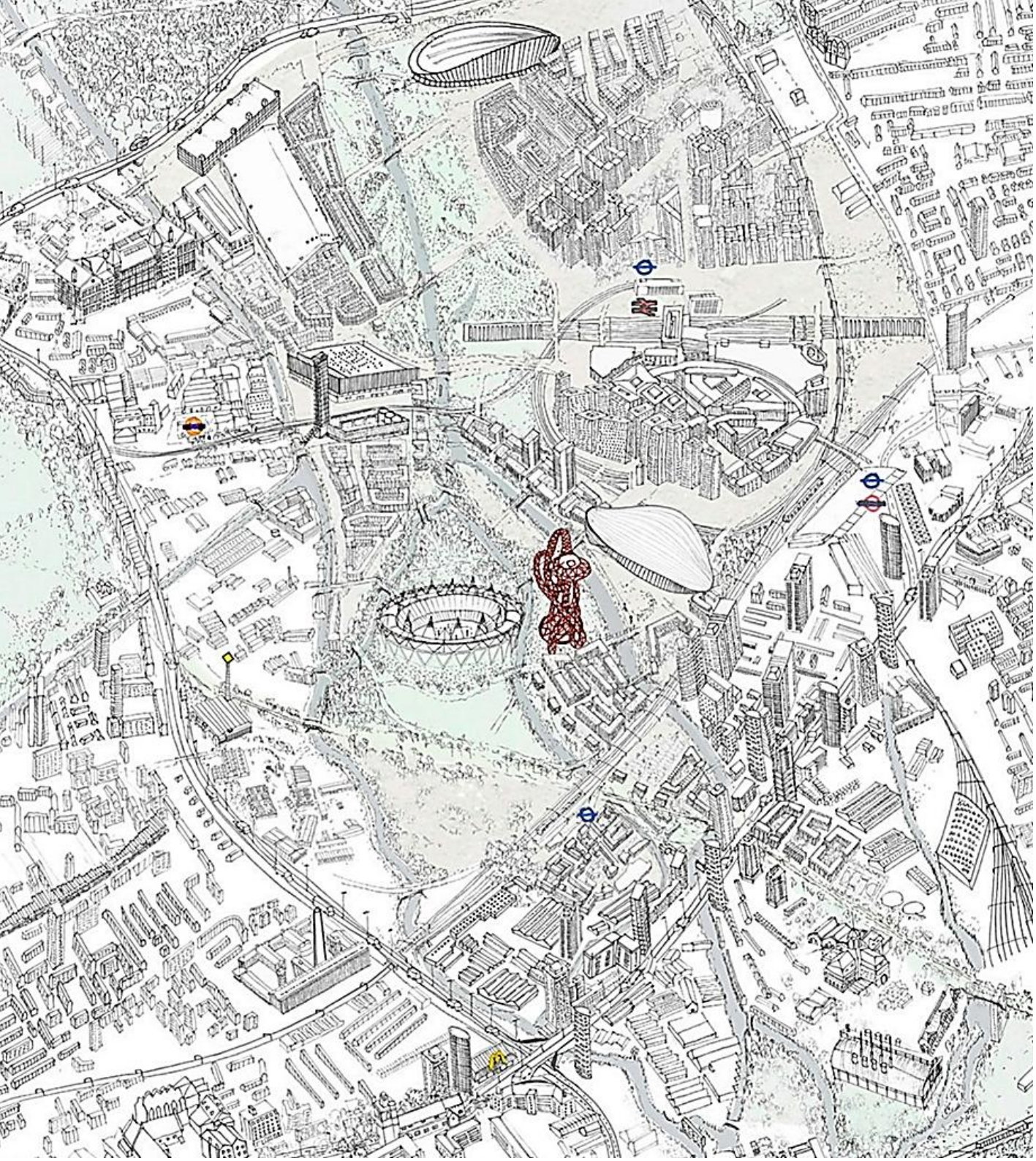

London 2012: Transforming urban futures through architectural and urban planning strategies

A study of the Queen Elizabeth Olympic Park and its legacy in East London

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ABSTRACT

The London 2012 Olympic Games marked a pivotal moment in sustainable urban planning, leveraging the global event to catalyse long-term regeneration in East London. The city's bid, under the motto 'Inspire a Generation', was one of the first to embed legacy planning from the outset, with a particular focus on creating lasting social, economic, and environmental benefits.

Central to this strategy was the development of Queen Elizabeth Olympic Park, a 227-hectare site designed to balance temporary Olympic demands with enduring civic value. The Games infrastructure featured a carefully considered mix of 12 new permanent venues and 17 repurposed or temporary facilities. Venues like the Olympic Stadium and Aquatics Centre were modularly constructed, enabling post-Games downsizing and integration into community life, while temporary arenas were designed for full dismantling and material reuse, thereby avoiding "white elephant" outcomes.

