

VISUAL POWER AND URBAN PERSPECTIVE: DOHA'S POST – 2022 STADIUMS

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Abstract. This paper examines the FIFA 2022 World Cup stadiums, understanding their role as urban artifacts that extend beyond sports infrastructure. It aims to evaluate whether these mega-structures function as active urban nodes or as symbolic objects within Doha's horizontal, car-oriented, and polycentric urban fabric. The methodology combines spatial analysis, including figure-ground mapping and buffer analysis, with interpretive architectural theory drawing on Norberg-Schulz's *genius loci*, Pallasmaa's phenomenology, and Venturi et al.'s (1988) duck-shed typology. Findings indicate that although inactive between events, the stadiums remain visually and symbolically operative, indicating that their power lies in territorial presence rather than urban integration.

Keywords: Doha, megaprojects, stadiums, sculptural mega-objects, sport architecture, urban catalyst.

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1. Introduction

The scholarly discourse has repetitively demonstrated that mega-events can serve as effective tools for urban regeneration, which create opportunities for major spatial interventions. Examples such as Olympic cities in Sarajevo and Barcelona are often seen as models for urban change through sporting mega-events. Sarajevo took advantage of the 1984 Winter Olympics to build sports facilities, increase housing, and improve transportation infrastructure (Husukic & Zejnilovic, 2023), while Barcelona used the 1992 Summer Olympics to revitalize waterfront areas and encourage tourism-based mixed-use developments (Baroghi & Ribeiro, 2024).

Nearly two decades later, Cape Town hosted the 2010 FIFA World Cup. At the time it aimed to use stadium construction and related infrastructure to boost urban renewal and social integration. The goal was to improve public spaces, upgrade transport networks, and create a more inclusive urban environment (Pillay et al., 2009). Porto Alegre the 2014 FIFA World Cup host, offers a different viewpoint of a city which invested in stadium upgrades and related infrastructure. However, research shows that the expected urban regeneration did not happen due to the limited integration into everyday life and few lasting benefits for surrounding neighborhoods (Nobre, 2017). Similarly, Rio de Janeiro's Porto Maravilha is another important example of a city that went through major redevelopment due to a

large event, but it struggled to deliver the promised urban regeneration results. The 2016 Olympics did lead to significant investments in public spaces, transportation, and cultural infrastructure. However, the legacy analysis shows that the project offered limited long-term benefits for local communities. Occupancy rates were slow, and the redevelopment model depended heavily on private investment (Paradedda, 2015). These cases, along with many others, demonstrate that while large events can provide valuable chances for urban renewal, the success of these efforts depends on careful planning, integration with the existing urban environment, and consideration for long-term legacy (Viehoff & Poynter, 2015; Gaffney, 2013; Riza, 2015).

Beyond their potential role as urban catalysts, these projects often play a decisive role in shaping a city's visual identity and in positioning it on the global map. Many mega-event projects have outstanding aesthetic, sculptural, and symbolic qualities that significantly impact the city's spatial image. Examples like the 1976 Montreal Olympic Stadium show how one iconic structure can become one of the most recognizable symbols of a city, regardless of the debates over its functionality and cost. Similarly, more recent cases like Beijing's National Stadium, known as the "Bird's Nest", and the National Aquatics Centre, the "Water Cube", built for the 2008 Olympic Games, illustrate how striking architecture can shape global perceptions of a city. Their value lies in their ability to attract interest, improve the urban skyline, and create lasting memories.

Within that context, Doha – the host of the 2022 FIFA World Cup remains an exceptional case, due to the confluence of several factors: 7 out of 8 stadiums used for the Cup were built almost simultaneously, in a predominantly low-density, car-oriented city, often on previously undeveloped or peri-urban land. Moreover, urban morphology lacked a pre-existing walkable urban core into which these stadiums could easily integrate. This combination automatically generated a condition of what may be termed “scattered monumentalism”, where stadiums may act as statues without urban dialog. In effect, this collection of stadiums constitutes a spatial laboratory for testing the competing models of “stadium as sculpture” versus “stadium as urban catalyst”.

Doha's stadiums are not an isolated case but part of a recurring global challenge: a pattern in which mega-event architecture oscillates between symbolic branding and uncertain long-term urban catalysts (Müller, 2015; Gold & Gold, 2024). When these infrastructures fail to embed themselves into the everyday functioning of the city, they risk becoming residual structures within the urban landscape, large, highly visible yet spatially and programmatically underutilized voids. This situates Doha within a broader professional and academic debate on post-mega event legacy, emphasizing the need for frameworks that critically examine both the spatial as well as social afterlives of such monumental interventions. To address the question of whether the stadiums built for the 2022 FIFA World Cup have become integrated urban nodes within Doha's urban structure or primarily operate as iconic symbolic objects, this study employs an integrated methodological framework. Analysis of 7 stadiums built purposefully for the 2022 World Cup, is conducted through combination of spatial analytics with interpretive architectural theory. The spatial component consisting of figure-ground analysis and buffer mapping, is used to explore each stadium's morphological position within the city, the characteristics of its surrounding urban fabric, and its potential to function as an urban catalyst. In this context, stadiums are approached as potential urban catalysts, understood as spatial interventions capable of stimulating and accelerating change in their wider surroundings (Rossi, 1982). In particular the paper will observe their morphological integration, pedestrian connectivity, and the presence of mixed and active urban functions within defined buffer zones.

Furthermore, buffer distances of 250m, 500m, and 1000m are selected to capture nested spatial scales of urban interaction, ranging from immediate building adjacency to walkable pedestrian context, and finally to the broader infrastructural and urban field (Gehl, 2011; Hillier, 1996). This multi-scalar approach allows for a systematic assessment of how stadiums relate to their surrounding urban fabric across defined spatial thresholds. The spatial data is derived from high-resolution satellite imagery of open-source mapping platform – OpenStreetMap, which were imported and processed using ArcGIS for the generation of figure-ground relationships and buffer zone analyses. Rather than using numerical thresholds, the

classification is based on a qualitative assessment derived from repeated comparative reading of relative differences in spatial continuity, functional mix, and connectivity observed consistently across the selected locations.

Finally, the analysis classifies stadiums according to their degree of urban integration based on a composite assessment of multiple factors: reading of morphological continuity, functional diversity, and infrastructural connectivity. *High urban integration* is here characterized by continuity in urban fabric, presence of mixed-use buildings, as well as strong pedestrian and infrastructural linkage with surrounding areas. *Medium integration* indicates partial connectivity and transitional urban conditions where the stadium is embedded in fragmented or emerging urban structures. *Low integration* refers to isolated or mono-functional environments dominated by infrastructural voids, discontinuous built form, and weak integration into the surrounding urban milieu.

