing visual information enhances the sense of historical depth and the intimacy of the Dytynets space.

Verticality of time: relict species and sacral architecture (Fig. 6).

Fig.6. Vertical composition on the Val: the interaction of relict *Taxus baccata 'Fastigiata Robusta'* with the 11th-century Transfiguration Cathedral and the Galagan Art Museum (Photo by O. Sahach, Autumn 2024).

The photograph demonstrate the technique of "historical synchronization" between natural and architectural forms. The use of a cultivated relict species, *Taxus baccata 'Fastigiata Robusta'*, whose columnar habit visually rhymes with the verticals of the Transfiguration Cathedral (11th century), creates a sense of timelessness in the landscape. The wooden stairs with authentic metal fasteners act as a compositional axis, guiding the eye from the textural needles of *Picea pungens 'Waldbrunn'* to the gilded dome of the bell tower. The color contrast between the golden canopy of *Acer platanoides* and the static green of *Picea abies* highlights the polychromy of the historical center, where the Art Museum building integrates into the overall phyto-architectural ensemble as an element of cultural heritage.

Dendrological succession and adaptive renovation: the *Platanus - Acer - Aesculus synthesis* (Fig. 7).

Fig. 7. Adaptive renovation of the historical alley on the Val: integration of young *Platanus hispanica* into the existing stands of mature *Aesculus hippocastanum* (a) and *Acer platanoides* (b) (Photo by O. Yakovenko, Autumn 2025).

The photographs demonstrates the strategy of adaptive reconstruction of the historical alley on the Val. Instead of radical replacement of plantings, a method of targeted underplanting of *Platanus hispanica* (introduced in 2021) was applied in places where mature *Aesculus hippocastanum* (Fig. 12 a) and *Acer platanoides* (Fig. 12 b) had naturally declined. This allowed for the preservation of the alley's spatial-volumetric structure while adding resilience to climate change and anthropogenic pressure. The visual effect is based on the contrast of textures: the young light bark and large lobed leaves of the plane trees organically complement the dense, deeply textured canopies of old chestnuts and maples. This "dialogue of generations" creates a multi-layered visual image that emphasizes the continuity of heritage landscape management in Dytynets.

Micro-Landscape Synthesis: Geometric Focal Points in Urban Transit Zones (Fig. 8).

Fig. 8. Circular mini-park composition on the Dytynets: structural synthesis of *Taxus baccata, Pinus mugo 'Varella'*, and metallic framing elements (Photo by O. Yakovenko, Autumn 2025).

The photograph (Fig. 11) demonstrates the technique of centered micro-zoning. The circular plaza of the mini-park with cream-colored paving acts as a luminous contrast to the stand of mature deciduous trees (70–80 years old) and typical residential buildings. The central coniferous group – a dome-shaped *Taxus baccata* combined with low-growing *Pinus mugo 'Varella'* – creates a dense evergreen volume. The use of a metallic three-tier fence ("hoops") not only serves a protective function but also adds a techno-graphic quality to the composition, harmonizing with the park infrastructure (benches, road). This case illustrates how small architectural forms in synergy with coniferous exotics create autonomous visual "oases" that mitigate the monotony of background architecture.

Multi-Layered Border Design: Visual Transition Between Historical And Residential Zones (Fig. 9).

Fig. 9. Multi-layered mixborder as a visual buffer: *Chrysanthemum 'Branbeach Pink', Buxus sempervirens, and Spiraea japonica* cultivars near Seriizhnikova Street (Photo by O. Sahach, Autumn 2024).

The photograph captures the technique of multi-layered phytocomposition, acting as a visual buffer. The low-growing *Chrysanthemum* × *morifolium 'Branbeach Pink'* with its perfect spherical habit forms the initial emotional focal point. The sharp geometry of the trimmed *Buxus sempervirens* creates a rigid structural frame ("green spine"), followed by the color layers of *Spiraea japonica 'Anthony Waterer'* and *'Golden Princess'*. The golden foliage of the spireas, combined with fallen maple leaves on the lawn, creates a unified chromatic plane that masks the utilitarian character of the background buildings (Soviet-era housing) and infrastructure. This serves as an example of how landscape design mitigates architectural dissonance, creating a cohesive tourist image.