Legacy planning continued through the 'Legacy Masterplan Framework', which guided the transformation of the site into a sustainable, accessible urban space. The London Legacy Development Corporation implemented a "Clear, Connect, Complete" strategy, facilitating the removal of temporary structures, enhancing connectivity with surrounding areas, and preparing sites for long-term public use. East Village, once the Athletes' Village, was converted into over 2,800 homes with essential amenities, while the former media centre became Here East, a tech innovation hub.

Ultimately, London's approach redefined the role of Olympic infrastructure by embedding flexibility, reusability, and community integration into its design and planning. The 2012 Games not only showcased world-class sports but also demonstrated how mega-events can drive meaningful urban renewal. London's Olympic legacy offers a compelling model for future host cities, showing how visionary planning can deliver both immediate spectacle and lasting value.

TABLE OF CONTENTS

1. INTRODUCTION

The Olympics is a global phenomenon where every four years the world is captivated by the most prestigious sporting event in existence. For the viewer, it is a 3-week event with spectacular moments and historic sporting achievements, but for the organiser, it is an event that involves years of planning. Given the global focus on the event, it is unlikely that a host city can organise the Olympics without significant urban development and investment. These cities must build new world-class sports facilities or thoroughly renovate existing ones. At the same time, this often provides an opportunity to address and improve infrastructure and economic problems in a city or district on long-term developments that might otherwise not have taken place. The Olympics are much more than just a sporting event; they have become a powerful tool for urban regeneration and act as a catalyst for radical urban transformation (Essex & Chalkley, 2010).

However, hosting the prestigious sporting event does not always mean long-term success and carries a risk of costing billions of euros. Upgrading public and sports infrastructure to cope with the rapid surge in population and the magnitude of these events carries dangers. If there is no thoughtful future plan for the newly built sports facilities, new structures built specifically for the Games may cease to serve a function after the closing ceremony and fall into disrepair, so-called 'white elephants'. Examples of organising cities that have faced this phenomenon in the past include Rio de Janeiro (2016) and Athens (2004). These editions were widely criticised because the money used to develop this infrastructure could have been used in other ways, where it would have had a more sustainable and lasting impact on the city and its people.

London, where the 2012 Olympics took place, was chosen as a case study. This edition is analysed because, on the surface, it appears to have left a successful legacy on the city and serves as a potential example for future host cities. The 2012 Olympic Games were heralded as a benchmark for sustainable and regenerative urban planning, with the transformation of East London, centred around the Queen Elizabeth Olympic Park, at the heart of this ambition.

Moreover, this edition of the sporting event is relatively recent and has been widely documented and analysed, providing a solid foundation for research.

This study examines how the architectural and urban planning strategies employed for the London 2012 Olympics were designed to ensure long-term usability and seamless integration into the existing urban fabric. By analysing the historical planning process, key design decisions and the post-event use of major infrastructure, the research aims to assess to what extent these ambitions have been realised. The focus will remain specifically on the sports infrastructure developed for the Games, with only occasional references to the social aspects of the broader plan in order to maintain a clear scope.

Through a detailed case study of the Queen Elizabeth Olympic Park, this thesis will evaluate how the initial goals of the Olympic development have materialized over time. It aims to derive valuable lessons for future host cities by assessing the success of London 2012's architectural and planning strategies in achieving lasting integration and usability.

2. HISTORICAL CONTEXT

As mentioned, hosting the Olympics is a matter of years of planning. Choosing a suitable venue is done meticulously and is a considered decision. Olympic bids are reviewed based on various criteria, including their alignment with broader regional and national development strategies, as well as their compatibility with the long-term objectives of the Olympic Movement (Becoming an Olympic Games Host, n.d.).

East London, historically characterized by economic hardship and the decline of its industrial base, was selected as the focal point for Olympic-led regeneration. The designated Olympic site straddled the borders of four boroughs in East London: Hackney, Tower Hamlets, Newham, and Waltham Forest, within an area commonly referred to as the Lower Lea Valley. Though previously underutilized, the region was recognized for its cultural vibrancy and strong transport links, including great rail and underground connections to the broader city and southeastern commuter zones. There were also aspirations that, by 2013, international high-speed trains from Paris and Brussels would include stops in the area. The urban fabric consisted of a mix of tidy terraced homes housing ethnically diverse residents, interspersed with aging 1970s social housing and bustling shopping streets lined with discount stores and takeaway outlets. The landscape was threaded with canals and waterways, cutting through a rugged post-industrial setting where disused gasworks and old railway structures echoed Stratford's industrial legacy. The neighbourhood's population exemplified London's multicultural identity, with longstanding Asian, African, and Caribbean communities living alongside newer Eastern European migrants and established Londoners (Burdett, n.d.).

