Learning from an intelligent client: lessons from masterplanning and designing London 2012

Author
Lucy Carmichael
BA Hons MA (CANTAB) MA (RCA)
The great strength of the 2012 Olympic Games was to create the Legacy, the piece of the city the Olympic Park would become, at the same time as creating the Games-time masterplan. This required those involved in the design of this area to think beyond a 4-week sporting festival and imagine how a collection of iconic sports venues should relate to a parkland surrounded by new housing and the community infrastructure required to support neighbourhoods.

The other stroke of genius implemented by the GLA was to widen the jurisdiction of the Olympic Park Legacy Company by establishing a Mayoral Development Corporation (MDC) that encompassed the land immediately adjacent to the Olympic Park irrespective of which borough it lay within.

As the Legacy Corporation takes over the role and function of the previous Olympic Park Legacy Corporation, it gains an expanded remit to increase the geographical focus into the fringe areas around the Park and additional planning and plan making powers; resulting in a unique opportunity to drive the regeneration and growth of the diverse communities that have experienced discrimination and exclusion for decades. (LLDC Design Quality Policy 2012)

The fact that the London Legacy Development Corporation (LLDC) remained the landowner of the development parcels within the Olympic Park empowered those of us charged with ensuring and enforcing a high level of design quality. This power inherent to an MDC should not be underestimated. The design team’s major responsibility was the use of effective tools to introduce and implement best practice design. While the MDC provided leverage for the design team, some of the methods employed are not dependent on this political configuration.

The design team established a service level agreement with the Policy Planning Decisions Team (PPDT), to provide design advice and guidance on planning applications. Once the bid to host the Games was won London property owners rushed to develop land they had let lie dormant for years. Responding to planning applications presented an opportunity to improve standards of design quality and create well-integrated and sustainable neighbourhoods. Indeed, this model is similar to the remit of Public Practice, the agency placing young planners with design education in local government. The design team also worked alongside PPDT to produce a local plan for LLDC, seeking to create a plan that clearly articulated the priorities of LLDC and helped streamline the application dialogue and process.
The role of design in the realisation of the Olympic Legacy

It was agreed with PPDT that a requirement of the planning application for the Legacy master plan (or the Legacy Communities Scheme, as it was called) would include the establishment of a design review panel. The LLDC Quality Review Panel makes direct recommendations to the LLDC Planning Committee and deliberately includes experts in engineering, development, sustainability and inclusive access as well as the design disciplines. Thankfully the benefit of design review panels has gained traction over recent years as evidenced by the number of local authorities putting them in place.

Design quality tools were embedded in the procurement process, and in addition to the creation of a design services framework, the design team collaborated with the development directorate to write briefs for the public realm, infrastructure, architectural and urban design projects. The most complex and involved of these was the competitive dialogue process employed to select a development partner for the new neighbourhoods. The LLDC design team engaged in the review of each of the proposals put forth by the urban designers, architects and landscape architects on the developer-led teams. Once a developer team was selected regular workshops were held to guide the scheme through to planning application, referring directly to the LCS approved permission, its design codes and the Design Quality Policy produced prior to the games. Most large-scale regeneration or development schemes will likely take many years, if not decades, to realise, and design guidance and codes not only provide assurance for the local authority but provide the developer with benchmarks. The challenge, which hopefully was achieved at the Park, is to strike a balance between codes that embed high-quality design and those that stifle innovation.

Having an overview across a sizeable piece of the city can ensure that the types of public spaces and public realm provided cater to both existing and projected residents and visitors. At the first neighbourhood to be realised on the Park, Chobham Manor, typologies cater to larger households. This neighbourhood can take advantage of its close proximity to the amazing Tumbling Bay playground, but the need for even more local play was clear. Acknowledging that neighbourhood profiles are not static playable landscapes are integrated into the public realm rather than captured in specific play areas. These landscapes – the public realm – also serve the wider area. Their visibility along a desire line and the fact that they are framed by housing and often a commercial or community amenity ensures they are naturally surveilled. Adopting a broad perspective, both geographically and temporally, hopefully, contributes to the long-term relevance of a place without sacrificing the evolution of neighbourhood character.
Setting the context:

The role of design in the realisation of the Olympic Legacy

The realisation of the Olympic Legacy is not without its tensions. LLDC is a body essentially charged with both doing public good and engaging in profit-generating development. While these objectives are not inherently at odds, it can result in a culture that is generally risk-adverse. This played out in a few ways. In the first instance, it was seen as imperative that planning permission for the full area was submitted all at once. The Stratford Waterfront and UCL projects highlight the fact that cities and politics are dynamic as a considerable portion of the original permission is no longer valid. A further insight, worth sharing with future Olympic Games hosts, is that the planning permission for the stage between the Games and Legacy, ‘Transformation’ (see plans on p24 in report) should only be submitted once the Legacy masterplan is finalised – not surprisingly, as the Legacy masterplan was refined strains between the plans arose (e.g. streets and bridges in inappropriate locations).

Public sector procurement is not generally tailored to small practices. The design team found itself interrogating the procurement system to allow younger designers to tender for work and we strongly encouraged development teams to include emerging practices. Slowly the public sector is recognising that procurement cannot take a one-size-fits-all approach.

Other tensions are evident, for example, a palpable resistance to explore unconventional development models (i.e. custom-build housing or co-housing) in the midst of an affordable housing crisis. In those instances where the MDC or developer is not under intense scrutiny to reimburse the public purse for an Olympic Games, it is hoped there will be more of an appetite for experimentation in this realm.

London won the 2012 Olympic Games in no small part on the promise that “within 20 years the residents who will have hosted the world’s biggest event will enjoy the same social and economic chances as their neighbours across London.” Even if the International Olympic Committee did not see this as critical, the citizens of London continue to do so. While design alone cannot realise this important ambition, it has a key role to play in urban regeneration that should never be underestimated.
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1. Introduction

1.1 Context

No major project of this scale has previously been planned and delivered in the UK in such exceptional circumstances on an inner urban brownfield site. The extent of the site, cost, programme and delivery constraints presented a unique set of challenges in masterplanning, design and construction. The magnitude and complexity of the task was matched only by the enormous potential for lasting change. Plans to tackle the ‘environmental, economic and social degradation’¹ of the Lower Lea Valley had not proved deliverable in the past.

Hosting the London 2012 Olympic and Paralympic Games created the unique conditions in which real and effective regeneration was achievable: an injection of public money, a focused and committed public sector organisation, a fixed development timescale and ‘catalytic event’².