Polychromatic urbanism and rhythmic zoning: the Alley of Heroes environment (Figs. 10, 11).

Fig. 10. Integration of ornamental paving and seasonal mixborders on the Alley of Heroes: visual rhythm and social comfort (Photo by V. Solodovnyk, Autumn 2024).

Fig. 11. Composite visual analysis of spring floral design on the Alley of Heroes: a) radial planting layout of *Tulipa gesneriana* (Triumph Group): *'Inzell', 'Strong Gold', 'Don Quichotte'*, and *'Shirley'*; b) bexture and color contrast along the paving: *Tulipa gesneriana* (Double Late Group) 'Yellow Pomponette' and *Hyacinthus orientalis 'Woodstock'*; c) macro detail of *Tulipa gesneriana 'Pink Impression'* (Darwin Hybrid); d) Macro detail of *Tulipa gesneriana 'Ivory Floradale'*; e) macro detail of *Narcissus pseudonarcissus 'Dutch Master'* (Photo by O. Lukash, Spring 2025).

The photograph (Fig. 10). presents the technique of horizontal space structuring through the synthesis of ornamental paving and floristic accents. The geometric pattern of the cobblestones (white, coffee, and terracotta colors) creates a dynamic visual rhythm that correlates with the color schemes of the mixborders. The abundance of park benches (10 units) against the backdrop of deciduous and coniferous stands forms a zone of social integration, where vegetation acts as a natural screen separating the recreational space from urban noise. This demonstrates a transition from decorative landscaping to the creation of a holistic eco-social environment.

The spring dominance of tulips (*Tulipa gesneriana*) ensures high color intensity, transforming the Alley into a "living exhibition". The seasonal transformation of the Alley of Heroes reaches its zenith during the mass flowering of ephemeroids, captured in a series of photographs (Fig. 11).

The technique of radial planning (Fig. 11a) creates a dynamic visual vector, where the alternation of contrasting *Tulipa gesneriana* cultivars (white-pink, yellow, dark pink) forms a rhythmic structure guiding the gaze toward architectural landmarks. The combination of double-late tulips (*'Yellow Pomponette'*) with vertical inflorescences of *Hyacinthus orientalis* along the paving (Fig. 11b) adds textural depth and saturation to the space. Macro photographs of individual tulips and daffodils (Fig. 11c, d, e, f) demonstrate the high quality of selection material, where pure colors (pink, cream, yellow) act as self-sufficient aesthetic objects that shape the city's "micro-image". It is such "small" details as the ornament underfoot and the change of tulips to mixborders that make Chernihiv attractive for repeat visits by tourists.

Anthropogenic metamorphosis: living barriers and spontaneous verticality (Fig. 12).

Fig. 12. Contrast between formal hedging (*Berberis thunbergii*) and spontaneous vertical greenery (*Parthenocissus quinquefolia* and *Humulus lupulus*) on Yeletska Street (Photo by V. Morskyi, Autumn 2024).

This photograph captures the technique of color and structural contrast in the urban environment. The rich crimson horizontal line of the formal *Berberis thunbergii 'Atropurpurea'* hedge creates a clear boundary for the pedestrian zone, organizing the space in front of typical Soviet-era housing. However, the visual focal point is the vertical metamorphosis of a utility pole overtaken by *Parthenocissus quinquefolia* and *Humulus lupulus*. The combination of brownish-crimson creeper shoots and dark green hops creates an expressive anthropomorphic shape (a "monstrous silhouette"), transforming a technical object into an element of urban fantasy. This case illustrates the power of nature to absorb the rigid lines of infrastructure, adding drama and emotional richness to the everyday landscape.

Living heritage: integration of floristic design into the ancient monastic environment (Fig. 13)

Fig. 13. Sacred floriculture within the Yeletsky Monastery: a) semi-double red *Rosa 'Robusta'*; b) double light-pink *Rosa 'New Dawn'*; c) double deep-pink *Rosa 'Leonardo da Vinci'*; d) semi-double yellow *Rosa 'Arthur Bell'* (Photo by O. Lukash, Summer 2024).