London suffered from deep-rooted social and economic inequalities in the years before 2012, despite its status as a prosperous city of nearly eight million people. Geographically, the western half of the city is relatively prosperous and well equipped with infrastructure and public transport, while east London has historically been more deprived. This difference is reflected in statistics such as life expectancy: a man in East London lives on average five years shorter than in parts of West London (Burdett, n.d.).

The Lower Lea Valley was once an area facing significant urban challenges, marked by widespread industrial abandonment, substandard housing, and high levels of unemployment. Additionally, the land suffered from extensive chemical contamination. Historically, this area had been a flourishing agricultural region, particularly known for potato farming, and was once a peaceful rural retreat for affluent Londoners. However, the arrival of the railway marked a turning point, leading to the development of the Royal Docks and triggering a wave of industrial growth that gradually replaced the area's rural character with a more industrialized environment (Internet Geography, 2023b).

For many years, both central and local governments have worked to address the socio-economic disparities in London. Since the 1970s, various plans and initiatives have been launched to revitalize the Thames Gateway, each operating under different policy frameworks. One of the most significant efforts was the establishment of the London Docklands Development Corporation, which was created under the leadership of Michael Heseltine. This initiative spurred the redevelopment of the docks and culminated in the controversial creation of Canary Wharf in the 1980s, a business district that now employs over 100,000 people (Burdett, n.d.).

In May 2003, the UK Government announced it would support a bid, one of the first with an explicit legacy aspiration encapsulated in the motto 'Inspire a Generation' and an agreed funding package (at the time) of just under £2.4 billion. Five main themes underpinned London's vision for the Games, including 'benefiting the community through regeneration' and creating 'compact, iconic and well connected venues'. Stratford 'always looked the best option in terms of space, availability and access' for the Olympic Park. As said before, the Olympics is not just a sporting event with more than a century of history, it is centred on a movement and an ideal (Olympism), the goal of which 'is to place sport at the service of the harmonious development of humankind'.

Winning a bid for the Games would therefore offer London a rare opportunity, the third in its history, to accelerate the regeneration of East London and catalyse social, economic and environmental change for the benefit not only of current residents but also future generations (*Living, Learning, Legacy: Queen Elizabeth Olympic Park*, n.d.).

"I didn't bid for the Olympics because I wanted three weeks of sport … I bid for the Olympics because it's the only way to get the billions of pounds out of the government to develop the east end – to clean the soil, put in the infrastructure and build the housing. … it's exactly how I plotted it, to ensnare the government to put money into an area it has neglected for 30 years."

-Ken Livingstone, Mayor of London, 2000–2008

3. CASE STUDY: QUEEN ELIZABETH OLYMPIC PARK

3.1 THE PHILOSOPHY

The development of the Queen Elizabeth Olympic Park involved extensive planning. After London was awarded the 2012 Olympics on July 5, 2005, efforts began to create three master plans that would outline the Games, the Paralympics, and their post-event transformation. The international urban planning and design firm EDAW, in partnership with Foreign Office Architects (FOA) and Allies and Morrison Architects (A&M), led this initiative. However, early stages were challenging, resulting in tensions between the client and the design team, which led to FOA's departure from the project in late 2006. Despite these setbacks, Outline Planning Approval was granted in 2007 for the proposed master plans. Once this approval was secured, the detailed design process for the Olympic venues could proceed, involving numerous planning applications for the venues, infrastructure, and park landscapes between 2008 and 2011. At the same time, long-term planning for the site's future redevelopment under the new 'Legacy Masterplan Framework' (LMF) began in 2008, while preparations for the sports infrastructure continued (Davis, 2019c).

As previously mentioned, the area was marked by urban decline and socio-economic challenges, a consequence of post-industrialization. This made it an ideal candidate for investment and potential expropriation as part of redevelopment initiatives. Its large size made it suitable for hosting a park and multiple venues, an advantage typically linked to more distant locations. However, it also offered the benefits often found in more central areas, such as excellent transport links and proximity to established neighbourhoods. This accessibility would ensure that visitors could easily navigate the area, even after the conclusion of the Games (Davis, 2019c).

An additional 'advantage' was that existing communities in the region before 2012 had hardly any sports facilities and other amenities. As a result, there was a strong social need for such infrastructure. This significantly reduced the likelihood of decay after the Games, as the venues could be returned to the East London community afterwards.

Additionally, the documents for London's Olympic Bid outlined several strategies aimed at preventing the creation of a 'white elephant.' One such strategy involved restricting the number of new venues to be constructed to 12, while repurposing 17 existing sites. The majority of the new developments were planned for the Olympic Park, though new sports facilities would also be built at Regent's Park (for softball) and the Upper Lea Valley (for canoe slalom) (Davis, 2019c).