The Olympic Delivery Authority (ODA) was faced with delivering two masterplans in parallel, with different development timescales and brief requirements. In 2006, it had to set in place the foundations for the future needs of the area, with an unknown legacy client or brief, and then adapt the long-term masterplan to create a stage for the 2012 Games.

Delivering a new, low carbon urban district and distinctive Olympic Park required unprecedented standards in sustainable and inclusive design. This ambitious vision faced a ‘maze of scepticism’³ about the UK construction industry’s ability to deliver large complex projects on time and on budget⁴. This scepticism, however did not sustain through the process of delivery itself.

The ODA’s own aspirations and public expectations for exceptional quality were under significant pressure; the London 2012 construction project was to be delivered at speed, to a non-negotiable deadline, on a large-scale and previously intractable site, with fixed public funding and uncertain future ownership. All this had to be achieved under the intense scrutiny of the UK media, government, the Olympic authorities and the rest of the world, with the international reputation of the UK at stake.

¹ Rose, D, 2006, p.10
² Rose, D, 2006, p.12
⁴ Wembley Stadium, Pickett’s Lock, Millennium Dome and Heathrow Terminal 5.
1. Introduction

1.2 Research aim

The London 2012 Games provided an unparalleled opportunity to test both established and new methods of working that are applicable to other large-scale regeneration and development projects. The ODA has set up a Learning Legacy programme to extract and disseminate best practice and replicable lessons from its experience.

This research paper forms part of that programme. It aims to draw lessons from the ODA’s work as a masterplanning client that sought to create an inspirational Olympic Park with a lasting sense of place, capture the regeneration potential of significant public investment, and deliver design excellence within budget and to programme.

The research paper is structured as four chapters that explore the context and challenges the programme faced, and the measures and processes it adopted. It concludes that the ODA’s aims were substantially achieved. The research paper highlights innovative regeneration, masterplanning, management, procurement, design and planning practice emerging from the London 2012 delivery programme. It also draws lessons from the effective application of tried and tested techniques.

The research paper is aimed primarily at public sector clients and those working on major regeneration and development projects in the UK construction industry, as well as academia and government.
1.

**1.3 Methodology**

The analysis in this research paper is focused on the achievements of the ODA as the public body responsible for developing and building the new venues and infrastructure for the Games and their use after 2012. Other agencies – the London Development Agency (LDA) in particular – played a critical role in preparing the bid masterplan and assembling the land before the ODA was established.

The period covered by this study begins when the interim ODA was established soon after London won the bid to host the 2012 Olympic and Paralympic Games in 2005. It is becoming possible to form an initial view, but not fully assess, the success of the delivery programme. This can be defined as whether the ODA’s vision to create a memorable Games in the short term and a platform for social, economic and physical regeneration and sporting excellence in the long term has been successfully delivered through the masterplan and good design.

The extent to which the buildings and spaces will become a valued part of our heritage, generate pride, contribute to local distinctiveness and demonstrate design excellence can be measured now by critical opinions in the professional and lay media. Economic, functional, social and environmental value can also be measured by the commercial interest in the permanent venues and housing, the success of test events, the sense of place and local ownership created, and by the project’s carbon footprint. The long-term regeneration benefits are difficult to estimate with certainty now, but Chapter 5 identifies early indications of change and investment.

At this point, when it is not yet possible fully to measure the long-term outcomes, the research paper focuses on best practice in the design and delivery processes led by the ODA. The analysis is primarily based on the experience of those closely involved in delivering and influencing the project as client, planning authority, Design teams or key stakeholders. It also draws on external perspectives, including the Commission for Architecture and the Built Environment (CABE) advice letters, media reports and professional awards. The ODA’s approach has been evaluated against the principles and objectives set in its core strategy and planning documents, as well as against these external opinions.

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5 The ODA was established by Act of Parliament in March 2006.
6 As a major landowner, the Lea Valley Regional Park Authority was an active stakeholder throughout.
7 The London Development Agency (LDA), Department for Culture Media and Sport (DCMS), the Greater London Authority (GLA) and the British Olympic Association (BOA) backed the London 2012 bid. The LDA led the bid masterplan and planning application process that was determined in 2005 by the Joint Planning Authorities team formed by the local planning authorities of Hackney, Newham, Tower Hamlets and Waltham Forest, in partnership with the London Borough of Greenwich and the GLA. The LDA also ran the competition to design the Aquatics Centre. The LDA assembled and acquired the land for the Park and were landowners of the Site until the transfer of land to the Olympic Park Legacy Company in July 2010.
8 CABE, Value handbook, 2006, p.37
10 ‘The only way you will measure the legacy is in the long term, when there is proper infrastructure and schools and when jobs bring activity back into the community. That is the first measure: the deprivation indices’ David Higgins quoted in Great Britain. Parliament. House of Commons. 2007. Ev 9.
11 From 1999–2011 CABE was the executive non-departmental public body, sponsored by DCMS and Communities and Local Government (CLG), that gave independent expert advice to help people create better buildings and spaces.
Achievements and lessons learnt

The ODA’s commitment to a masterplan vision and high-quality design was delivered through a comprehensive set of strategies, structures and processes from which much can be learned.

The ODA has delivered a major project ‘On time. On budget. Looking good’ ¹² which promises to set the benchmark for all future Games and major event planning, and permanently change UK design and construction culture. Public and critical opinion has now turned from early scepticism to an overwhelmingly positive response. In turn, a reputation for high quality delivery will be a major benefit for the UK construction industry.

With few exceptions, the London 2012 programme has been a success story up to this point – a story of challenges overcome and achievements that delivered against, and frequently beyond, expectations.

The ODA worked within testing cost constraints to achieve efficient and economic masterplanning and venue design. It overcame barriers to design excellence and delivered:

- a showcase for UK masterplanning, design and construction excellence;
- the physical platform for the ‘greenest Games ever’;
- parity of facilities and accessibility between the Olympic and Paralympic Games;

It managed the risks of top-down and high-speed regeneration, and delivered an Olympic Park with a coherent, relevant and distinctive sense of place. It promises the opportunity to improve participation in sport by leaving a legacy of permanent venues that are already creating valued settings for, and inspiring, sporting excellence. The ODA overcame previously intractable physical barriers and reconnected the site to the surrounding city. Wherever practicable, it prioritised Legacy to deliver long-term benefits after the 2012 Games through a long-life, loose-fit masterplan that set a framework of essential infrastructure for a future, low-carbon community without over-constraining long-term development options. It has laid the groundwork to achieve the overriding objective, promised in London’s bid, to use the 2012 Games as the catalyst for the regeneration of the Lea Valley and wider East London.