The theoretical dimension of the analysis, draws on Christian Norberg-Schulz's (1978) concept of *Genius Loci* to assess how, and whether, these stadiums establish a sense of place within Doha's fragmented urban landscape, and on Juhani Pallasmaa's (2005) phenomenological approach to examine the sensory, experiential, and physical qualities of these large-scale environments. Additionally, the analysis incorporates one of the most influential frameworks in architectural theory Venturi et al. (1988) distinction between the *duck* and the *decorated shed*, to evaluate the extent to which Doha's stadiums operate primarily as symbolic sculptural forms or as functionally integrated urban structures. Jointly, these methods allow the paper to look at both the tangible spatial impact and the intangible iconic significance in the post 2022 World Cup period. Despite being grounded in the specific context of one city, this research contributes to broader theoretical and globally relevant debates on how iconic infrastructures shape urban processes, perception, and memory beyond their immediate locality. At the same time it contributes to the ongoing debate on the impact of World Cup stadiums on urban development and infrastructure in Qatar (Azzali, 2019; Al-Dosari, 2020; Mohamed, 2022).

2. Doha – development and fragmented urban structure

Doha is a relatively young and fast-changing city that is confidently building its identity on the international scene. A considerable change of the city landscape occurred in less than three decades, due to urban, spatial, and demographic transformation. The population of around 18 thousand residents in the 1950s (Wiedmann et al., 2012) increased to nearly 1.2 million inhabitants in 2026 (World Population Review, 2026). Academic literature recognises four different phases of the urban development in Doha: pre-oil settlement, modernisation period, oil city and contemporary globalised centre (Wiedmann & Salama, 2013). Throughout this process, the city transformed from socially

produced and locally inherited urban footprint, toward a model which is characterized by top-down planning, large-scale infrastructure, and development strategies targeting increased global visibility (Wiedmann et al., 2012).

One of the key outcomes of this transformation has been the emergence of spatial fragmentation as a defining characteristic of contemporary Doha. Rather than developing as a continuous urban fabric, the city has expanded through a series of large-scale, functionally specialized enclaves that are primarily connected by vehicular infrastructure. Car-oriented urbanism, and extensive highway networks have gradually replaced more integrated urban structures (Wiedmann et al., 2019). Research demonstrates that Doha's residential area doubled between 2004 and 2017 triggering construction of large-scale infrastructure projects, while at the same time registering significant decline of spatial integration during the same period (Wiedmann et al., 2019; Wiedmann & Salama, 2013). This suggests a pattern of urban sprawl, due to the horizontal city expansion, which has not kept the pace of the population growth.

The production of iconic architecture and mega-projects has further contributed to the fragmented urban landscape. Doha has increasingly turned to landmark structures, cultural institutions and mega-events as a strategy of city branding to create a global identity (Alraouf, 2019). These projects went a long way in affirming the global presence of the city, but they have often been configured from inception and design as isolated destination and not integrally tied bricks within an urban organism. As a result, most of Doha's landmark developments are infrastructurally-connected urban islands rather than pedestrian-bound areas accessible from the human scale or on foot time (Alraouf, 2019; Wiedmann & Salama, 2013).

Against that backdrop, the 2022 FIFA World Cup stadiums (Figure 1) provide a particularly relevant perspective for testing the cities fragmentation. As some of the most prominent urban developments, which have already earned the title of architectural icons in contemporary Qatar and beyond, they simultaneously operate as national symbols, and strong spatial and visual anchors.

3. Stadiums: iconic volumes and “sculptural voids”

To trace the history of the modern stadium is to follow the evolving spatial responses to mass gatherings as forms of leisure, spectacle, and collective time-consumption that co-create values, generate collective cohesion, and authentic expression (Wainwright & Ansell, 2008). Their emergence as sculptural objects spans from the ancient Greco-Oriental “stadium-landscape”, embedded within the morphology of natural terrain, through the Roman-Occidental “urban stadium”, inserted into the dense core of the ancient city, to contemporary stadiums, increasingly spatially isolated, characterized by technological innovation, environmental optimisation, and functional flexibility (Yang

& Cole, 2020; Allegri & Faroldi, 2024; Allegri & Battaglia, 2025). Throughout history, these megalithic arenas have served as experimental grounds in which *venustas*, *firmitas* and *utilitas* are tested on a monumental scale.

Once reserved primarily for the amusement of the nobility, the modern proliferation of stadiums corresponds not only to global urban growth but also to strategic “short-cuts” in city branding, as a form of entrepreneurial urbanism, catalysts for physical regeneration, and key nodes of interaction between people, place, and action (Ahlfeldt & Maennig, 2010; Kiuri & Teller, 2012). Rather than merely extending the legacy of the Roman Colosseum, the 21st century stadium has become a hybrid urban artefact, simultaneously an icon, an infrastructural machine, and a socio-spatial interface. Its significance lies as much in its symbolic and territorial presence as in its programme and the capacity to mediate global flows of capital, media, and spectatorship (Davies, 2016).

In parallel, the stadium has evolved from a largely utilitarian and often aesthetically indifferent structure into an iconic symbol of a place, an event, a city, and even a nation. Its elevation to a spatial landmark is closely tied to the stadium typology itself, which inherently allows for the expression of technical and design virtuosity, simultaneously orchestrating the emotional catharsis and collective passion generated by sports competitions – the new “opiate of the masses” (Gammon, 2011). Together with the events taking place at the locations, the stadiums now have the capacity not only to become landmarks but also to project spectacle and civic engagement.

Beyond its symbolic and structural roles, the stadium acts as a space that navigates the connection between indoor and outdoor areas. Using Deleuze's idea of the fold (1993), it can be argued that the stadium serves as an “interior of the outside”. Its large volume holds and showcases the surrounding urban and landscape environment, at the same time creating a space where indoor and outdoor elements constantly interact. The void is not just an empty container; it is an active area where the city, the spectators, and the grand structure intersect and blend together. This emptiness allows for visual, social, and symbolic exchanges, turning the stadium into both an infrastructure and a space for shared experiences. In this way, the void represents a point of spatial independence, where its vastness makes an impact through the emptiness it holds, shaping and reflecting the urban and social environment.

In this study, the notion of the Deleuzian fold is introduced to interpret the results of the analysis, specifically examining whether Doha's stadiums generate a continuous field between architectural interiority and the surrounding urban life, or whether they instead operate as self-contained monumental objects. This study challenges the possibility of the fold occurring between inside and outside, suggesting instead that the stadiums mediate between two fundamentally asymmetrical worlds: the ritualized, hyper-designed interior and the open, under-articulated, and predominantly vacant landscapes that surround them.