3.2 THE PARK

The Queen Elizabeth Olympic Park covers an area of 227 hectares, making it one of the largest urban spaces in Europe in the past 150 years (Design Competition For Queen Elizabeth Olympic Park's Cultural District, n.d.-b). The design for the park was created as follows; There are two topographical layers: a lower level defined by the waterways winding through the site; and in the middle of the park a wide, open public space. This was surrounded by a ring of venues. These venues consisted of temporary structures that fed and supported the Games. The open space has an organic form where it appreciated the ancient topography. It follows the landscape and is interwoven with those concerning waterways. The scale and configuration were developed mainly based on expected visitor numbers, with up to 250,000 people expected during the busiest days of the Games (Allies And Morrison - London's Olympic Legacy, 2023).

3.3 INFRASTRUCTURE

Due to the size of the park and its various functional requirements, the designers faced multiple challenges. The infrastructure had to meet both temporary needs - such as facilitating the millions of visitors during the Games - and permanent requirements, so that the connections continued to function in the long term within the Legacy Masterplan.

Allies and Morrison designed thirteen permanent bridges with a unified design characterised by shared geometries, details and components. In addition, 15 temporary bridges were created as overlay elements. The emphasis was on maximum investment in the permanent structures, while the temporary installations were designed to be easily and sustainably removed after the Games.

The permanent bridges were subtly integrated into the landscape, naturally following the footpaths crossing the park. This approach provided the flexibility to customise other bridges, especially at the edges of the park, to fit their specific context. One of the most prominent is the northern access bridge, which connects North Park to Eton Manor via the Eastway.

Figure 1 Temporary and permanent bridges introduced in the area to promote accessibility. (Living, Learning, Legacy: Queen Elizabeth Olympic Park, n.d.)

Figure 2 Queen Elizabeth park at the time of the Games. (Allies and Morrison - London's Olympic Legacy, 2023)

3.4 VENUES

During the 2012 Olympic and Paralympic Games, the sports venues at the Queen Elizabeth Olympic Park played a crucial role in facilitating various competitions and events. These venues were specially designed to provide athletes and spectators with an optimal experience, with innovative architecture and temporary and permanent structures that perfectly matched the needs of the Games. The venues were not only functional, but also contributed to the dynamic and festive atmosphere of the park, where millions of visitors came together to experience world-class sporting performances. The public space around it was also designed to be used as efficiently as possible during, and after the Games.

The design and planning of the London 2012 Olympic venues were guided by the previously mentioned progressive philosophy that emphasised long-term adaptability, economic efficiency, and sustainable urban integration. Rather than repeating the mistakes of previous host cities, which often constructed monumental but underused facilities, the London organisers pursued a more restrained and flexible approach. A firmly examined balance between permanent and temporary venues was implemented to ensure that construction was aligned with realistic post-Games usage.

Key permanent venues, including the Olympic Stadium, Aquatics Centre, and Velodrome, were all designed with future reconfiguration in mind. The Olympic Stadium featured a modular design that allowed it to be partially dismantled and downsized after the event. Similarly, the Aquatics Centre was fitted with detachable seating wings, which increased capacity during the Games but were removed afterwards, reducing operating costs and making the facility more appropriate for public and community use. This form of 'designing for disassembly' reflects an understanding that legacy planning must be embedded from the earliest stages of design, not treated as an afterthought. As outlined in legacy documentation from the London Legacy Development Corporation (LLDC, 2014), this forward-looking approach was a core objective of the 2012 Games.

On the other hand, temporary venues were used strategically to meet short-term demands without creating long-term burdens. The Basketball Arena, one of the largest temporary Olympic structures ever built, was designed to be fully dismantled, with components repurposed or recycled. The Water Polo Arena followed a similar path, ensuring that land could be returned to more appropriate urban uses once the Games concluded. This clear delineation between what should remain and what should be removed helped London avoid the pitfalls of redundant legacy infrastructure.

Beyond structural adaptability, there was also a strong focus on user experience and accessibility. Venues were arranged to enhance pedestrian movement, crowd management, and sightlines, while remaining visually porous and welcoming. The placement of venues also contributed to a coherent spatial narrative that prioritised public enjoyment and urban continuity over isolated architectural statements. This user-centred philosophy extended to the incorporation of green space, open gathering areas, and accessible pathways around venues, fostering inclusivity and engagement during the Games.

While the venues functioned as world-class sporting facilities, they were also tools for broader social and urban strategies. Their design reflected London's desire to host an event that would contribute positively to the city's development, rather than leave a costly and underused imprint. As Gold and Gold (2016) note, the 2012 venue plan served not only Olympic needs but a broader urban vision, rooted in regeneration and long-term public value.