¹² Aaronovitch. D, 28 July 2011
1. Introduction

1.4 Achievements and lessons learnt

What were the attributes of the client body responsible for this success story? The ODA:

- understood what it was trying to achieve and saw it through in everything it undertook;
- clearly articulated an overall vision and delivered it through the masterplan and the projects within it;
- took forward the ambitions inherited from the London 2012 bid and solved problems creatively through the masterplanning and design process;
- promoted a culture of sustainable, inclusive and high quality masterplanning and design across the delivery programme, and upheld its commitments in decision-making;
- was a strong and disciplined leader, but open and flexible when required, tackling critical issues upfront and turning constraints to its advantage;
- acted as the lens that focused a broad spectrum of stakeholder interests;
- used the knowledge, experience and sound judgement of its internal teams to prioritise, and stay focused on what really mattered in the long term; and
- demonstrated an ability to build knowledge and learn from its own actions.

No development project of this scale can be run completely flawlessly. This research paper does not suggest that, for all its success, the ODA achieved perfection in every sphere of operation. In fact it encountered problems and had to adapt to changes in circumstances along the way.

What the research paper does show is that by adopting a rigorous approach to masterplanning, design, procurement and delivery, an immensely complex project can become transformational. In conclusion, the ODA was an ‘intelligent client’¹³ and other clients can learn much from its example about how to apply similar intelligence to their projects.

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¹³ Institute of Civil Engineers (ICE) research concludes that the intelligent client role requires an individual champion with a unique set of skills working in an environment of a supporting team and capable organisation. The client champion needs to be achievement orientated and able to articulate its needs, requires knowledge-based skills, and analytical and conceptual thinking skills tempered with flexibility. (Aritua, B. Male, S. and Bower, D.A, 2009, pp. 75-82)
1. **Introduction**

1.5 **Overview of recommendations**

- Set high aspirations, but make sure they are deliverable and pragmatic.
- Understand and articulate what you want to achieve.
- Take external expert advice to keep on track.
- Be clear and realistic, and where there is uncertainty, build in flexibility.
- Be a strong but adaptable leader – clients get the projects they deserve.
- Use efficient design to maximise the benefits of limited investment and minimise waste.
- Make a virtue of constraints to secure support, and drive quality and innovation.
- Front-load – deal with issues early.
- Follow through until the end of the process.
- Take a disciplined approach supported by clear governance to deliver objectives.
- Consider the long term and wider impact of measures from the start.
- Take account of the long-term value of investing in quality in decisions on programme and cost.
- Respond to the context to create a distinctive new identity as the basis for regeneration.
- Integrate disciplines, phases and elements for a coherent sense of place.

**Peer reviewers**

- Professor Steven Male, Universiti Teknologi Malaysia
- Peter Murray, New London Architecture: London’s Centre for the Built Environment
- Professor Richard Simmons, University of Greenwich

**ODA steering group**

- Jerome Frost, Head of Design
- Kay Hughes, Principal Design Advisor and Project Sponsor

**External funders**

- CABE
2. Delivering a masterplan vision

A core ambition of the winning bid to host the 2012 Olympic Games was to create a platform for a sustainable legacy of social, economic and physical regeneration. After London’s unexpected success, the ODA faced the significant challenge of translating the vision, commitments and supporting planning consent (2004) into an ambitious and deliverable scheme that anticipated the future urban district (2.1).

Confronted with unique constraints rising costs ¹⁴ and extensive scrutiny ¹⁵, it was critical that the ODA maintained a strong position on all aspects of design quality to justify the level of public investment, time and effort. The ODA recognised from the start that creating a sense of place would play a key role in delivering social, cultural, economic and physical change ¹⁶.

The ODA was committed to using the 2012 Games to showcase the UK’s urban renaissance. Unprecedented standards were set across a range of objectives – delivering the greenest Games ever, parity between the Olympic and Paralympic Games, design excellence and the foundations for the long-term regeneration of the Lower Lea Valley (2.2) ¹⁷.

The intention was to use London 2012 to set the benchmark for all future Games, and to permanently change UK design and construction culture. The ODA took on this challenge in the knowledge that complexity, time, cost and risk might increase. In fact, integrating the highest standards through a set of priority themes from the start in all aspects of the project ultimately secured support, solved problems and drove design innovation and creativity. In particular, the ODA made a virtue of the cost constraints by developing a philosophy, and aesthetic, of efficiency through an iterative design process (2.3).

¹⁴ The bid budget of £2.4 billion rose to a £9.3 billion public-funding package in 2007. The ODA’s budget represented only £5.25 billion of that total. (Great Britain, Parliament, House of Commons, 2008.)
¹⁵ Of the London Organising Committee of the Olympic Games (LOCOG), government departments and agencies, Parliament, local authorities, British and international sporting bodies, the UK media, public and construction industry, as well as the International Olympic Committee and Olympic Broadcasting Service.
¹⁶ ODA, DAS 5.6.6. 2007 p.54
¹⁷ The measures taken to anticipate the long-term regeneration of the site are examined in Chapter 5 Anticipating the future
2. Delivering a masterplan vision

2.1 Rationalising the masterplan vision

Early masterplan visions to secure stakeholder and investor buy-in perform a fundamentally different function to the delivered masterplan. London promised to stage a memorable Games and create a platform for future regeneration and sporting excellence. This dual objective proved instrumental to London’s success.

The challenge for the ODA was to broaden the focus of the bid masterplan from satisfying IOC requirements, to one that could deliver long-term benefits to the host city. This required the masterplan and design proposals for Games-time and the future communities to be developed through a succession of iterations before finally being submitted for planning approval.

Realising aspirations for both phases concurrently required the ODA to think in an innovative, pragmatic and delivery-conscious way. Programming in design time at the start was to maximise value, de-risk delivery and secure high quality. The iterative masterplanning and design process also demanded intelligence, flexibility and resilience from the Design team.

The speed and complexity of the project, in combination with ongoing essential changes, required a unique approach to design development and planning. The ODA had to balance the flexibility needed to deliver on value and programme, with enough certainty to satisfy the planning authority that design quality would be secured. To achieve this, the planning authority and the ODA agreed a practical and flexible planning application process.