A distinct aspect of Chernihiv's visual image is sacred gardening, as observed in the Yeletsky Monastery. The rose collection (*Rosa*), maintained through the dedicated care of nuns, serves as a self-sufficient aesthetic object integrated into the monastic environment. Macro photographs (Fig. 13a, b, c, d) demonstrate a high level of horticultural skill and morphological diversity: from semi-double *'Robusta'* and *'Arthur Bell'* to fully double *'Leonardo da Vinci'*. The pure and saturated colors of the petals against the ancient monastery walls create an atmosphere of peace and harmony, which is crucial for the psychological comfort of pilgrims and tourists. This case illustrates the concept of "living heritage", where floral design becomes part of a spiritual practice.

Coastal zone landscape design: synergy of natural floodplain and recreational infrastructure (Fig. 14).

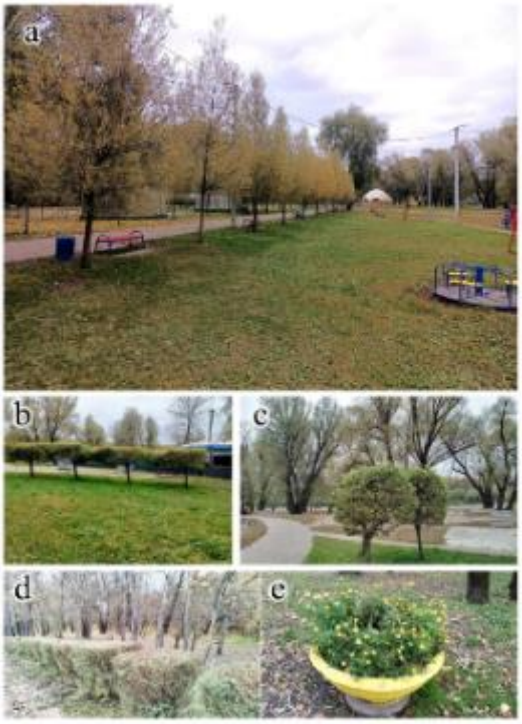

Fig. 14. Integrated landscape design of the "Zolotyi Bereh" beach: a) *Salix alba 'Chermesina'* alley parallel to the Desna river; b) Topiary "umbrella" forms of *Salix integra 'Hakuro-Nishiki'*; c) *Salix integra 'Hakuro-Nishiki'* and natural floodplain willow stand (*Salix fragilis* and *Salix alba*) overlooking the riverbed; d) Linear hedge of *Salix integra 'Hakuro-Nishiki'* against the backdrop of *Populus alba* forest; e) Yellow concrete planter with lemon semi-double *Tagetes patula 'Antigua Lemon* (Photo by V. Solodovnyk, Autumn 2024).

The photographs demonstrate the technique of ecological adaptation in landscape design within a river floodplain. The use of the *Salix alba 'Chermesina'* alley (Fig. 14a) creates a vivid color accent along the Desna riverbed. The topiary pruning of *Salix integra 'Hakuro-Nishiki'* into "umbrella" shapes (Fig. 14b) and formal hedges (Fig. 14d) structures the beach space, separating recreational areas from natural forests dominated by *Populus alba, Salix fragilis*, and *Salix alba*. The contrast between the natural forms of unpruned willows (Fig. 14c) and the rigid geometry of concrete planters with lemon-colored *Tagetes patula 'Antigua Lemon'* (Fig. 14e) highlights the transition from wild nature to an urbanized environment. This creates a cohesive visual image of "Zolotyi Bereh" as a modern eco-park.

Exotic introduction and vernal aesthetics: the *Magnolia* alley phenomenon (Fig. 15).

Fig. 15. Vernal floral accents of the Magnolia Alley: a) snowy-white blossoms of *Magnolia kobus*; b) white-pink flowers of *Magnolia hybrida 'Susan'* (Photo by O. Lukash, Spring 2024).