NAME	LONDON OLYMPIC STADIUM
OLYMPIC USE	ATHLETICS
CAPACITY	80.000
STATUS	PERMANENT
ARCHITECT	POPULOUS
COSTS	£486 MILLION
CURRENT USE	FOOTBALL STADIUM, EVENT SPACE
AWARDS	MAJOR OUTDOOR STADIUMS CIVIC TRUST AWARD NATIONAL RIBA AWARD STRUCTURAL ENGINEER AWARD AIA KC HONOR AWARD THE STRUCTURAL STEEL DESIGN AWARD WORLD STADIUM AWARD: MOST SUSTAINABLE STADIUM DESIGN CONCEPT

NAME	LONDON AQUATICS CENTRE
OLYMPIC USE	SWIMMING, DIVING
CAPACITY	17.500
STATUS	PERMANENT
ARCHITECT	ZAHA HADID ARCHITECTS
COSTS	£269 MILLION
CURRENT USE	MULTI-USE SWIMMING VENUE, PUBLIC POOL
AWARDS	RIBA NATIONAL AWARD

NAME	LEE VALLEY VELOPARK
OLYMPIC USE	TRACK CYCLING, BMX'ING
CAPACITY	6.750
STATUS	PERMANENT
ARCHITECT	HOPKINS ARCHITECTS
COSTS	£105 MILLION (VELODROME)
CURRENT USE	MULTI-USE CYCLING VENUE
AWARDS	STIRLING PIZE: PEOPLE'S CHOICE ARCHDAILY BUILDING OF THE YEAR AWARD THE INSTITUTION OF STRUCTURAL ENGINEERING AWARD RIBA REGIONAL AWARD RIBA NATIONAL AWARD ARCHITECTURE AND DESIGN BUSINESS STADIUM AWARD BCI PRIME MINISTER'S BETTER PUBLIC BUILDING AWARD RIBA LONDON CLIENT OF THE YEAR AWARD: OLYMPIC DELIVERY AUTHORITY AJ100: BUILDING OF THE YEAR AWARD NEW LONDON AWARD: JOINT OVERALL WINNER NEW LONDON AWARD: PLAY WINNER LABC BUILDING EXCELLENCE AWARD: BEST SUSTAINABLE PROJECT STRUCTURAL STEEL DESIGN AWARD ELLE DECORATION: BRITISH DESIGN AWARDS, FIRST PLACE CONDE NAST TRAVALLER INNOVATION & DESIGN AWARDS: INFRASTRUCTURE WINNER CIVIC TRUST AWARD CIVIC TRUST AWARDS: SPECIAL AWARD FOR OLYMPIC & PARALYMPIC PROJECTS ARCHMARATHON SPORT AWARD

NAME	COPPER BOX ARENA
OLYMPIC USE	HANDBALL, MODERN PENTHATHLON
CAPACITY	7.000
STATUS	PERMANENT
ARCHITECT	POPULOUS, MAKE ARCHITECTS
COSTS	£44 MILLION
CURRENT USE	MULTIFUNCTIONAL EVENT SPACE
AWARDS	INTERNATIONAL OLYMPIC COMMITTEE IAKS AWARD (2013) INTERNATIONAL PARALYMPIC COMMITTEE IAKS AWARD

NAME	LEE VALLEY HOCKEY AND TENNIS CENTRE
OLYMPIC USE	WHEELCHAIR TENNIS
CAPACITY	15.000
STATUS	SEMI PERMANENT
ARCHITECT	STANTON WILLIAMS
COSTS	£30 MILLION
CURRENT USE	HOCKEY AND TENNIS FACILITY

NAME	LONDON OLYMPICS MEDIA CENTRE
OLYMPIC USE	BROADCAST CENTER
CAPACITY	20.000
STATUS	PERMANENT
ARCHITECT	ALLIES AND MORRISON
COSTS	£355 MILLION
CURRENT USE	TECHNOLOGY HUB

NAME	EAST VILLAGE
OLYMPIC USE	ATHLETES VILLAGE
CAPACITY	22.500
STATUS	PERMANENT
ARCHITECT	FLETCHER PRIEST ARCHITECTS
COSTS	£1.1 BILLION
CURRENT USE	RESIDENTIAL AREA
AWARDS	RESI DEVELOPMENT OF THE DECADE PLANNING EXCELLENCE AWARD BEST NEW PLACE TO LIVE NATIONAL CIVIC TRUST AWARD