A two-part, parameters-based outline planning application structure and ‘slot-in and slot-out’ process proved essential to accommodate the unusual degree of design changes, without undermining the integrity of the statutory process.¹⁸

¹⁸ Refer to the Learning Legacy Micro Report on The planning client role
2. Delivering a masterplan vision

2.1 Reconciling the IOC and long-term briefs

Creative thinking, informed by a range of external and internal expert design advice, enabled the ODA to rationalise the masterplan into a realistic proposition. Through a series of improvements to the bid masterplan, opportunities were sought to meet both the short-term Games-time brief defined largely by the IOC’s technical standards and long-term requirements efficiently. The size of the site was reduced, minimising the risk and cost of the land acquisition process. Key client and design decisions on the Athlete’s Village created efficiency in delivery, certainty and long-term value; the village was moved away from the critical path of undergrounding the power lines, and the brief, programme and configuration were meshed with the recently consented private sector residential development scheme within Stratford City.

Through a series of masterplan iterations, the ODA reduced the number of venues originally proposed on site to meet the bid-stage demands of sporting groups, and adjusted the location of the remaining temporary and permanent venues. The opportunity was taken to use established off-site sporting facilities such as Earls Court to extend the 2012 Games event beyond the Olympic Park boundary. The ODA contributed to the extension of the Excel exhibition centre to allow fencing to be relocated. This approach decreased the number of temporary venues and dramatically reduced the cost and risk of delivery, while increasing the overall sustainability of the 2012 Games.

In their final configuration, the permanent venues are in accessible locations and will play a critical role in the function and character of the future urban fabric. The Velodrome anchors the north Park, addressing the future residential community; the Handball arena, retained as a permanent indoor multipurpose sports facility, is physically and functionally connected to Hackney Wick. The Aquatics Centre exerts a civic presence as the ‘gateway’ from the major new mixed-use development and transport hub at Stratford City at the south-eastern edge of the Olympic Park. Finally, the Stadium, on its distinctive island site, defines the strong new function and central identity needed to reintegrate the predominantly industrial Fish Island area at the easternmost edge of Tower Hamlets with the established community to the west.

The International Broadcast Centre and Media Press Centre (IBC/MPC) was relocated (from Stratford City development land) to a site in the north-west Park where it has the potential to be adapted to meet Hackney Wick’s future employment needs while providing direct access from the Olympic Park to press and broadcast facilities during the Games. The Paralympic tennis and archery venues were relocated north of the A12 to leave a legacy of permanent tennis, football and hockey facilities within the Lea Valley Regional Park. The Games-time temporary venues, ‘back of house,’ ‘front of house’ have been configured for conversion into serviced development plots post-Games to maximise post-Games development potential. This was an original objective of the LDA/BOA bid vision but has been carefully implemented by the ODA, working closely with LOCOG.

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19 The Host City Contract and supporting technical manuals, including Design Standards on Competition Venues, set out the ODA’s obligations in delivering the infrastructure and venues for the London 2012 Games. Any variations from the design standards required the written approval of the IOC.

20 ODA, Design Principles, p.19
2.

Delivering a masterplan vision

2.1 Translating a vision into a deliverable scheme

Translating proposals designed to win bids into deliverable schemes without compromising aspiration and design intent is a common challenge for many projects. Based on the experience of rationalising the London 2012 bid masterplan and Aquatics Centre competition, high-performing and flexible design teams who are able to engage in an iterative design process from inception to completion are essential. The compelling and singular bid landscape vision was instrumental in capturing the imagination of the IOC. After the bid, the consistent braided grid of movement infrastructure needed to be adapted to work with the three-dimensional site constraints and meet the ODA’s budget and sustainability objectives. It was important not to lose its ambition to transform the character of this part of East London in the process. The design integrity and functionality of the bid-stage landscape concept would have been undermined in reality by the need for extensive reinforced slopes, guard railing around the ‘cut outs’ and a lack of light reaching river level.

In rationalising the masterplan vision, the ODA sought practical and technical solutions to meet its biodiversity, ecology and sustainability targets. Tackling the significant barriers to movement on the site required an important distinction to be made between the aspiration to make a connection and the physical reality of delivery. The ODA sought more efficient opportunities to adapt existing infrastructure rather than imposing major new infrastructure on the existing environment.

The large land bridges originally proposed to deliver the bid masterplan vision of a continuous concourse were scaled back and existing underpasses improved instead. The landscape and infrastructure scheme that was finally submitted for planning approval in 2007 worked more closely with the inherent site characteristics and topography, reducing the overall scope of works, as well as the amount of earth moved off site.

The striking and high-profile 2004 competition winning vision for the Aquatics Centre²¹ was another early indication of the design ambition of the London 2012 Games and became a core motif of the bid. After the bid, the ODA and the competition-winning design team were tasked with turning a quickly prepared and ‘iconic’ design concept, designed to meet the bid book²² sporting legacy commitment to a 50-metre ‘Olympic-sized’ swimming pool, into a deliverable proposal that met the ODA’s objectives, worked with the site conditions and a feasible future business case.

The brief was radically revised to reduce the capacity of the permanent building and locate the training pool underground. The roof structure was redesigned to achieve better whole-life value without losing the spirit of the original scheme, demonstrating exceptional client and design team flexibility and ingenuity. The seamless concrete form initially proposed was replaced with a steel structure that ‘springs’ from two piers, increasing the dynamism of the competition-winning proposal. The design team’s willingness to engage in developing the scheme to a more efficient form has significantly cut long-term running costs and will improve the economic viability of the venue.

²¹ The Aquatics Centre competition was run by the LDA as part of its London 2012 bid.
²² The bid book outlines how a city plans to stage the Games including budget, venues and environmental issues and forms the basis of the IOC and its members’ decision.
2.

2.1 Handling speed, complexity and design change

CABE advised that most can be done to add value at the start of a project through careful preparation and adequate time for design. In the face of unique time constraints, an act of will—in fact, real courage—was required to hold back and take the two years needed to develop the masterplan and design proposals before delivering the 2012 Games. Resisting understandable reluctance from those charged with rapid delivery and in the context of past UK construction project failures, the ODA recognised that significant design time was needed to develop the facilities and park in detail, and established a delivery programme and planning process to support its aspirations for quality. The ODA chose to follow a 2-4-1 sequence—two years to prepare, four years to deliver, one year to test. An innovative two-part planning application structure was developed to ensure the approval and delivery of the key early site preparation works were not delayed by critical design time. Considering the principles of the enabling works and the proposals for buildings and landscape in parallel, but on different timescales, allowed the planning authority to support delivery and programme, and facilitate timely, sequential detailed approvals.