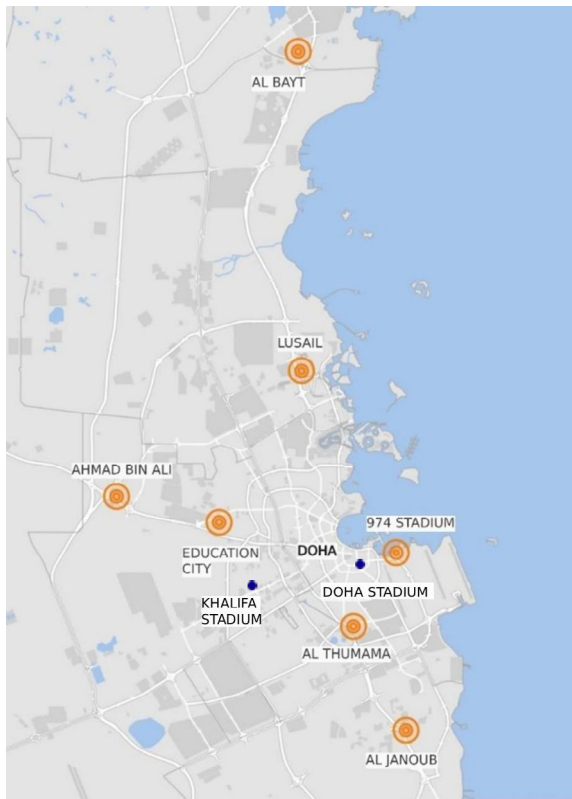


Figure 1. Doha Stadiums constructed for the 2022 World Cup (source: authors)

4. Stadiums, sport and cultural memory in Doha: historical foundations

In order to understand the contemporary spatial and symbolic role of stadiums in Doha, it is critical to consider the historical trajectory through which sport venues were initially rooted in the city's social, cultural, and political life. The importance of sports infrastructure in the spatial and social fabric of the city started long before the construction of the 2022 FIFA World Cup stadiums. In fact, historically, stadiums were not merely infrastructural responses to sport practice, but cultural institutions that negotiated relationships between state, society, and modernity (Rolim Silva, 2026).

The Doha Stadium is the earliest and most emblematic example of this process. Emerging in the late 1950s from the grounds of the Doha Preparatory and Secondary School, the stadium did not originate as an isolated architectural object. Rather, it developed organically within a central educational environment, where sport, physical education, and civic formation were closely intertwined. In this early phase, the stadium functioned as an extension of the school space, hosting physical education activities, youth gatherings, and public celebrations that were embedded in the everyday life of the city (Rolim Silva, 2019).

As Qatar's sports system became progressively institutionalized during the 1960s and early 1970s, the Doha Stadium acquired a broader national significance. It became

the principal venue for school festivals, mass gymnastics displays, football matches, and official ceremonies promoted by state institutions such as the Supreme Sports Committee and the Youth Welfare Supreme Council. These events transformed the stadium into a ritualized space, where collective identities were performed through disciplined bodies, choreographed movement, and visual symbolism. In this context, sport operated less as competitive practice and more as a pedagogical and cultural language through which modern citizenship and national belonging were enacted (Rolim Silva, 2022).

Drawing on the concept of *lieux de mémoire* (Nora, 1989), the Doha Stadium can be understood as a site where memory was actively produced through repetition, ritual, and institutional presence. The school festivals held at the stadium exemplified the creation of invented traditions that linked youth, education, and physical culture to the authority of the state and the royal family. The presence of the Emir, the ruler of Qatar, and other political leaders at these events reinforced the stadium's role as a space of symbolic mediation, where political legitimacy and social cohesion were publicly staged. Beyond its local and national functions, the Doha Stadium also became a platform through which Qatar projected itself internationally. High-profile visits by global sporting figures, such as Muhammad Ali and Pelé, were framed as moments of symbolic recognition, situating Qatar within a global sporting imaginary. These events further consolidated the stadium's status as a cultural landmark, embedding it in collective memory even as its functional centrality diminished over time. The persistence of nostalgia associated with the Doha Stadium underscores the primacy of its intangible legacy, rooted in shared experiences rather than continuous use (Rolim Silva, 2026).

In addition to that, the construction of the Khalifa Stadium in the mid-1970s marked a significant shift in scale and institutional ambition, while maintaining continuity in the cultural logic underpinning sport in Qatar. Unlike the Doha Stadium's school-based origins, the Khalifa Stadium was deliberately conceived as the core of a national sports complex, later known as the Khalifa Sports City. From its inception, it was designed to host regional and international competitions, reflecting Qatar's growing engagement with global sport governance and its desire for diplomatic recognition through sport.

The naming of the stadium after the Emir reinforced its role as a site of political memory. The association between the ruling family and the built environment personalized national space, embedding leadership and authority within the landscape of sport. The inauguration of the Khalifa Stadium in conjunction with the Arabian Gulf Cup further elevated its symbolic status, transforming it into a regional stage where sovereignty, modernity, and national pride were publicly articulated. As with the Doha Stadium, the significance of the Khalifa Stadium derived not only from its physical structure but from the events, rituals, and narratives that unfolded within it (Rolim Silva, 2019, 2022).

5. Case studies analysis

With the longest distance between two stadiums being just 56 km, Qatar created a comparatively intimate and distinctively compact footprint involving its eight football stadiums, out of which 7 were constructed for the World Cup. Their spatial distribution strategy across the city does not suggest that a uniform urban logic was followed. Rather, it is argued that the allocation model produces a hybrid spatial condition that “dances” between Greco-Oriental – landscape oriented monumental display and Roman occidental – urban oriented integration model. Each stadium is analyzed according to its location, figure-ground and buffer analysis, urban integration, as well as phenomenological and symbolic interpretation.

5.1. Lusail Stadium

Lusail Stadium, is the largest stadium built, and is located at the centre of a masterplanned but still maturing new city of Lusail.

The figure-ground composition (Figure 2) reveals a condition in which the Stadium occupies a singular, uninterrupted geometric form, whose scale is disproportionate compared to other, scattered, mostly ancillary facilities, or other built element in the area. Their spatial distribution lacks continuity typical of urban blocks, resulting in a low degree of morphological integration. The most striking outcome of the figure-ground analysis is the overwhelming presence of voids. These voids are not residual spaces, but intentionally produced, large-scale open surfaces, primarily parking areas, unused parcels, and sterile infrastructural buffers. Their size, continuity, and lack of programmatic differentiation create a landscape of emptiness that dilutes the spatial influence of the small-scale built forms.

This is evident across 250-meter core zone, where the stadium stands as the sole dominant structure. The fragmented ancillary facilities, parking and access infrastructure appears within the 500-meter radius, producing a band of loosely organized, low-density program that neither anchors nor integrates the stadium into a coherent urban field. At the scale of the 1-kilometer radius, the buffer intersects emerging grids of mixed-use and residential development. Yet these remain morphologically detached and separated from the stadium area by major arterial corridors and undeveloped plots (Figure 2).

Across all three distances, the analysis reveals a persistent lack of structural continuity, positioning Lusail Stadium not as an embedded urban catalyst but as a territorial legible landmark operating within a discontinuous and still-forming urban landscape.