NAME	BASKETBALL ARENA
OLYMPIC USE	BASKETBALL, WHEELCHAIR BASKETBALL/RUGBY
CAPACITY	12.000
STATUS	TEMPORARY
ARCHITECT	WILKINSONEYRE, KKS DESIFN GROUP
COSTS	£40 MILLION
AWARDS	ODA HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT AWARD PROJECT PERFORMANCE AWARD HIGHLY COMMENDED, HEALTH AND SAFETY DESIGN TEAM AWARD WESTMINSTER SOCIETY BIENNIAL AWARD FOR A CONTRIBUTION TO URBAN VITALITY

NAME	WATER POLO ARENA
OLYMPIC USE	WATER POLO
CAPACITY	5.000
STATUS	TEMPORARY
ARCHITECT	DAVID MORLEY ARCHITECTS
COSTS	£19 MILLION
AWARDS	CONSTRUCTION NEWS AWARDS: SUSTAINABLE PROJECT OF THE YEAR INTERNATIONAL ACHIEVEMENT AWARD OF EXCELLENCE: AIR STRUCTURES BIENNIAL AWARD FOR A CONTRIBUTION TO URBAN VITALITY

NAME	RIVERBANK ARENA
OLYMPIC USE	FIELD HOCKEY, PARALYMPIC FOOTBALL
CAPACITY	15.000
STATUS	TEMPORARY
ARCHITECT	POPULOUS, ALLIES AND MORRISON
COSTS	-

NAME	ARCELORMITTAL ORBIT
OLYMPIC USE	VIEWING TOWER
STATUS	PERMANENT
ARCHITECT	ANISH KAPOOR, CECIL BALMOND
COSTS	£22.7 MILLION
AWARDS	BEST UNUSUAL OR UNIQUE VENUE

4. POST-EVENT ANALYSIS

Due to the well-planned 'legacy' of the East London event prior to the 2012 Games, work on transforming the venues and the Queen Elizabeth Olympic Park into spaces for future use could begin promptly after the Games. When the London Legacy Development Corporation (LLDC) was established in 2012, it developed a strategy to guide this transformation, known as the 'Clear, Connect, and Complete' approach. The 'Clear' phase involved the removal of large amounts of materials from temporary venues, security facilities, spectator seating, hard landscaping, catering areas, and behind-the-scenes operations across all sites. The 'Connect' phase aimed at establishing key links, such as bridges, walkways, and bike paths, to connect the site to nearby areas, improving accessibility for surrounding neighbourhoods. Finally, the 'Complete' phase focused on preparing the parks and permanent sites for their reopening. This phase involved the careful dismantling of temporary structures to reduce waste, resulting in 90% of materials and sports equipment being reused or recycled, demonstrating that the strategic goals had been successfully achieved. (Davis, 2019c).

4.1 VENUES

In the years since the London 2012 Olympics, the transformation of its venues has become a benchmark in sustainable legacy planning. The guiding principle, adaptability, has been realised in both physical and social terms, as once-temporary or large-scale Olympic facilities have been successfully integrated into the daily life of the city.

One of the most prominent examples is the Olympic Stadium, which has undergone a substantial transformation into a multi-purpose venue. It now hosts Premier League football, athletics events, and major concerts, showing how initial design choices made flexibility and conversion viable. This was made possible through modular construction and the foresight to avoid permanent overbuilding. Likewise, the Aquatics Centre was reduced in scale after the Games and reopened as a public facility. Today it serves not only elite athletes but also school groups and local residents, demonstrating how high-performance infrastructure can serve everyday civic functions (LLDC, 2014).

The Velodrome has transitioned effectively into a national cycling hub and public amenity. As part of the Lee Valley VeloPark, it caters to amateur cyclists, families, and competitive athletes alike. Its continued popularity illustrates how legacy use can be successfully embedded within a community context when accessibility and flexibility are central to initial planning.

After the athletes had left East Village, the complex was transformed into a new residential area in Stratford. The temporary athlete adaptations were removed and the apartments were modernised for permanent residence. East Village now offers over 2,800 homes, many of which are affordable or available for social rent. The area has been given a range of amenities including schools, health centres, shops, cafes and sports facilities. Green spaces and parks have been integrated, making it an attractive, sustainable place to live.

This was an important part in the long-term development of the Park to give back to the East London community in the future. The transformation of the media centre was also an important part of this plan. After 2012, the Games' media centre was transformed into Here East, a technology and innovation campus in Queen Elizabeth Olympic Park. This has given the area an economic and technological boost. Through sustainable initiatives and the reuse of existing structures, the project fits within the legacy of the Olympic Games.

Equally important were the temporary venues that no longer exist. Their intentional impermanence allowed valuable land to be released for other forms of development after the Games. These venues were completely dismantled after the mega-event. Elements of the structures, such as the steel structure and seating, were reused for other sports facilities and event venues in the UK and internationally. To facilitate dismantling, the Basketball Arena was built on a hardstanding rather than a traditional slab foundation. In addition, standard sizes for building components and simple connection methods were used.