A planning authority can typically expect enough certainty about the design of key buildings and infrastructure to be able to fix locations and scale parameters by the time a masterplan is submitted for approval. But on a fast-moving project of this nature, the planning application could only ever capture a moment in time. The ODA developed a legally watertight, EIA robust ‘slot-in and slot-out’ planning process to allow ongoing essential revisions to be made to elements within the consent without submitting a new masterplan application. Parameters and scenarios were used effectively to strike the right balance between creating enough certainty for impact assessment whilst allowing flexibility for the designs to evolve.

The capacity to adapt to the iterative rationalisation of the Games-time proposals was a key strength of the masterplan and planning permission. Both accommodated LOCOG Games overlay requirements and provided a robust framework for the future development of the legacy masterplan. It even proved possible to absorb the disruption to programme caused by the substantial late redesign of the north Park and deliver an outcome that was more economic and sustainable. The resulting increased area of permanent parkland maximised the benefit of London 2012 investment by making the landscape open and accessible for future park users.

\[23\text{ CABE, Creating excellent buildings (2003), p22}\]
\[24\text{ First ODA Chairman Jack Lemley was not confident that the Olympic project would come in on time and on budget. Forster, S. 2011.}\]
2. Delivering a masterplan vision

2.1 Handling speed, complexity and design change

Key recommendations for rationalising a masterplan vision

- Think in a creative, pragmatic and delivery conscious, way to realise masterplan aspirations
- Develop an efficient, sustainable and future-proofed masterplan where all elements are economically viable and have a critical lasting role to play in the urban context.
- Differentiate between the role of a masterplan aspiration and the measures required to make objectives deliverable and affordable within cost, time and site constraints.
- Programme in careful preparation and time for design from the start, balanced with planning, procurement and construction timescales.
- Work with high performance, resilient and flexible Masterplanning and Design teams capable of engaging in an iterative design process from inception to completion.
- Establish a practical, flexible but robust planning process and application structure that can accommodate design changes without undermining the statutory process.
- Use expert external design advice to provide assurance of quality throughout the planning process.
2. Delivering the highest standards

2.2 Delivering a masterplan vision

The ODA’s overarching commitment was to meet the long-term needs of all people who will use the Park during Games-time and in future. The broader social, community and environmental benefits of the London 2012 Games proved critical to securing political and stakeholder support and, ultimately, reduced the risk of delay or planning refusal.

Although legacy, sustainability, inclusion and design quality were core bid ambitions, the ODA was tasked with developing a structure to deliver them. It produced a range of corporate strategies in consultation with stakeholder groups to set out the process by which the commitments would be delivered. The early masterplan vision was translated into measurable targets (for sustainable development) and standards (for inclusive design) that could be embedded and monitored at every stage of the design, procurement, planning and delivery process.

A client review and conformance reporting process was established to monitor projects against six ‘priority themes’. The planning process was also used as a critical benchmark. Throughout the project, the ODA was responsible for synthesising the often-conflicting needs of investors, operators, end-users, and society as a whole. The rigorous review and reporting process enabled the ODA to establish a hierarchy of needs to deal with the complex range of stakeholder requirements.

The ODA integrated measures to deliver exceptional sustainable and inclusive design standards from the start and good design proved crucial to realise these objectives through the masterplan and projects.

The projects were designed to minimize long-term environmental impact and to be accessible for the convenience and enjoyment of everyone. As a result, they were better buildings and spaces.

The example set by the ODA in delivering its commitments demonstrates what is possible to achieve, even on the most constrained project, and should bring about a much-needed culture change in UK design.

²⁵ Design and accessibility, employment and skills, equality and inclusion, health and safety and security, legacy and sustainability.
²⁶ CABE, The principles of inclusive design, 2006, p3
Delivering a masterplan vision

2.2 Securing support and crystallising the vision

The need to regenerate Stratford and the Lower Lea Valley was recognised long before the ODA was established. Locking ‘Legacy,’ as well as sustainability and inclusion, into the design and delivery of the Games was, therefore, an effective means of securing stakeholder and political support locally, regionally and nationally at bid, planning and land acquisition stage; to some extent, these commitments became the legal basis of what went forward. In the early days of the project, the ODA signed up over 400 organisations to a shared commitment to ‘creative, imaginative, sustainable design to ensure that the Olympic projects met the civic needs of all stakeholders, both functionally and architecturally, for 2012 and beyond.’ The IOC was persuaded that ‘comprehensive and positive environmental legacies for the community and the Olympic Movement would be achieved from a London 2012 Olympic Games.’ The case for the Compulsory Purchase Order at public inquiry was built on the need for a ‘catalytic event’ to secure the ‘real and effective regeneration’ of the Lower Lea Valley that could not otherwise have been achieved.

The ODA identified the key deliverables that could be translated into targets from the bid book and inherited 2004 masterplan and broadened the bid book understanding of sustainability. A set of six ‘priority themes’ was developed to crystallise the overall vision into clear and measurable requirements that would deliver viable long-term propositions. The priority themes realised the ODA’s intention to embed design considerations into planning, procurement and delivery into all aspects, and at every stage, of a disciplined process from conception to construction. The ODA incorporated priority themes into the objectives of individual teams, project briefs and contracts. This ensured that design teams, Project Sponsors, delivery partner and contractors clearly understood its expectations for design from the start, and helped to minimise risk in planning and delivery. A client review and conformance reporting process that monitored projects against the priority themes proved to be an effective measure to realise these corporate aspirations.