At the same time, this condition also emphasizes its role as spatial marker, and a sculpture in space, reinforcing its visual and morphological singularity. Through the lens of phenomenology, Lusail Stadium offers a deep spatial and sensory experience. Its massive scale, sculptural volume, and geometric precision of the exterior skin create a strong visual presence that builds the perception of the surrounding urban landscape. The materials and details, inspired by cultural patterns, enhance tactile and visual perception of the space. This allows users and viewers to connect physically and emotionally with the environment (Pallasmaa, 2005). The design expresses cultural and national symbols in a direct manner, embedding meaning within the architecture instead of placing it on the surface. The geometric accuracy and impressive size make it an eye-catching landmark, with its identity tightly linked to its shape, serving as a clear example of a ‘duck’ in Venturi’s et al. (1988) terms.

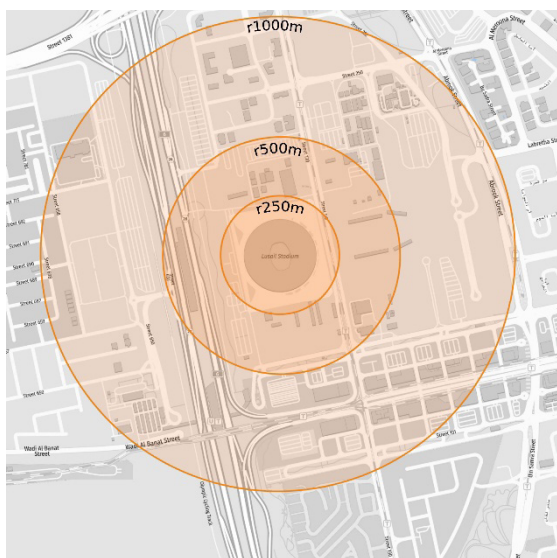


Figure 2. Lusail Stadium: Buffer Zones / Figure Ground

5.2. Al Bayt

The Al Bayt Stadium located in Al Khor 35km from Doha, demonstrates similar condition to Lusail stadium, a situation of territorial scale and isolation, with a pronounced discontinuity between the stadium and its surrounding landscape fabric.

Al Bayt operates as a self-contained monumental region set within an expansive field of open land and infrastructural clearances. The pronounced condition of spatial autonomy across is even more pronounced in the buffer analysis, across all radiuses. Within the 250-meter core zone, the stadium sits entirely alone, encircled by landscaped grounds that emphasize its monumental, object-like presence. At the 500-meter radius, the buffer encompasses large expanses of parking lots and circulation infrastructure, creating a broad peri-urban belt that functions primarily as a service envelope. Extending to the 1-kilometer scale, the buffer reaches the edges of Al Khor's infrastructural corridors and loosely arranged peripheral developments, yet none form a continuous or integrated urban fabric around the stadium (Figure 3).

The analysis indicates a very low degree of urban integration, characterized by extensive open land, infrastructural buffers, and the absence of continuous urban fabric across all buffer zones.

This condition of isolation in the desert landscape resonates appropriately with the architectural form, which directly embodies and communicates the cultural symbol of the traditional Bedouin tent. Thus, Al Bayt Stadium operates as an exemplary “duck” within Venturi et al. (1988) framework. Form and meaning are inseparable with its black-and-white textile-inspired exterior, massive scale, and tent-like silhouette. These elements function as immediate signifiers of Qatari nomadic heritage, embedding narrative and identity directly into the composition.

It materializes a cultural archetype into a permanent architectural landmark, generating a powerful spatial and sensory experience that reinforces the Genius Loci

(Norberg-Schulz, 1978). The enveloping form generates an atmosphere of shelter, enclosure, and collective gathering, while Pallasmaa's (2005) emphasis on embodied perception is evident in the stadium's tactile materiality, and monumental horizontality, which evoke the experience of the desert tent on an amplified scale. The stadium thus surpasses being just a bare venue but becomes a spatial narrative, one that transforms a vernacular memory into a contemporary urban symbol.

5.3. Ahmad bin Ali Stadium

Ahmad bin Ali Stadium – the Gate of the Desert is located in Al Rayyan area 20km west of Doha. Three years after the World Cup, the stadium stands as a singular, oversized geometric mass surrounded by a sparse constellation of discontinuous built fragments. The volume dominates the field, its edges dissolve into expanses of open land, parking terraces, service roads, and infrastructural voids. This spatial discontinuity results in exaggerated visibility, legible only because of the vastness of the voids around it (Figure 4).

Across the three buffer radii, the gradient of spatial conditions confirms the stadium's infrastructural isolation. Within 250 meters, the immediate environment is dominated almost entirely by parking platforms and perimeter security zones. At 500 meters, the pattern remains characterized by infrastructural land uses: multi-lane roads, highway interchanges, and expansive mobility corridors occupy the majority of the area. Built mass appears sporadically, yet in forms that are mono-functional and internally oriented, offering no reciprocal urban frontage. Within the 1-kilometer radius, the situation shifts only slightly: while larger destination elements, such as the Mall of Qatar and regimented residential clusters, enter the field, they remain separated from the stadium by major mobility infrastructures and disjointed circulation networks.

The stadium demonstrates a medium level of urban integration, as larger destination programs and residential clusters occur within the wider buffer area, although

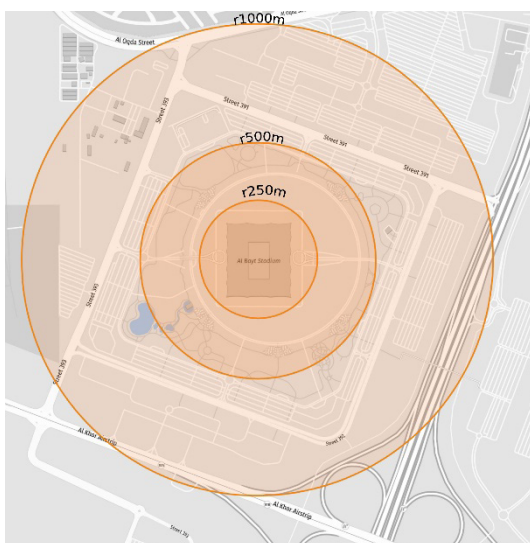
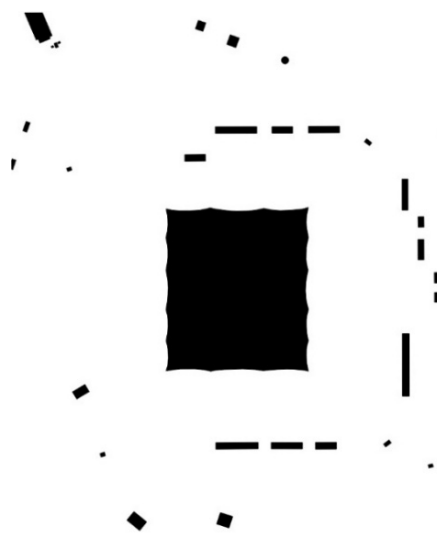


