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ACTIVE ARCHITECTURE: DESIGNING SPORTS FACILITIES AND URBAN SPACES TO PROMOTE PHYSICAL ACTIVITY AND HEALTH

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Abstract

This comprehensive article explores the integration of sport and physical activity into architectural urban design as a means of promoting health and well-being. Drawing on interdisciplinary research in architecture, urban planning, sports science, and public health, the article examines the transformative potential of active architectural design principles in creating cities that prioritize physical activity and community health. Through case studies of notable projects, including the High Line in New York City, Olympic Park in London, and Cheonggyecheon Stream Restoration in Seoul, the article highlights the key role of architecture and urban planning in shaping active environments. By prioritizing accessibility, safety, connectivity, and inclusivity, architects and urban planners can create vibrant, inclusive, and healthy cities that support active lifestyles and foster social cohesion. The article concludes with recommendations for future research and practice aimed at promoting physical activity and improving public health outcomes through active architectural urban design.

Key Words*: architecture, design, urban planning, urban spaces, physical activity, health*

Introduction

The contemporary urban landscape stands as a testament to rapid urbanization, characterized by towering skyscrapers, sprawling concrete jungles, and an ever-expanding footprint of human settlement. However, amidst the hustle and bustle of modern life, there lies a stark reality: dense development, limited green space, and sedentary lifestyles have become the norm, contributing to a global health crisis of unprecedented proportions. With soaring rates of obesity, chronic disease, and mental health disorders, cities around the world are grappling with the consequences of urban living on public health.

In response to this pressing challenge, there is a growing recognition among policymakers, architects, urban planners, and public health professionals of the paramount importance of promoting physical activity and creating environments that support active living. Architecture is faced with new tasks with constantly increasing requirements of a functional-utilitarian and artistic-aesthetic nature. Architecture, urban design, the art and science of shaping the built environment, emerges as a powerful tool in this endeavor, offering architects and urban planners a canvas upon which to reimagine the cityscape. By integrating principles of sport and physical activity into the very fabric of urban design, cities can become catalysts for positive change, fostering environments that not only encourage physical activity but also enhance community health and well-being.

At the heart of this paradigm shift lies the concept of 'active design' – an approach to urban planning that prioritizes human health and well-being through the creation of built environments that promote physical activity and active living. From walkable streetscapes and vibrant public spaces to accessible recreational facilities and interconnected active transportation networks, active design principles seek to transform cities into thriving hubs of physical activity and social interaction.

Against this backdrop, this article embarks on a journey to explore the integration of sport and physical activity into urban design, delving into the transformative potential of active design principles on health and well-being. Through a multidisciplinary lens, we examine the latest research and evidence-based practices that underscore the critical role of urban design in shaping the health of communities worldwide. By shedding light on innovative approaches and best practices, we aim to inspire architects, urban planners,

and policymakers to embrace the principles of active design and champion a future where cities become engines of health, vitality, and sustainability.

Material & methods

This study utilizes an interdisciplinary approach, integrating insights from architecture, urban planning, sports science, and public health. The methods include a comprehensive literature review of scholarlyarticles, government reports, and best practice guidelines related to active design principles and their impact on public health. Additionally, three case studies—The High Line in New York City, Olympic Park in London, and Cheonggyecheon Stream Restoration in Seoul—were selected for in-depth analysis. These case studies were chosen based on their innovative application of active design principles and their documented impact on physical activity and community well-being.

Data was collected through various sources including academic journals, project reports, and interviews with key stakeholders involved in each case study. This multidisciplinary data collection approach ensured a holistic understanding of the principles and practices of active design in different urban contexts.

Results

Case Study 1: The High Line, New York City

The High Line, an elevated linear park situated on Manhattan's West Side, stands as a testament to the power of active design in urban redevelopment. Originally constructed in the 1930s as a freight rail line serving the bustling industrial district of Chelsea, the High Line fell into disuse and disrepair by the late 20th century, facing the threat of demolition amidst calls for urban renewal. However, a bold vision and grassroots advocacy movement emerged to reimagine the abandoned railway as a public green space, sparking a transformative journey that would redefine the city's skyline and social fabric.