27 In 1996 Stratford and the Lower Lea Valley were identified as key regeneration locations in Strategic Guidance for London Planning Authorities (RPG3: May 1996) In 2001, it was noted in the revised Regional Planning Guidance for the South East that the need for urban renaissance in East London/Lower Lea Valley was as pressing as anywhere in the country. The London Plan (2004) identified the Lower Lea Valley as an opportunity area. The LDA, in partnership with the Greater London Authority, and in consultation with the 4 Lower Lea Valley Boroughs, commissioned a Lower Lea Valley Regeneration Strategy. (Rose, D, 2006, p.7). The strategic vision for land use, and the scale and nature of change was then outlined in the Opportunity Area Planning Framework (OAPF 2007)

28 Strategic Forum for Construction, 2006, p1

29 IOC, 2005, p.100

30 Rose, D, 2006, p.12

31 ODA, Design Strategy, p1
Delivering a masterplan vision

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2.2 Securing support and crystallising the vision

The exemplary standards set needed to be balanced with minimising risk to the demanding delivery programme and managing stakeholder expectations throughout the process. The ODA was answerable to the government and UK taxpayer for investing its budget well, to UK plc for building its international reputation for high-quality delivery, to Olympic and sporting bodies to meet their complex technical requirements, and to the Mayor, LDA and host boroughs to deliver local and regional regeneration objectives. Clearly articulating project objectives at the outset and addressing issues as they arose proved critical. The ODA produced corporate strategies to demonstrate how it would deliver its commitments to sustainability, inclusion and design quality to the planning authority, government and key independent advisory and monitoring bodies including CABE, the Commission for a Sustainable London 2012, the Built Environment Access Panel (BEAP) and Equality and Diversity Forum, the architectural profession and the wider public. It was essential that the priority themes added up to a challenging but deliverable overall proposition.

The client review process was an essential forum for different stakeholder interests to be represented throughout the process and to resolve conflicts between competing objectives on individual projects. Delivering objectives without a degree of compromise was not always possible, leaving the ODA client design team the difficult task of striking the right balance between an ideal and pragmatic solution. In the case of the Velodrome, the ODA prioritised creating an intense sporting experience within a compact and sustainable venue over achieving full accessibility. The steeply raked seating stands, developed to maximise the number of seats at the sides of the Velodrome with good views of the start and finish lines, precluded choice for wheelchair seating. The design of the building in section ensures the best viewing points in the venue are wheelchair accessible; the seating stands are slit horizontally into an upper and lower tier around a day lit fully accessible public concourse that meets the landscape around its perimeter, the shared understanding in how decisions were reached allowed the ODA to focus on delivery as soon as a design was finalised and avoid the risk of unresolved stakeholder issues disrupting the process late in the day.

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32 IOC, LOCOG, BOA, British Athletics and the Olympic Broadcasting Authority
33 The East London boroughs neighbouring the Park are Hackney, Newham, Waltham Forest and Tower Hamlets, which together with Greenwich and Barking and Dagenham are known as the Host Boroughs.
34 The construction programme itself has had a significant positive impact on improving employment and skills in the host Boroughs. ODA. Learning Legacy Jobs Skills Futures Brokerage. 2011
2. Delivering a masterplan vision

2.2 Securing support and crystallising the vision

In the face of pressure for delivery, the planning process was fundamental to realising the highest standards. The ODA were given planning powers 35 through a dedicated Planning Decisions Team (PDT) to take into account the need to deliver on time. A Planning Committee was appointed by the ODA Board to ensure that planning decisions relating to the land within the ODA Planning Area 36 were made in an open, transparent and impartial manner. CABE were very impressed by the planning authority’s ‘robust and independent approach to their task, which was pragmatic but uncompromising on quality.’ 37 The planning process was front-loaded to ensure planning requirements were met and to reduce the risk of delay or refusal once applications were submitted. Published corporate objectives (on design, sustainability and inclusive design) and targets, agreed with the planning authority at an early stage, helped to inform and structure the planning process. A shared vision was developed over time, reinforced by measures that maintained the mutual commitment to design quality from client briefing into planning decision-making. A project management structure that allowed cross-professional working between the design, delivery and planning teams aspiring to achieve the same objectives was critical to resolving a wide range of considerations relating to every stage of construction delivery. Embedding priority themes at every stage, and the extensive pre-application consultation process involving CABE, BEAP and the technical fora, ensured that issues were dealt with before applications were submitted. These factors proved crucial in supporting an efficient planning process. Securing the challenging targets for accessibility, sustainability, design quality and legacy as planning conditions or legal Section 106 commitments gave them credibility and weight in the design, client decision-making and planning process. 38 No London 2012 planning applications were refused permission.

35 The London Olympic Games and Paralympic Games Act 2006 set up the ODA, and provided for the ODA to be given planning powers. Following a consultation earlier in 2006, Parliament passed the Olympic Delivery Authority (Planning Functions) Order 2006, which granted these powers to the ODA.
37 Dr Richard Simmons, former chief executive of CABE.
38 The Sustainable Development Strategy targets turned into legal commitments through the 2007 permissions included 50% carbon reduction, BREEAM excellent for permanent venues, Code for Sustainable Homes 4 for the Athlete’s Village and creation of 45ha of new bio-diverse habitats
2. Delivering a masterplan vision

2.2 Integrating exceptional inclusive design standards

The ODA learned lessons from the unequal provision for Paralympians at Athens and was inspired by the sporting excellence of the Beijing Paralympics. A core principle from the start was absolute parity of experience for all visitors and athletes at both the Olympic and Paralympic Games. The benchmark for the design of the Park was to ensure that the experience for a disabled person was at least comparable with that of a non-disabled person.³⁹ The ODA was also committed to representing the diversity of London as a host city in every aspect of the delivered masterplan. It was committed to showcasing ‘today’s best practice and tomorrow’s standard practice.’⁴⁰ New benchmarks included a new standard for wheelchair spaces and amenity seating, exceptionally gentle gradients and toilet facilities for people of all cultures, faiths, ages and ability. The ODA’s holistic view of people’s needs earned it the RTPI Equality and Diversity Award 2009.

The Inclusive Design Strategy was developed collaboratively with CABE’s Principles of Inclusive Design 2006. Its aim was to plan from the ground up, going as far as possible beyond the minimum compliance standards normally applied in the UK, to create places that are accessible to everyone and that can accommodate the needs of a full range of different people and uses, now and in future. This had a significant influence on the movement strategy, site topography, and venue design. The delivered masterplan was significantly different from what it would have been without the strategy, and the ODA’s determination to deliver it. To encourage access to all areas by all users, accessibility was integrated into the masterplan landscape concept at the most fundamental level. Using computer crowd modelling techniques, the Olympic concourse was specifically designed and graded at 1:60 to make movement through the park easy for people of all ages and abilities. Driving the highest standards of accessibility from the start ultimately helped to reinforce value. Topographic interventions were delivered as part of the enabling works contract, rather than deferring the cost of lifts to be absorbed by individual project budgets.