Figure 3. Al Bayt Stadium: Buffer Zones / Figure Ground



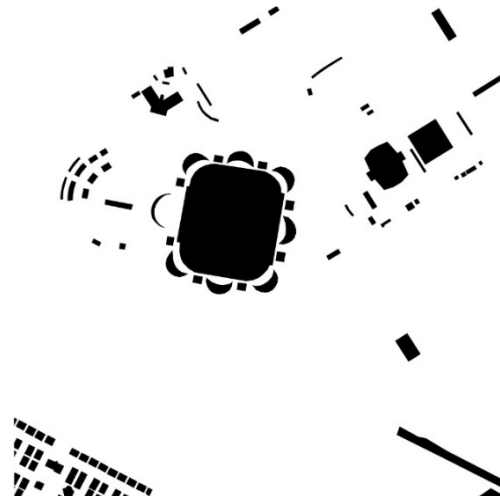
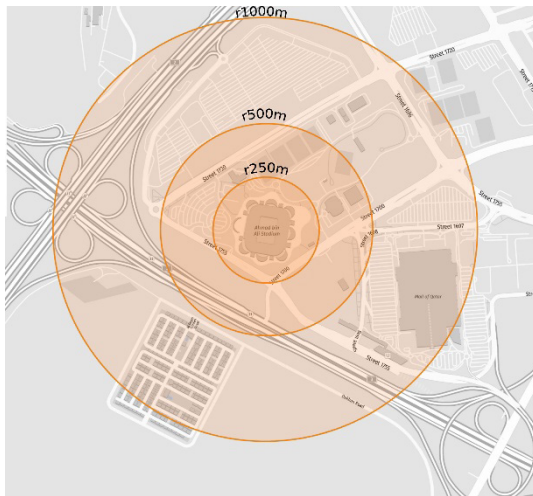


Figure 4. Ahmad bin Ali Stadium: Buffer Zones / Figure Ground

connectivity remains constrained by major transport infrastructure.

From a phenomenological perspective, Ahmad Bin Ali Stadium shapes experience through its layered, patterned façade, which filters light and creates shifting shadows that guide the transition from the open desert-edge environment into the concentrated interior bowl. The building relies on surface, rhythm, and enclosure to produce an embodied sense of arrival, offering sensory depth in an otherwise infrastructural landscape. Through Venturi et al. (1988), lens, the stadium operates as a hybrid: functionally a “shed” but visually approaching the “duck” through its culturally symbolic façade.

The applied geometric skin communicates identity independently of program, transforming the structure into a metropolitan landmark. Its expressive exterior exceeds its entirely functional role. In terms of *genius loci*, the stadium introduces a sense of place within an otherwise weakly defined urban edge through a strongly locally grounded concept. This is achieved through a contemporary

interpretation of traditional Qatari *naqsh* ornamentation and a symbolic system of engravings referencing the Al Rayyan shield, the sand flower, the palm tree, the chain, the banana swirl, the heart of a walnut, and the bridge ring (Michalak & Torberntsson, 2023).

Thus, its symbolic geometry and landmark presence “gather” the surrounding territory, providing a recognizable point of orientation and meaning within a rapidly transforming, infrastructurally dominated district.

5.4. 974 Stadium

The stadium is located in Ras Abu Abud district, 10km away from Doha center. As in the previous cases, a single, large, regularly contoured stadium footprint dominates a matrix of dispersed, mostly small-scale solids and extensive open ground. To the northwest, the shoreline establishes a distinct physical edge, while the remainder of the frame is characterized by low-density, discontinuous built fragments (Figure 5).

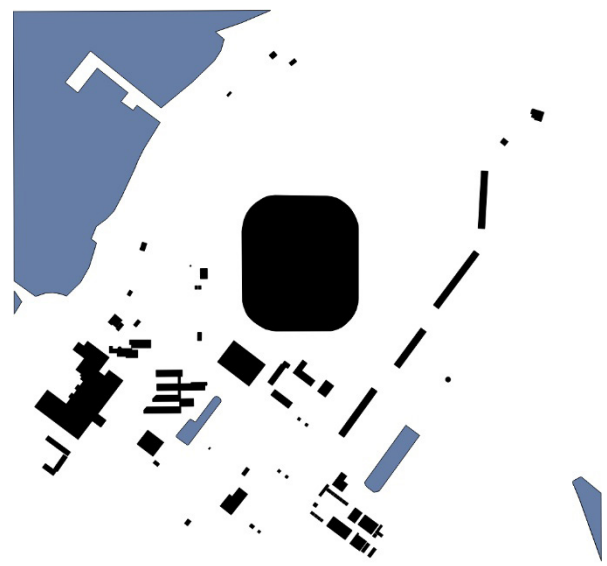
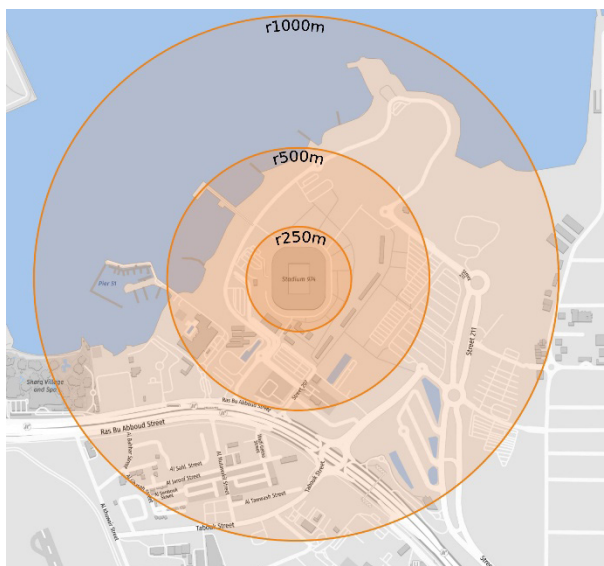


Figure 5. 974 Stadium: Buffer Zones / Figure Ground

Across the three radii, the buffer zones reinforce the reading of Stadium 974 as an infrastructurally enclosed coastal enclave. Within 250 meters, the surroundings consist primarily of service platforms, internal circulation roads, and large tracts of open land, producing a near-total absence of fine-grain or mixed-use program. The waterfront edge remains separated from the stadium through fenced-off or service-oriented parcels, limiting spatial continuity. At 500 meters, the pattern slightly diversifies but remains dominated by parking surfaces, segregated access routes, and low-density maritime facilities, which do not generate an urban interface or pedestrian rhythm. Only fragments of built mass towards Ras Bu Abboud Street begin to introduce urban form, but this remains disconnected by mobility infrastructure and unprogrammed gaps. Within the 1-kilometer radius, the first traces of more coherent residential and commercial structures appear, yet they are positioned across wide arterial roads and infrastructural interchanges that act as barriers.