“Once slated for demolition, the High Line underwent a remarkable metamorphosis, culminating in its rebirth as a verdant oasis suspended above the bustling streets of Manhattan.”. The park's design, led by landscape architecture firm James Corner Field Operations and architecture firm Diller Scofidio + Renfro, draws inspiration from the railway's industrial past while embracing principles of sustainability, accessibility, and placemaking. The linear park spans approximately 1.45 miles along the West Side, weaving its way through the vibrant neighbourhoods of Chelsea and the Meatpacking District, offering breath taking views of the Hudson River and the surrounding cityscape.

One of the defining features of the High Line is its commitment to pedestrian-centric design, with accessible ramps, staircases, and elevators seamlessly connecting various sections of the park. Visitors are invited to embark on a leisurely stroll or jog along the park's meandering pathways, enveloped by a lush tapestry of native plantings, wildflowers, and grasses. The park's elevated vantage point offers a unique perspective on the city below, providing moments of serenity and contemplation amidst the urban hustle and bustle.

In essence, the High Line stands as a shining example of active design's transformative potential in reimagining urban spaces as vibrant, inclusive, and sustainable environments. By repurposing underutilized infrastructure and embracing principles of accessibility, greenery, and community engagement, the park has become a beacon of inspiration for cities around the world seeking to unlock the latent potential of their built environments. As we reflect on the remarkable journey of the High Line, we are reminded of the enduring power of imagination, innovation, and collaboration in shaping the cities of tomorrow. (Figures 1, 2)

Key Features and Outcomes:

- Accessible entrances and paths promote inclusivity.
- Native plantings and green spaces improve mental well-being.
- The park has become a social hub, enhancing community cohesion.

Case Study 2: Olympic Park, London

The regeneration of East London's Stratford district for the 2012 Olympic Games stands as a monumental achievement in the realm of urban development and sports infrastructure. As the host city for the Olympics, London embarked on a transformative journey to revitalize a formerly industrial and marginalized area into a vibrant and sustainable urban landscape. At the heart of this ambitious endeavour was the creation of Olympic Park, a sprawling complex that would serve as the epicentre of athletic competition, cultural celebration, and community engagement.

Following the conclusion of the Games, Olympic Park underwent a remarkable metamorphosis, evolving from a temporary venue into a permanent legacy for the city and its residents. Queen Elizabeth Olympic Park stands as a testament to the enduring legacy of the Games, embodying the spirit of athleticism, inclusivity, and innovation that defined the Olympic movement. Spanning over 560 acres, the park boasts a diverse array of recreational facilities, green spaces, and cultural attractions, making it a beloved destination for locals and tourists alike. From world-class sporting venues and playgrounds to tranquil gardens and waterways, the park offers something for everyone, inviting visitors to explore, engage, and connect with nature and community.

Central to the park's design ethos is a commitment to accessibility and inclusivity, ensuring that all individuals, regardless of age, ability, or background, can fully participate in the park's offerings. Accessible pathways, ramps, and elevators provide seamless connectivity throughout the park, allowing visitors to navigate with ease and independence. Moreover, the park's diverse programming and events cater to a wide range of interests, from sports tournaments and fitness classes to music festivals and art exhibitions, fostering a sense of belonging and community cohesion. (Figures 3, 4)

Key Features and Outcomes:

- Sports facilities and green spaces promote physical activity and health.
- Diverse programming enhances social inclusion.
- The park’s development has spurred economic revitalization in the area.

Case Study 3: Cheonggyecheon Stream Restoration, Seoul

The Cheonggyecheon Stream Restoration project stands as a shining example of urban revitalization and environmental stewardship, transforming a neglected waterway into a vibrant and accessible public space at the heart of Seoul, South Korea. Rooted in a vision of sustainability, community engagement, and cultural heritage preservation, the project has reshaped the urban landscape, fostering a renaissance of public life and physical activity in the bustling metropolis.