The composite photographs demonstrate the technique of accentuated exotic landscaping, forming a new visual identity for springtime Chernihiv. The *Magnolia* alley, situated between the historical Krasnyi Bridge and the Wedding Palace, acts as a "floristic bridge" connecting architectural landmarks of different eras. Macro photographs of the snow-white flowers of *Magnolia kobus* (Fig. 15a) and the white-pink blossoms of *Magnolia hybrida 'Susan'* (Fig. 15b) highlight the high decorative value of these species in the urban environment. The pure coloration of the petals against the spring sky creates a "blooming city" atmosphere, significantly enhancing its tourist appeal during the early spring period and stimulating the development of event tourism.

Synthesis of private and public landscapes: micro-zoning and modern textures (Fig. 16).

Fig. 16. Comparative analysis of modern micro-parks: a, b) private commercial landscape with *Pinus nigra* subsp. *nigra*, *Calamagrostis acutiflora*, and *Lavandula angustifolia*; c) municipal landscape with *Koeleria glauca, Spiraea japonica 'Candlelight'*, and *Acer rubrum* (Photo by O. Lukash, Autumn 2023).

The composite photographs illustrate the technique of integrated landscaping through a combination of architectural forms and grass-coniferous compositions. In the private micro-park (Fig. 16a, b), the "grass and stone garden" concept is applied, with a solitary *Pinus nigra* subsp. *nigra* acting as the focal point against a backdrop of pine bark and white stone mulching. The use of *Calamagrostis acutiflora* and *Lavandula angustifolia* adds a natural softness that contrasts with the geometry of wooden arches and *Thuja occidentalis* hedges. Conversely, the municipal micro-park (Fig. 16c) demonstrates a multi-layered mixborder technique, where drought-resistant *Koeleria glauca* and golden *Spiraea japonica 'Candlelight'* form a stable base for arboreal exotics (*Platanus hispanica, Acer rubrum*). This combination highlights Chernihiv's transition to the modern European "New Perennials" style.

Vertical floral accents and transportation infrastructure: the "Five Corners" case study (Fig. 17).

Fig. 17. Vertical floral displays at transport interchanges: a) semi-arc structures with pink *Petunia atkinsiana 'Surfinia Pink'*; b) black "birch-like" structures with white *Petunia atkinsiana 'Mamy White'* at the "Five Corners" district (Photo by V. Morskyi, Autumn 2024).

The composite photographs demonstrate the technique of mobile vertical landscaping at complex transport interchanges. The use of metal structures with thermo-vases allows for saturating the monotonous space of roundabouts with intense color. Pink trailing petunias of the *Petunia atkinsiana 'Surfinia Pink'* series (Fig. 17a) and snow-white *Petunia atkinsiana 'Mamy White'* (Fig. 17b) create dynamic visual landmarks. The black color of the structures ("birches") acts as a graphic contrast to the bright inflorescences, making the composition striking even from a considerable distance. This is an example of effective visual humanization of technogenic urban zones, where vegetation mitigates the stressful impact of traffic.

Rockeries and alpine gardens in educational and recreational environments (Fig. 18).

Fig. 18. Alpine garden and rockery compositions: a) school landscaping with *Tagetes patula, Jacobaea maritima*, and topiary *Juniperus sabina*; b) central park rockery with *Yucca filamentosa, Juniperus scopulorum 'Skyrocket'*, and *Rhus typhina* (Photo by O. Yakovenko, Autumn 2025).

The composite photographs demonstrate the technique of micro-relief modeling in the urban environment. In school landscaping (Fig. 18a), the principle of continuous flowering and textural contrast is applied: from low-growing *Tagetes patula 'Antigua Orange'* and *Lobularia maritima* to structural accents of *Yucca filamentosa* and *Berberis thunbergii 'Red Rocket'*. The niwaki-style pruning of *Juniperus sabina* ("maces") adds significant architectural expressiveness. The rockery in the central park (Fig. 18b) is based on the combination of monumental stone blocks and a variety of conifers (*Juniperus scopulorum 'Skyrocket', Taxus baccata*), forming a stable visual skeleton. The color accent of *Rhus typhina* with crimson inflorescences against the background of the "Ferris wheel" emphasizes the dynamics of the city image, where engineering structures harmonize with exotic flora.