In line with the ODA's sustainability strategy, the designs also had to maximise the reusability and recycling of materials, thereby minimising waste from temporary architecture (Davis, 2019c).

The plots once occupied by the Basketball and Water Polo Arenas, for example, have since been redeveloped into new housing, educational spaces, and cultural institutions. This adaptive approach avoided the burden of maintaining obsolete structures and opened new opportunities for urban growth. As Smith (2014) notes, the avoidance of long-term risk and redundancy was central to London's Olympic strategy—a departure from the typical trajectory of mega-event infrastructure.

Crucially, the legacy of the venues has not been limited to physical reuse. Their reinvention has supported social and economic regeneration in East London, providing jobs, public amenities, and accessible recreational space. By ensuring that key venues were scaled for long-term community use, rather than short-term Olympic spectacle, the organisers delivered facilities that continue to serve the population. This has also helped shift public perceptions of Olympic legacies, which have historically been associated with cost overruns and waste.

London's venue legacy strategy has thus been hailed as a model for future host cities. By embedding adaptability and civic purpose into the design process from the outset, the city demonstrated that Olympic venues can offer lasting value beyond the Games themselves. As Gold and Gold (2016) observe, the London 2012 approach stands out precisely because it recognised that the true success of Olympic infrastructure lies not in its immediate grandeur, but in its ongoing utility and relevance.

4.2 THE PARK

Following the Olympic Games, the size of the broad, open public space was significantly reduced, with much of the previously paved area replaced by planting. In this way, a landscape initially designed to accommodate large numbers of people for a global event evolved into what is now Queen Elizabeth Olympic Park, and an amenity for the local communities that border it (Allies And Morrison - London's Olympic Legacy, 2023).

The long-term vision for Queen Elizabeth Olympic Park, originally developed by AECOM, adopted an innovative strategy focused on building a resilient and sustainable community prepared for the challenges of climate change. A decade later, with significant progress in grid decarbonisation, AECOM is collaborating with Equans to move toward net-zero energy solutions. A notable achievement has been the early emphasis on promoting sustainable, active forms of mobility—featuring a well-connected network of pedestrian pathways that link communities across the park and are supported by extensive public transport options. The inclusive cycling infrastructure further integrates the park into the broader Lee Valley and East London areas. Today, the park continues to grow as a model of sustainable urban living, shaped by its adaptable and future-focused master plan. These foundational planning principles position it well to respond to emerging environmental and social challenges (Living, Learning, Legacy: Queen Elizabeth Olympic Park, n.d.-b).

"At the outset the masterplan recognised that climate change would have unavoidable consequences for the way we live and must inform the design of this new London neighbourhood; forward-thinking approach for a scheme initiated two decades ago. It ensured environmental mitigation measures were embedded into the design requirements so the Queen Elizabeth Olympic Park had resilience and flexibility to adapt over time."

-Bill Hanway, Global Sports Sector Lead, AECOM

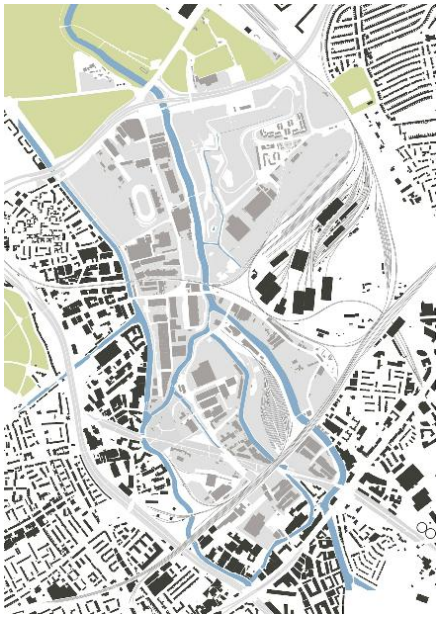

Figure 3 Pre-games site

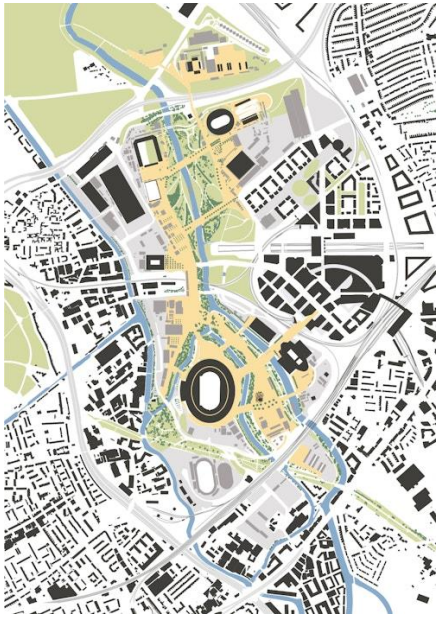

Figure 4 Olympic and paralympic Games 2012

Figure 5 Olympic Legacy

(Allies and Morrison – London's Olympic Legacy, 2023)