At the core of the project was the bold decision to remove an elevated highway that had long obscured and marginalized the Cheonggyecheon Stream, effectively burying it beneath layers of concrete and neglect. By dismantling the barrier that had divided the city for decades, planners and policymakers sought to reconnect Seoulites with their natural and cultural heritage, unveiling the hidden beauty and potential of the once-forgotten waterway.

The restoration of Cheonggyecheon Stream involved a multifaceted approach that integrated ecological restoration, landscape architecture, and urban planning principles to create a harmonious and sustainable environment. The stream was revitalized and rehabilitated, with native vegetation reintroduced along its banks to enhance biodiversity and ecological resilience. Pedestrian-friendly promenades, bridges, and plazas were constructed to provide convenient access and connectivity, inviting residents and visitors to explore and engage with the revitalized waterway.

Today, Cheonggyecheon Stream serves as a vibrant linear park and recreational corridor, offering a sanctuary of tranquillity amidst the bustling cityscape. The stream's meandering pathways and tranquil water features provide a welcome escape from the urban hustle and bustle, inviting individuals of all ages to unwind, exercise, and connect with nature. Whether it's a leisurely stroll along the water's edge, a scenic bike ride through the lush greenery, or a spontaneous picnic with family and friends, Cheonggyecheon Stream offers myriad opportunities for outdoor recreation and relaxation.

Moreover, the restoration of Cheonggyecheon Stream has yielded a host of environmental, social, and health benefits for Seoul and its residents. The removal of the elevated highway has improved air quality and reduced noise pollution, creating a healthier and more sustainable urban environment. By providing a safe and accessible space for physical activity and leisure, the stream has promoted active living and improved public health outcomes, contributing to a more vibrant and resilient community.

In conclusion, the Cheonggyecheon Stream Restoration project stands as a testament to the transformative power of urban design in fostering sustainable development, community well-being, and environmental stewardship. By reclaiming and revitalizing a neglected waterway, Seoul has not only restored a vital piece of its cultural heritage but has also redefined the city's identity as a global leader in urban innovation and sustainability. As cities around the world grapple with the challenges of rapid urbanization and climate change, the Cheonggyecheon Stream Restoration project serves as a beacon of inspiration and hope, offering a blueprint for creating liveable, equitable, and resilient cities for future generations. (Figures 5, 6)

Key Features and Outcomes:
- Restoration of natural habitats enhances ecological health.
- Pedestrian pathways and green spaces encourage walking and relaxation.
- The project has improved air quality and reduced urban heat.

Disscussion

The case studies highlight the transformative potential of active design principles in urban settings. By prioritizing accessibility, safety, connectivity, and inclusivity, these projects demonstrate how urban spaces can promote physical activity and enhance community well-being. The High Line's accessible design fosters inclusivity and community engagement, Olympic Park's diverse amenities support a wide range of physical activities and social interactions, and Cheonggyecheon Stream's restoration reconnects urban residents with nature, promoting mental and physical health.

These examples underscore the importance of a holistic approach to urban design, integrating physical, social, and environmental considerations to create vibrant, healthy urban spaces. The success of these projects also illustrates the value of collaboration among architects, urban planners, public health professionals, and community stakeholders in designing inclusive and active urban environments.

Conclusions

In conclusion, the integration of sport and physical activity into urban design represents a pivotal step towards building healthier, more equitable, and sustainable cities for future generations. As the global population continues to urbanize at an unprecedented rate, the imperative to prioritize public health and well-being has never been more pressing. By embracing active design principles, architects, urban planners, and policymakers have the opportunity to reimagine the urban landscape as a catalyst for positive change, where physical activity is not only encouraged but woven into the very fabric of everyday life.

The case studies of the High Line in New York City, Olympic Park in London, and Cheonggyecheon Stream Restoration in Seoul serve as compelling examples of the transformative potential of active design in urban redevelopment. These projects have not only revitalized neglected urban spaces but have also fostered a sense of community pride, belonging, and well-being among residents. From the verdant greenery of the High Line to the dynamic cultural hub of Olympic Park and the serene beauty of Cheonggyecheon Stream, each project has left an indelible mark on its respective cityscape, inspiring future generations to prioritize health, sustainability, and social equity in urban planning and design.