³⁹ ODA, Design Principles, p.11
⁴⁰ RTPI, 2010.
2. Delivering a masterplan vision

2.2 Integrating exceptional inclusive design standards

In the design of individual projects, the ODA’s Inclusive Design Standards required design teams to think beyond their building footprints and work with the landscape to make the buildings accessible. In response to the inherent inaccessibility of raked seating, the venues developed a similar sectional relationship to the surrounding topography. Each has a raised area to provide access from the upper concourse directly into the upper level of the first seating stand, where some of the best seats are found. The Athlete’s Village was designed and built to lifetime homes standards post-Games with (10%) of all housing fully wheelchair accessible.

Although, accessibility was widely embraced; inclusive design in its broadest sense proved to be the priority theme most alien to current UK design culture. The ODA and its Equality and Inclusion team had to work closely with its design teams to integrate many aspects of inclusive design, planning in prayer rooms for example. There are already signs that the London 2012 Games mark the beginning of a much-needed culture change that will see design teams embracing all aspects of inclusive design from the start of the process. The ODA ensured that people with disabilities were, on professional merit, senior delivery team members and participated throughout the process in design, monitoring (through the CABE design review and BEAP) and conformance reporting (the Equality and Diversity Forum).

41 ‘Increasingly (planners, architects and designers) are coming forward with proposals that incorporate the needs of people with differing degrees of mobility and sight, and take into account requirements dictated by faith.’ (RTPI, Judges Report, 2010, p.39).
2. Delivering a masterplan vision

2.2 Integrating exceptional sustainable design standards

The ODA has also been recognised for setting ‘game-changing’ standards of sustainability for the construction industry. The IOC’s independent review of the sustainability arrangements for London 2012 concluded that it is ‘on track to deliver an exemplary performance.’ The Commission for Sustainable London 2012 predicted that, if Government embeds its practice into procurement standards, the ODA’s performance should bring about ‘the step change’ it has been calling for. The ODA delivered its commitment to the Greenest Games ever through a comprehensive approach to climate change based on ‘One Planet Living’ principles. Measures for reducing carbon emissions, increasing biodiversity and adaptation were integrated at all spatial scales and into every aspect of the design, procurement and construction process. At a strategic level, the ODA created the infrastructure capacity for a future low carbon community. An efficient temporary overlay for the Games was constructed, and permanent venues were sized to reduce embodied carbon. At individual project level, the ODA set clear objectives without prescribing how they should be delivered to leave scope for creativity. Innovative design was seen as the starting point for delivering these objectives.

The ODA’s approach allowed different projects to deliver sustainability in different ways. The embodied energy of the Olympic Stadium was reduced dramatically to balance its inherently high-energy intensity in operation, by using 75% less steel than typical stadia, low carbon concrete made from industrial waste and reclaimed gas pipes for the ring beam. As a result, it is the most sustainable stadium ever built. The Velodrome was designed to reduce demand for space heating, artificial lighting, and ventilation. The compact, naturally lit building with default natural ventilation has achieved 30% less energy in use compared to 2006 building regulations. The ODA required all contractors to identify, source and use environmentally and socially responsible materials. A supply panel it set up ensured all timber used was sourced ethically, legally and sustainably. Whether through reduced embodied energy or energy in use, all venues achieved BREEAM excellent.

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42 CSL, 2010, p.11
43 CSL, 2010, p.53
44 One Planet Living is a global initiative based on ten principles of sustainability developed by BioRegional and WWF in which people can enjoy the a high quality of life within the productive capacity of the planet. http://www.oneplanetliving.org/index.html
46 For example, the approach to waste management was to optimise the opportunities to design out waste, and to maximise the reuse and recycling of material arising during demolition, remediation and construction. ODA, Sustainable Development Strategy, 2007. P.22
2. Deliberating a masterplan vision

2.2 Integrating exceptional sustainable design standards

Key recommendations for delivering the highest standards

- Make commitments to broader social, community, environmental benefits at the start to secure stakeholder and political support, and justify investment

- Clearly articulate objectives and address stakeholder expectations throughout the process.

- Crystallise the masterplan vision as measurable targets and standards embedded and monitored at every stage of the design, procurement, planning and delivery process.

- Incorporate measurable targets into team objectives, project briefs and contracts at the start to reinforce client expectations to Design teams, project managers and contractors throughout.

- Establish a client review and conformance reporting process at regular design stages that monitors projects against measurable objectives.

- Create a forum (such as client review) that represents different stakeholder interests (such as access and inclusion) to resolve conflicts between competing objectives.

- Develop a project management structure that promotes cross professional working between the Design, Delivery and Planning teams.

- Set shared objectives with the planning authority to support an efficient planning process and carry out extensive pre-application consultation with independent expert design advice.

- Address critical issues before planning applications are submitted.

- Secure targets as planning conditions or legal Section 106 commitments to give them weight in the design, client decision-making and planning process.

- Set clear objectives without prescribing how they should be delivered to leave scope for innovation and creativity.

- Integrate measures to deliver the highest standards of sustainable and inclusive design at all spatial scales and into every aspect of the design, procurement and delivery process from the start.

- Ensure that people with disabilities and sustainability experts participate in the design, monitoring and delivery process.
2. Delivering a masterplan vision

2.3 Delivering design excellence

A successful project needs to strike the right balance between time, cost and quality, which tend to pull in different directions and have different risks ⁴⁸. The finite delivery timeframe and budget for this project, and the parameters of the public-sector procurement route, created tough conditions for quality to thrive.

The ODA tackled cost constraints head on by prioritising investment where it mattered – in permanent and viable venues and infrastructure within the masterplan, and to realise the design intent and regeneration potential of legacy projects. Temporary elements were designed and constructed to keep costs and carbon emissions low. The ODA embraced the core belief that ‘design adds value rather than cost to a project of this entity, ambition and scale ⁴⁹.’ The masterplan and many of the permanent venues such as the Velodrome went one step further and made a virtue of economy as the guiding principle for design excellence.

Using the knowledge and experience of its Client team and expert external advice, the ODA developed a clear understanding of the essence of a design through a hands-on collaborative design process. This was not seen as an end in itself, but as an essential tool to meet its aspirations. The delivered projects show that investing time and skills in a client-led iterative design process, informed by expert external advice, will generate efficiencies, resolve competing priorities, and manage risk in the design, delivery and planning process.