Landscape humanization of modern residential districts: the Masany case (Fig. 19).

Fig. 19. Modern residential landscaping in the Masany district: a) *Acer rubrum 'Brandywine'* alley; b) *Prunus cerasifera* subsp. *pissardii* at the city boundary; c) concentric planting of *Spiraea japonica* and *Thuja occidentalis* with *Catalpa bignonioides*; d) coniferous group (*Juniperus* and *Picea*) against high-rise architecture (Photo by V. Morskyi, Autumn 2025).

The composite photographs demonstrate the strategy of high-decorative landscaping in new residential areas. The double-row alley of *Acer rubrum 'Brandywine'* (Fig. 19a) forms a clear chromatic axis that visually balances the verticality of high-rise buildings. The use of contrasting groups of *Prunus cerasifera* subsp. *pissardii* (Fig. 19b) at the border with the agricultural landscape creates a "soft boundary" effect for the city. The compositional solution of the square (Fig. 19c) is based on the principle of concentric zoning, where the rhythmic alternation of golden *Spiraea japonica 'Anthony Waterer'* and spherical *Thuja occidentalis 'Globosa'* creates a cozy recreational zone within an intensive traffic ring. The exotic silhouettes of *Catalpa bignonioides* and dense coniferous groups (Fig. 19d) provide the district with distinct individuality, transforming a "dormitory suburb" into a high-quality aesthetic environment.

Discussion: The Visual Code of Chernihiv's Green Architecture

The visual synthesis of Chernihiv (2023–2025) covers the entire historical spectrum of the city: from the 11th-century Princely Dytynets to the newest 21st-century residential district, Masany. This continuity allows us to trace the evolution of landscape approaches. The visual analysis of 20 cases (Figs. 1–19) indicates that Chernihiv's green architecture serves as a complex tool for managing urban perception. The dense phytoscreening from 50 years ago (Fig. 5) creates a sharp contrast with the modern open parterres of the Alley of Heroes (Fig. 2), demonstrating a shift from "concealment" to "transparency" in urban design. According to K. Lynch's (1960) theory of "The Image of the City", urban identity is formed through landmarks and paths. The use of evergreen *Thuja occidentalis* (Fig. 3) ensures the stability of this visual effect year-round, while the multi-scale collage of spring bulbous plants (Fig. 11) proves the concept of "multi-scale perception" (Meng, 2023): a tourist perceives Chernihiv simultaneously as a majestic panorama and as a detailed natural object (a flower). In

Chernihiv, the sacral-relict layer (Figs. 4, 6, 13) functions as a primary landmark system. The integration of *Prunus mahaleb* (Fig. 4) and *Taxus baccata* (Figs. 6, 8) with 11th-century architecture creates what Norberg-Schulz (1980) defines as Genius Loci – a unique "spirit of place" where botanical age synchronizes with historical time. Similar strategies of using "ancient" flora to emphasize historical continuity are observed in the management of heritage sites in Rome and Athens (Loukaki, 2008).

The adaptive renovation layer (Figs. 7, 11, 15) represents a shift towards "biophilic urbanism" (Beatley, 2017). The introduction of *Magnolia* and *Platanus hispanica* acts as a "visual bridge" between the city's past and its European future. The soft renovation of alleys on the Val (Fig. 7) follows the Florence Charter (ICOMOS, 1982) principles, where historical authenticity is preserved through dendrological succession. Our results show that the rhythmic use of color (e.g., *Tulipa gesneriana* layouts in Fig. 11) aligns with Q. Meng's (2023) findings on how floral displays enhance the psychological comfort of urban transit zones.

The urban remediation layer (Figs. 9, 12, 19) demonstrates the power of "visual healing". Using phytodesign to mask the architectural dissonance of Soviet-era blocks (Figs. 8, 9, 12) aligns with D. Sim's (2019) concept of "Soft City", where vegetation humanizes rigid urban grids. The "monstrous" metamorphosis of infrastructure on Yeletska Str. (Fig. 7) is a compelling example of spontaneous greenery redefining utilitarian objects, a phenomenon explored in M. Gandy's (2013) studies on urban "accidental landscapes".