Thus, even at the largest scale, the stadium persists as an episodic coastal artifact whose spatial logic privileges large-scale accessibility and controlled circulation over adjacent, integration, or everyday urban life (Figure 5).

The stadium's meaning is not embedded in its volumetric massing but in the applied and legible construction system, functioning as a semiotic gesture toward Doha's port history and global naval logistics. Stadium 974 does not function as a mere symbol; it serves as a practical and reusable space for events. Its meaning comes from the way materials are used and how they fit together, not just from the building's design. Stadium 974 aligns more closely with the logic of a 'decorated shed' rather than a "duck" in Venturi et al. (1988) terms, as its identity does not stem from a singular sculptural form but from an externally communicated concept, which is the visible use of shipping containers and modular steel frames.

This heightens material awareness, encouraging users to perceive the building as an assemblage rather than a monolithic object, which emphasis embodied perception and the sensory encounter with materiality. Simultaneously, the porous envelope and waterfront setting create a strong *genius locus*, allowing sea views and light to permeate the spectator's experience. This spatial porosity allows the stadium to become less about enclosure and monumentality and more about temporality, openness, and the integration of natural elements into collective urban experience.

5.5. Education City Stadium

The figure-ground layout of the Education City Stadium shows a well-structured and detailed urban landscape, which is noticeably different from the isolated situations found at other World Cup venues. The stadium is located in a dense environment of a campus, filled with university buildings, research centers, student facilities, and landscaped areas. This creates a strong visual link between the stadium and its surroundings. The stadium becomes one part of a larger academic urban network. Its design is clear and central, but the continuous built environment and public spaces around it make for a more unified area where the stadium's presence blends in rather than stands out (Figure 6).

The buffer analysis shows how the stadium influences the urban campus on multiple levels. Within a 250 m radius, the stadium is mainly surrounded by its own facilities, pathways, and circulation areas, which create a cohesive inner zone with controlled access. At a 500 m scale, the buffer meets educational buildings, student housing, and university services. This overlap reveals the stadium's direct connection to the daily operations of Education City. When looking at the 1 km radius, the buffer includes the larger academic district, major transport routes, and parts

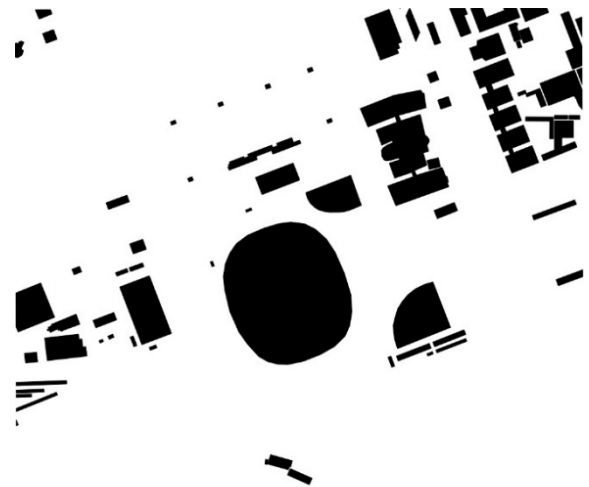
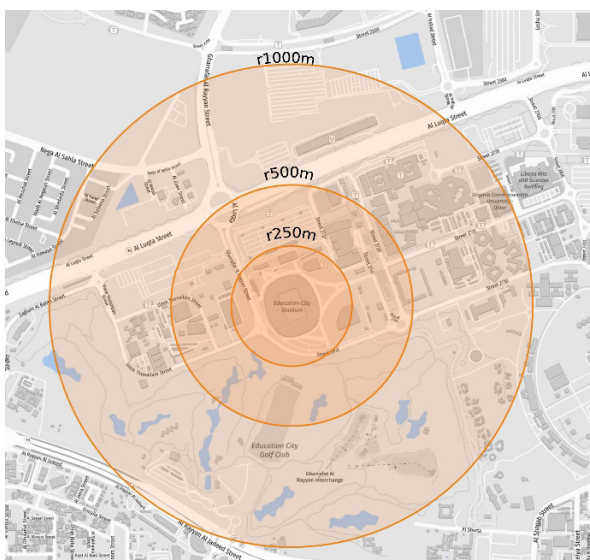


Figure 6. Education City Stadium: Buffer Zones / Figure Ground

of the golf course, highlighting how the stadium serves as a central point within a wide institutional area (Figure 6).

Unlike the other World Cup stadiums, Education City Stadium demonstrates a high degree of urban integration, functioning as a central element within a continuous institutional fabric where morphological continuity, functional adjacency, and pedestrian connectivity are strongly present. Using Venturi et al. (1988) perspective, we can see Education City Stadium as a hybrid between the “duck” and the “decorated shed”. Its basic form is simple, organized, and easy to understand, generated though an elliptical volume without the grandiosity found in Lusail or Al Bayt. Its meaning is applied instead of being inherent. However, the stadium’s unique diamond façade, which reflects and refracts light throughout the day, adds a symbolic aspect that makes the building more communicative. The stadium speaks through its surface, through the decorative skin that connects it to the surrounding academic environment, hinting at knowledge, learning, and intellectual diversity. Thus, the stadium becomes a “duck” as its form itself serves as a sign.

From a sensory perspective, Education City Stadium is more than just a geometric shape. It offers a sensory and atmospheric experience. Its perforated metal cladding creates shifting light and shadow patterns, resulting in a dynamic surface that reacts to sunlight, movement, and time. Approaching the stadium becomes a physical experience, as the changing reflections influence perception and guide visitors through subtle tactile signals. While the materials are technologically advanced, they embody what Pallasmaa (2005) calls an architecture that engages the senses, not just the eyes.

Through Norberg-Schulz’s (1978) lens, Education City Stadium acts as a structure that embodies and enhances the spirit of the academic landscape. It helps create a clear spatial identity for a district focused on research, learning, and cultural exchange. Its crystalline façade symbolizes intellectual clarity and the quest for knowledge, providing

a meaning that aligns with its environment. According to Norberg-Schulz (1978), the stadium is a recognizable landmark that stabilizes the spread-out university campus and creates a sense of spatial stability.

5.6. Al Thumama Stadium

Al Thumama Stadium is located 12km from the center of Doha. Its concept derives from traditional Qatari headgear worn by men – the lace pattern of the white ghafiya represented through perforated cladding on the façade.

The figure-ground diagram shows a situation where the stadium acts as a main geometric center surrounded by a diverse and uneven urban area (Figure 7). The nearby context includes fragmented residential blocks to the north and east, contrasting with large infrastructure corridors and highway interchanges to the west and south. This creates a clear divide: on one side, clusters of fine-grained and repetitive housing; on the other, extensive mobility infrastructure. The result is a noticeable difference in scale and texture, making the stadium a distinct object. Its form does not blend into the surroundings but instead serves as a separate visual landmark. Al-Thumama thus stands alone amid a mix of urban textures, emphasizing its role as an architectural object rather than simply a part of a continuous urban area.