5. CONCLUSION

London has succeeded in its attempt to leave a successful "legacy" after hosting the Olympics that is still of great value to East London today. Avoiding 'white elephants' occurred very early in the planning and design process for the London 2012 Games, as is often the case when planning mega-events with ambitious promises. The city achieved this by creating a strategic mix of temporary and permanent venues, with an emphasis on re-use, community integration and long-term functionality.

Considerable attention was paid to repurposing existing infrastructure and creating new buildings that would continue to play a role after the Games. For most permanent structures, such as the Olympic Park, sustainability principles were integrated into the design. The Velodrome, for example, was transformed into a centre for British cycling with a range of facilities for both professionals and the local community. In addition, the Copper Box Arena was converted into a multi-purpose sports hall and events venue for the Stratford area, giving the complex long-term value.

In addition, re-use was a major focus in the planning of temporary venues. The use of recyclable materials and the design of structures that could be easily dismantled and reused after the Games prevented these venues from becoming unused. The temporary nature of these venues was carefully considered to ensure that they would not become an undue burden on the community after the Games.

The transformation of the Olympic site into Queen Elizabeth Olympic Park represents a successful evolution from a venue designed for a global event to a sustainable urban space that benefits the local communities. The reduction in paved areas and incorporation of greenery highlights a shift toward environmental sensitivity. The long-term vision has ensured the park's continued development as a resilient and adaptable space, with significant progress in sustainability, mobility, and community integration. The park's ongoing growth, supported by a future-focused master plan, positions it as a model for sustainable urban living, effectively addressing both environmental and social challenges.

London managed to strike a balance between creating iconic, temporary sporting facilities and building an infrastructure that would provide long-term benefits to the city and its residents. This ensured that the city was not burdened with unusable sporting facilities, but instead gained a wide range of new spaces that benefited the community. The integration of sustainable construction methods, smart repurposing and long-term planning made it possible to host an Olympic Games that was not only successful in the moment, but also had a lasting, positive impact on the city.

In short, the London 2012 Olympic Games became an example of how a city can host a global event in a sustainable and responsible way. By focusing on temporary structures that could be reused after the event and investing in permanent infrastructure designed to provide long-term benefits for the city, supported by a thoughtfully crafted urban development plan, London successfully mitigated the risk of creating 'white elephants' and overlooking local communities. This success was the result of careful design, planning and a long-term focus, creating a model for future Olympic host cities.

"London 2012 has raised the bar on sustainability, not just for future Olympic and Paralympic Games but for industry, and for the organizers of major events all over the world."

-Shaun Mccarthy, Chair, Commission for a Sustainable London 2012

6. DISCUSSION

Despite the positive impact and lasting legacy of the Games on East London, not all of the objectives set out in advance were fully achieved and some critical points can be made.

The temporary venues constructed for the Games were originally intended to be repurposed for future use in other locations. One such example is the Basketball Arena, which was at one point considered for reuse during the Rio 2016 Olympics. However, due to the high costs associated with transportation and reconstruction, it was ultimately dismantled and sold in parts. This highlights that, while recycling tends to be more energy-intensive, it is often less cost-effective than direct reuse. In the case of London, the temporary structures ended up having a greater carbon footprint and financial impact than necessary, ultimately leading to a loss in the value invested in their high-quality design (Davis, 2019c).

Another critical issue is the limited accessibility of certain locations for the local community, such as the Aquatics Centre. One challenge associated with the venue is its location in a rapidly growing area, adjacent to a major shopping centre and well-connected by public transport, which is expected to drive an increase in local demand. However, demand is not limited to local residents; individuals from outside the London Borough of Newham are also drawn to the site due to its iconic status, and this interest is expected to persist. A key concern is that, over time, the facility may struggle to accommodate local users, particularly during peak hours. While this issue differs from the classic concept of 'white elephants,' which are defined by a lack of functional utility, it nonetheless raises significant concerns. This is especially relevant considering the legacy promises made to improve access to amenities in East London, an area historically marked by deprivation (Davis, 2019c).

This thesis has aimed to provide a clear understanding of the legacy that London sought to achieve through hosting the Olympic Games. Particular emphasis was placed on the infrastructure and buildings constructed specifically for the event. While the social dimension of the legacy, and its lasting impact on the East London community, is an equally important area of study, it could not be explored in greater depth due to the limited scope of this thesis.

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