Conversely, monastic gardens (Fig. 13) serve as "islands of biophilia", where plant care has a profound sacred purpose beyond decoration. The sustainable nature of the design is further emphasized by the use of local species (e.g., *Salix* at "Zolotyi Bereh", Fig. 14) for decorative purposes, reflecting the global trend of ecological structuralism (Kingsbury & Oudolf, 2013).

The linguistic-landscape correlation is uniquely expressed at the Krasnyi ("Beautiful") Bridge (Fig. 15), where the blooming magnolias perfectly synchronize with the ancient Slavic meaning of the bridge's name. Modernity also leaves its mark: the presence of e-scooters and smart-illumination in micro-parks (Fig. 16a) signals Chernihiv's transformation into a "Smart City". Bright floral anchors on roundabouts (Fig. 17) serve a practical wayfinding function, helping tourists navigate the traffic grid.

Furthermore, the formal parterres (Fig. 2) and commercial micro-parks (Fig. 16) prove that Chernihiv is adopting the "New Perennials" style by Piet Oudolf, moving from mere decoration to ecological structuralism (Kingsbury & Oudolf, 2013). Finally, the coastal landscape of "Zolotyi Bereh" (Fig. 14) illustrates the synergy between natural floodplains and recreational design, mirroring international trends in sustainable waterfront revitalization (Prominski et al., 2012).

Finally, educational rockeries near schools (Fig. 18) fulfill an educational role, introducing children to biodiversity (*Taxus, Rhus, Yucca*). Thus, the green architecture of Chernihiv acts as a "soft power" (Sim, 2019), healing architectural dissonance and creating a resilient urban brand.

Conclusions

The study proves that the green architecture of Chernihiv (2023–2025) has evolved from a secondary decorative element into a primary driver of the destination's visual image. The strategic synthesis of diverse plant forms allows for the creation of a unique "biophilic identity" that distinguishes the city in the regional tourism market.

The use of "visual markers" (e.g., seasonal flower displays of *Magnolia* and *Chrysanthemum*) effectively extends the city's tourist season. These high-impact aesthetic objects generate "instagrammable" content, facilitating the organic digital promotion of Chernihiv as a modern and welcoming destination.

The preservation and visualization of relict species (*Prunus mahaleb, Taxus baccata*) in the historical core create a unique narrative of continuity. This approach enhances the tourist attractiveness of the sites, as visitors perceive the greenery not just as a background, but as a living component of the architectural heritage.

Modern landscape techniques, such as visual screening (to mask architectural dissonance) and wayfinding (using floral anchors at transport hubs), significantly improve urban navigation and psychological comfort. The expansion of these standards to residential districts (Masany) proves that green architecture is a tool for the comprehensive humanization of the city, making it attractive for long-term visits and investment.

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OL – conceptualization, data curation, investigation, visualization, formal analysis, writing – original draft; VS – data curation, investigation, software; VM – data curation, investigation, validation; OS – methodology, investigation, formal analysis; OY– project administration, data curation, investigation, visualization, formal analysis, software.

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Conflict of Interests

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.

References

[1] Ashworth, G. & Page, S. J. (2011). Urban tourism research: Recent progress and current paradoxes. Tourism Management, 32(1), 1–15. https://doi.org/10.1016/j.tourman.2010.02.002

[2] Beatley, T. (2017). Biophilic cities: What are they? In: T. Beatley (Ed.), Biophilic cities: Integrating nature into urban design and planning (pp. 45–81). Island Press.

[3] Bondar O. M. (2014). Chernihiv: City and fortress in the 14th – 18th centuries (O. M. Tytova, Ed.). Oleg Filiuk Publisher.