Furthermore, the buffer analysis shows a disconnect between the stadium and its wider urban surroundings. Within a 250 m radius, the stadium is mainly surrounded by its own grounds, service areas, and circulation spaces, creating an inward-facing zone with little urban activity. At 500 m, the buffer starts to overlap with compact residential blocks, but the transition is still blocked by wide roads and infrastructure that limit movement and everyday interaction. Expanding to a 1 km radius reveals large road networks, interchange structures, and parking areas that dominate the space and break potential connections to nearby neighborhoods (Figure 7).

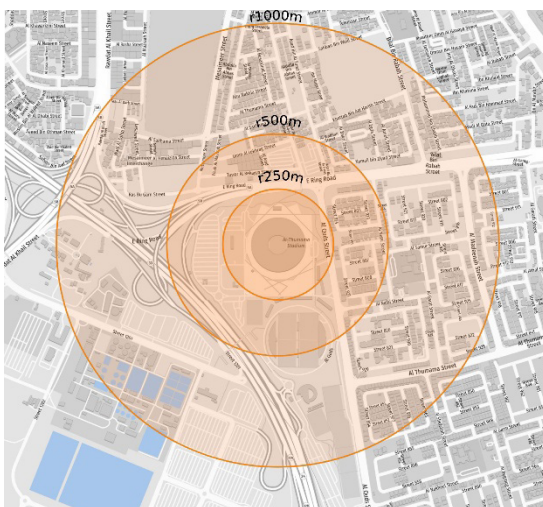


Figure 7. Al Thumama Stadium: Buffer Zones / Figure Ground

The analysis indicates a low to medium level of urban integration, as partial adjacency to residential fabric exists within the mid-range buffer, but overall connectivity is weakened by infrastructural barriers and discontinuous urban form.

It is argued that the building functions as a Venturi et al. (1988) “duck”, with its circular massing explicitly shaped to evoke elements of cultural symbolism directly into its architectural form. Furthermore, phenomenologically, repetitive geometric perforations and white enveloping surface create a tactile, rhythmic spatial experience, producing a calm, uniform atmosphere that recalls the bodily familiarity of woven fabric and the intimacy of headwear. In Schulz's (1978) terms, the stadium articulates a distinct place-identity by translating an everyday cultural object into monumental form. With that, it attaches contemporary urban development within recognizable local heritage.

5.7. Al Janoub Stadium

Al Janoub Stadium is located in the port city of Al Wakra 16 km south of Doha. It demonstrates a condition of territorial scale and isolation, with a pronounced discontinuity between the stadium and its surrounding landscape fabric. It is designed to directly evoke Qatari maritime heritage, with its boat-inspired form. Its expressive roof and curvilinear geometry embed cultural symbolism into the architecture itself, rather than relying on external signage or decoration, making the building's identity inseparable from its sculptural form, functions as Venturi et al. (1988) “duck”.

The figure-ground composition around it reveals a spatial condition in which the stadium sits as an isolated object embedded within a largely infrastructural landscape. The immediate surroundings are characterized by extensive road networks, which fragment the built fabric and weaken morphological continuity. The nearby

residential clusters are spatially detached from the stadium. This becomes particularly evident when examined through the buffer analysis. Within the 250-meter radius, the stadium stands entirely alone, its footprint occupying the core zone without the presence of any supporting or adjacent built forms. Expanding to the 500-meter radius, the buffer captures a ring dominated almost exclusively by infrastructural elements, parking lots, multilane roads, and interchange structures, which function less as connective tissue and more as a spatial barrier that reinforces the stadium's autonomy. At the scale of the 1-kilometer radius, the buffer finally intersects dispersed residential clusters and minor commercial pockets, yet these remain morphologically fragmented and disconnected, separated from the stadium precinct by the same vehicular corridors that define the mid-range zone (Figure 8).

The analysis indicates very low urban integration, as the stadium remains structurally and functionally detached from surrounding urban systems across all spatial scales.

Although the analysis illustrated a dominant condition of isolation, from phenomenological perspective (Pallasmaa, 2005), the stadium provides a multisensory experience. The flowing curves, dynamic roof geometry, and interplay of light and shadow create a sense of movement and rhythm that engages the body and the view. In terms of genius loci, Al Janoub Stadium acts as a grounding point for the local context and translates cultural narratives into spatial form. It functions as both a landmark and a point of orientation, structuring the surrounding urban environment and reinforcing a coherent sense of place (Norberg-Schulz, 1978).

6. Results and discussion

The analysis shows that Doha's World Cup stadiums take on a range of urban roles, which start to become visible

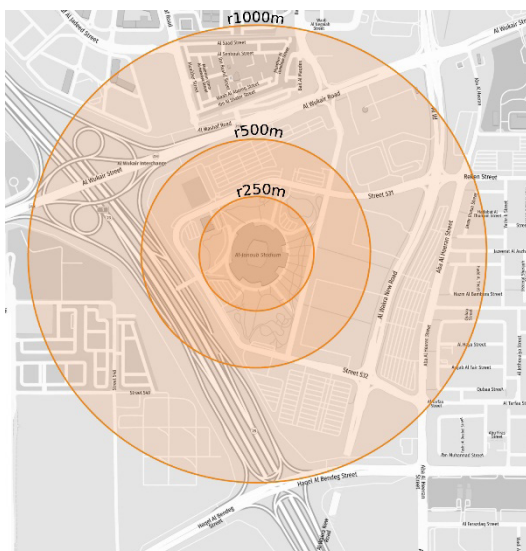


Figure 8. AL Janoub Stadium: Buffer Zones / Figure Ground

when one looks across the individual case studies. What the presented analysis allows to emerge is a kind of spectrum. Some stadiums sit more clearly as isolated landmark objects, almost detached in their immediate setting, while others feel a bit more folded into their surroundings, more tied into the everyday rhythms of the city.

Still, if we step back from the differences, a broader tendency becomes visible. Most of the stadiums lean towards operating as strong visual and symbolic anchors rather than places that actively generate continuous urban life. They tend to sit within infrastructure-heavy environments, where movement is fast, vehicular, and where mixed-use intensity is often missing or is very limited. That combination, in a way, makes everyday pedestrian presence quite thin. There is one partial exception that stands out, and that is Education City Stadium. Here the surrounding academic campus gives the building a different kind of proximity to daily activity, so the relationship between architecture and urban life feels more continuous, and less interrupted.

This pattern also becomes clearer when we read the stadiums through Venturi's typology, where most of them fall into the "duck" category. This already hints at a certain self-contained, object-like presence that doesn't easily dissolve into the urban fabric. And when we add Pallasmaa's focus on lived, sensory experience, together with Norberg-Schulz's idea of *genius loci*, it becomes even more evident that the sense of place here is often weak or externally

imposed, rather than something that grows gradually from everyday urban life.