Moving forward, it is imperative to build upon the successes of these projects and continue to advance research, policy, and practice that promote active living and create environments conducive to health and well-being for all residents. This requires a multidisciplinary approach that engages stakeholders from diverse sectors, including public health, urban planning, transportation, and recreation. By fostering collaboration and innovation, we can unlock the full potential of our cities as engines of health, vitality, and resilience.

As we look ahead to the future, let us remain steadfast in our commitment to creating cities that prioritize the health and well-being of all residents, regardless of age, ability, or background. By harnessing the transformative power of sport and physical activity, we can build a brighter, more inclusive, and sustainable urban future for generations to come. Together, let us strive to create cities where everyone has the opportunity to thrive, flourish, and lead active, healthy lives.

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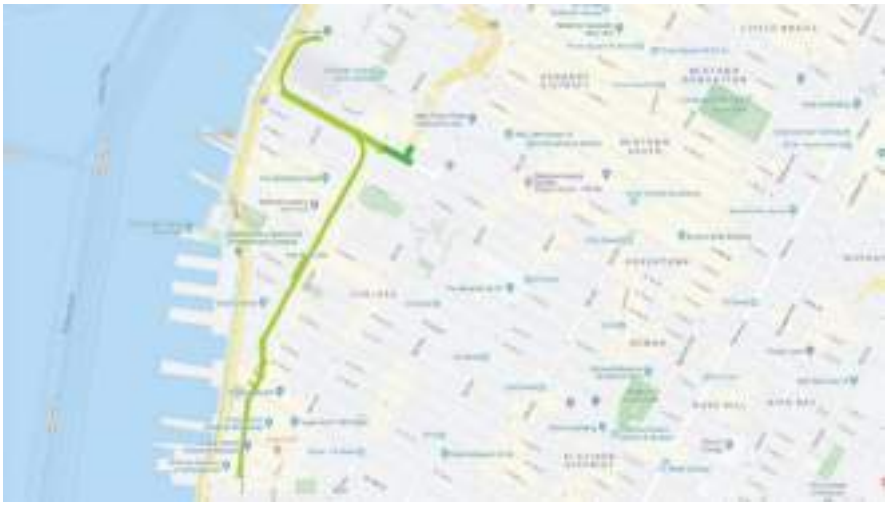

Figure 1. The High Line, New York City

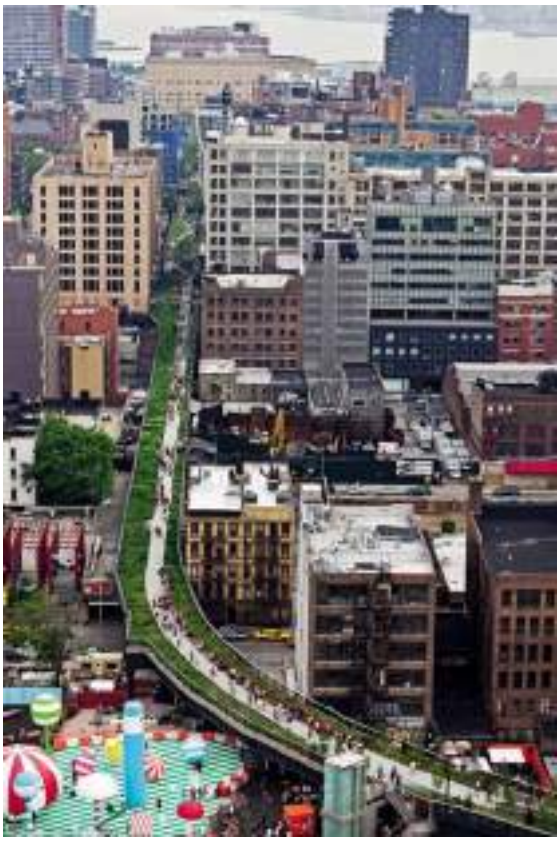

Figure 2. The High Line, New York City

Figure 3. Olympic Park, London

Figure 4. Olympic Park, London

Figure 5. Cheonggyecheon Stream Restoration, Seoul

Figure 6. Cheonggyecheon Stream Restoration, Seoul