[4] Gandy, M. (2013). Marginalia: Aesthetics, ecology, and urban wildlands. Annals of the Association of American Geographers, 103(6), 1301–1316. http://www.jstor.org/stable/24537553

[5] Hanna, S., & Rowley, J. (2008). An analysis of terminology use in place branding. Place Branding and Public Diplomacy, 4(1), 61-75. https://doi.org/10.1057/palgrave.pb.6000084

[6] ICOMOS. (1982). Historic Gardens (The Florence Charter 1981). International Council on Monuments and Sites. https://www.icomos.org/images/DOCUMENTS/Charters/gardens_e.pdf

[7] Illychevskyi, S. (1931). Feather grass (Stipa capillata L.) in Chernihiv in connection with the question of Chernihiv belonging to the Forest zone. Bulletin of Natural Sciences, 1–2, 63–65.

[8] Kaplan, R., & Kaplan, S. (1989). The experience of nature: A psychological perspective. Cambridge University Press.

[9] Kavaratzis, M. (2004). From city marketing to city branding: Towards a theoretical framework for developing city brands. Place Branding, 1(1), 58–73. https://doi.org/10.1057/palgrave.pb.5990005

[10] Kingsbury, N., & Oudolf, P. (2013). Landscapes in Landscapes. Thames & Hudson.

[11] Kushniruk, T. M., Petryshche, O. I., & Dodurych, V. V. (2025). Taxonomic characteristics of landscape and recreational framework in the system of ecological urban planning. Bulletin of V. N. Karazin Kharkiv National University. Series Ecology, 33, 107–120. https://doi.org/10.26565/1992-4259-2025-33-08

[12] Loukaki, A. (2008). Living ruins, Value conflicts (1st ed.). Routledge. https://doi.org/10.4324/9781315250335

[13] Lukash, O. V. (2021). Steppe oak forest with Prunus mahaleb L. in the city of Chernihiv. In Modern phytosozological research in Ukraine: collected articles dedicated to the memory of the prominent phytosozologist, Dr. Biol. Sci., Prof. T. L. Andriyenko-Malyuk (1938–2016) (Vol. 5, pp. 48–52). Talkom.

[14] Lukash, O., Miroshnyk, I., Morskyi, V., Stupak, Y., Aravin, M., Shakhnazarian, O., Sliuta, A., Sazonova, O., Strilets, S., & Szikura, A. (2024). Ecological strategies of ornamental invasive tree and shrub species in Chernihiv's green Infrastructure. Taiwan Journal of Forest Science, 39(4), 241–252. https://doi.org/10.7075/TJFS.202412_39(4).0006

[15] Lynch, K. (1960). The image of the city. MIT Press.

[16] Meng, Q. (2023). Construction technology of multi-scale perception model of urban green space. In Q. Meng (Ed.). Remote sensing of urban green space (pp. 145–206). Springer. https://doi.org/10.1007/978-981-99-0703-8_6

[17] Norberg-Schulz, C. (1980). Genius Loci: Towards a phenomenology of architecture. Rizzoli.

[18] Prominski, M., Stokman, A., Zeller, S., Stimberg, D., & Voermanek, H. (2023). River. Space. Design. Planning strategies, methods and projects for urban rivers (3rd ed.). Birkhäuser.

[19] Sim, D. (2019). Soft city: Building density for everyday life. Island Press.

[20] Smardon, R. C., Palmer, J. F., & Felleman, J. P. (1986). Foundations for visual project analysis. Wiley. http://dx.doi.org/10.1080/01426390220149520

[21] Sukosyah, A. W., Hussein, A. S., & Isharina, I. K. (2025). The effect of green destination image on tourist revisit intention through green perceived value and satisfaction. Jurnal Ilmiah Manajemen Kesatuan, 13(5), 3363–3674. https://doi.org/10.37641/jimkes.v13i5.3671

[22] US. Bureau of Land Management. (1980). Visual resource management program. Washington, D.C.: Dept. of the Interior, Bureau of Land Management, Division of Recreation and Cultural Resources.

[23] WFO (2025). Plant List. In World Flora Online. Version 2023.06. Retrieved September 04, 2023, from https://wfoplantlist.org/taxon/wfo-0000781866-2025-12.