Table 1 presents these observations pointing to both variation between the cases and a more general gap, between the symbolic visibility of the stadiums and their more limited role as sustained urban catalysts.

This model aligns with what Aureli (2011) identifies as "absolute architecture", autonomous objects defined by separation rather than relationality, and with Koolhaas's (1995) reflections on the post-urban condition, where iconicity and logistics replace traditional urbanity. In addition to that, it is argued that the pattern of scattered built fragments, discontinuous solids, and the dominance of open areas produces *islands of infrastructure*: urban artifacts that rely on large-scale mobility systems for access but fail to generate adjacent programmatic intensities or everyday urban rhythm (Graham & Marvin, 2001; Broto, 2022).

Addressing the question of whether Doha's stadiums create a continuous field between architectural interiority and the surrounding urban life, or whether they function instead as self-contained monumental objects, this study finds that interior and exterior, form and meaning, and object and landscape are intricately intertwined. Here the cultural narrative folds into the geometric form (the duck condition), the envelope folds into atmospheric perception (Pallasmaa, 2005), and the monumental object folds into infrastructural territory rather than urban fabric. The fold becomes a synthesis of symbol, surface, sensation,

Table 1. Analytical framework for stadium – City relationship

Stadium	Placement logic	Urban integration	Venturi et al. (1988) typology	Phenomenology Pallasmaa (2005)	Genius Loci / Place identity Noreberg-Shultz (1978)	Monument or urban node/catalyst
Lusail	Icon in master planned void	Low	Duck	Spectacle / territorially scaled object	Weak-emerging (identity imposed, not grown)	Monument
Al Bayt	Peripheral symbolic site (desert edge)	Very low	Duck	Objecthood / monumental isolation	Weak (symbolic overlay, not contextual)	Monument
Stadium 974	Temporary coastal void	Low	Hybrid (duck form + shed logic)	Ephemeral spectacle	Placeless (deliberately temporary)	Ephemeral Monument
Al Janoub	Suburban fringe outpost	Low	Duck	Immersive interiority vs. object exterior	Emerging (suburban identity forming)	Monument
Al Thumama	Transitional inner-periphery belt	Medium-low	Duck	Threshold condition (courtyard morphology)	Emerging-medium	Transitional Urban Node
Education city	Academic/knowledge cluster	High	Hybrid (duck form + shed logic)	Immersive campus logic	Strong (embedded in institutional narrative)	Urban Node
Ahmad bin Ali	Urban edge along commercial spine	Medium	Hybrid (duck form + shed logic)	Interface / patterned enclosure	Medium	Emerging Urban Node

and territory, producing a new spatial condition where the traditional urban-architectural order dissolves. The stadiums do not anchor the city; instead, the city folds around them as infrastructure, not as fabric. Thus, rather than operating as Deleuzian folds that gather and intensify surrounding social life into a continuous field, the stadiums more often appear as sculptural voids. Their monumental presences is defined as much by what surrounds them as by their own form. At the same time, their urban condition is shaped by a clear asymmetry: on one side, the highly programmed, ritualised interior of the stadium, embedded in global sporting and branding logics; while on the other, the low-density and infrastructurally mediated landscapes that fail to produce continuous everyday urbanity. In this sense, what is described as “the city folding around them” should be understood less as a smooth integration, and more as a spatial condition produced through separation, distance, and infrastructural mediation.

7. Conclusions

Observing stadiums as instruments through which widespread urban processes are presented, such as the negotiation between symbolic representation, urban integration, and long-term social legacy, the study demonstrates that their architectural form and sitting overwhelmingly privilege visibility, autonomy, and large-scale scenography. Consequently, their position within Doha's low-density, infrastructural layout leads to significant isolation from everyday urban dynamics, meaning they are more frequently seen than used. This visual prominence emphasizes object-in-the-desert aesthetics (Bolleter, 2019) rather than their role as active centers of urban life. In parallel, the urban setting resonates with theories of object-oriented and iconic urbanism, in which buildings serve as standalone visual landmarks rather than as parts of an interconnected urban fabric (Vidler, 2000; Jencks, 2005; Koolhaas & Mau, 1995). Beyond morphology, the stadiums' monumental isolation is also experiential: they operate as sculptural artefacts whose symbolic and territorial roles exceed their everyday functionality. Embedded cultural references, ranging from Bedouin tents and maritime forms to geometric ornamentation, further strengthen this symbolic charge, transforming the stadiums into identity-signaling devices where narrative depth amplifies monumental presence. Their voids, folds, and oversized envelopes mediate both spectator experience and metropolitan legibility, converting periodic mass gatherings into enduring spatial memory. Even when inactive between events, the stadiums remain visually and symbolically operative, constituting a landscape of ‘sleeping giants’ whose power lies in territorial presence, ability to structure the skyline and act as dominant visual and spatial markers within the fragmented urban field. Therefore, it is argued that Qatar's stadiums operate simultaneously as national monuments and as potential, though uneven, catalysts for urban change. Their impact on the city is still very much unfolding, and in a way, remains

open-ended. The 2022 World Cup has positioned Doha as a regional and global football hub, enabling the city to continue hosting various sporting events such as the Arab Cup 2025, FIFA Intercontinental Cup, FIFA U17 World Cup, etc. However, this position may become increasingly contested as regional competition intensifies, particularly with Riyadh's preparations to host the 2034 FIFA World Cup, which signals a potential shift in the geopolitical landscape of mega-event urbanism in the Gulf.

Whether their role will advance and weather they will gradually evolve into active urban centres or stay more static, self-contained destinations will ultimately depend on future planning decisions and the extent to which they are meaningfully integrated into the wider urban fabric. Bringing about this transition would really depend on a set of targeted urban interventions, not just one-off changes. That would include things like introducing mixed-use development around the stadiums, improving pedestrian connections, and activating the surrounding open spaces through more consistent public programming. It would also mean better integrating these areas into public transport-oriented development strategies, so they are not isolated nodes but part of the everyday urban fabric. At the same time, beyond the physical layer, the social legacy of the stadiums is still quite uneven. Their use tends to be event-driven, and spatially limited, which raises ongoing questions about accessibility, how people actually appropriate these spaces in daily life, and who really benefits from them across different user and social groups.

For now, however, they offer a thought-provoking perspective on the rising identity of this Gulf city and provide important lessons for other cities worldwide that employ extensive infrastructure as a tool for identity-building.

8. Author contributions

This article is the result of a collaborative effort between academics from the fields of architecture and sports studies. The conceptualization of the study and the overall research design were developed jointly by all authors. Individual contributions were primarily related to the development of specific sections of the manuscript in accordance with the authors' disciplinary expertise. Spatial analysis and architectural interpretation were led by the authors from the field of architecture, while contextual insights related to sports infrastructure and mega-event dynamics were provided by the authors with expertise in sports studies. The discussion and conclusion sections were developed collectively, reflecting a shared interpretation of the findings and their broader theoretical implications.

Disclosure statement

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

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