The ODA’s tailored approach to Design and Build procurement, front-loaded with time for design, was also critical to realising design intent in construction. The ODA was able to prove its ability to work within budget constraints 13 and actively create value without compromising on quality. This demonstrated that ‘good’ design does not mean trying to deliver and pay for the unachievable.

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⁴⁸ CABE, Creating excellent buildings, 2011, Time, quality and cost
⁴⁹ Tessa Jowell, then Secretary of State for Culture, Media, Sport and the Olympics, and UK Cabinet Design Champion. Speech to UK Design Champions at CABE, 12 December 2006
2.

**Delivering a masterplan vision**

2.3 **Investing limited public funding once, wisely and well**

A strategic decision was taken at an early stage to focus limited public investment in viable permanent venues, infrastructure and landscape, designed to meet their long-term community and elite sporting use. Temporary elements, rationalised to their most efficient form, and then retrofitted were used to meet Games requirements, reducing the time, cost and energy needed to transform the Park post-Games. The ODA’s philosophy, that combined minimising costs with maximising long-term value, influenced the overall masterplan strategy, and how individual projects were designed and budgets were managed.

To concentrate investment and meet the requirements of the delivery programme within the timescale, the ODA rationalised the bid masterplan to a more efficient Games layout that also created the basis for a tighter future urban scale. Striking the right balance of temporary to permanent elements was a critical part of this. The challenge was reducing the future economic risk and urban blight of over-sized or redundant ‘white elephants’ while maximising the community and sporting benefits of Games infrastructure and facilities. This strategy was driven as much by the long-term impact on the function and character of place as short-term cost savings; temporary structures are subject to many of the same standards and regulations as permanent structures and are not significantly cheaper to build.

Two out of the four venues retained in the Olympic Park meet their Games brief with temporary structures. The ODA took the difficult (and unpopular) decision to concentrate the project budget for the Aquatics Centre on a reduced capacity and fit-for-purpose legacy facility. This includes the investment in six fluid concrete diving boards that promise to capture the spectacle of the Games and become an iconic asset in future. The ODA accommodated additional spectator capacity in temporary structures in the knowledge that the seating stands could compromise the sculptural roof form in Games mode, particularly in carefully composed television shots that will shape the international perception of the Olympic Park. There is little dispute that the ‘refined and immaculate finished form’ of the permanent venue ⁵⁰ will be a striking symbol of London 2012 design excellence.

An unprecedented part-permanent, part-temporary building was proposed to allow the 80,000 capacity Olympic Stadium to be scaled back post-Games to a viable 25,000 seat athletics facility. ⁵¹ The stadium section was developed to reduce the amount of structure required and allow the large object building to integrate with, rather than impose itself on, the Park in the long-term. The permanent bowl has been part excavated within the landscape, taking advantage of the existing level change within the site. The remaining 55,000-seat capacity is provided in demountable light-weight steel and concrete upper tiers that were designed to be reused by other cities hosting major sporting events in future.

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⁵¹ This was stipulated as a commitment in the bid book and Olympic Board brief.
2. Delivering a masterplan vision

2.3 Investing limited public funding once, wisely and well

When first proposed, professional and lay media dismissed the idea of a temporary stadium as disappointing ‘flat-pack’ architecture that would deny Britain its ‘Bird’s Nest’ opportunity to create an international architectural icon. But public perception has been reversed by the quality of the simple, rational, pared back structure of the delivered Olympic Stadium that has been broadly welcomed as a ‘sexy, lean and vigorous’ \(^{52}\) emblem of the ODA’s sustainability and austerity agenda and is now considered ‘too beautiful to dismantle.’ \(^{53}\) It remains to be seen whether the design will adapt to its long-term use, but its potential flexibility as a venue has been born out by the range of commercial interest to lease the Stadium, not least the two competing bids from London football clubs.

To keep costs and carbon emissions low, the strategy for the design and construction of the temporary arenas, such as the Basketball Arena and Waterpolo venue, was re-use. The ODA worked creatively with recyclable materials and a standardised kit of components that could be leased from, and then returned to, the supply chain. The response to the limited budget and design scope for the temporary venues was ‘to do simple things in a bold way.’ \(^{54}\) The dynamism of the Basketball Arena is achieved externally through a simple but significant twist of the structure supporting the PVC façade panels emphasized with lighting during the Games. Internally, a graphic use of coloured seats creates a striking effect. Overall, quality was sought and achieved in the design of every venue whether permanent, adaptable or temporary.

\(^{52}\) Mara, F (2011), April
\(^{53}\) Duffy, F (2009). July
\(^{54}\) Architect Jim Eyre quoted by Young, E. (2011), September, p.59
2. Delivering a masterplan vision

2.3 Realising design intent

A core CABE message is that design is the process of iterative refinement by which a client produces a building or place that delivers demanding, and often conflicting, project aspirations. There are different approaches to design development. At one extreme, design solutions emerge as a rational response to the facts of the brief and site. At the other, schemes start as an image or concept that then has to be designed to work with the specifics of a site and brief, which is often the case with design competitions. The ODA embraced the design process as the essential means to actively create value and meet its objectives without compromising beauty.

Irrespective of a design team’s approach, both client and design team must understand the essence of a masterplan vision or individual project, from its role in the wider urban context to detailed design. This shared understanding is critical to ensure quality is prioritised in budget and programme decisions and design intent is maintained through to completion. The priority theme objectives defined by the ODA provided clarity to everyone involved on the core elements of the masterplan and projects within it that needed to be promoted and protected. The ODA also relied on the client design team’s past experience and knowledge of designing or delivering masterplans or architectural projects to develop an instinct for where to draw the final line. External expert advice, especially CABE’s breadth of experience from seeing almost every major development in the country, was also valuable when rationalising a project.

Supported by advice from CABE and the planning authority, it stood firm in negotiations with the delivery partner and contractor to protect aspects of the design of the Aquatics Centre that were fundamental to its long-term regeneration potential. The standing seam roof finish critical to expressing the sculptural roof form was retained instead of the single ply roof membrane considered at one stage.

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56 CABE, 2010. Ten year review, p.9
57 CABE, 2 October 2007
2. Delivering a masterplan vision

2.3 Realising design intent

The architectural profession raised concerns at an early stage that, in a time-pressured environment, the Design and Build (D/B) procurement model ⁵⁸ used to deliver almost all of the venue and infrastructure projects would compromise the ODA’s ability to deliver high quality projects. A client’s instinct can be to provide minimum tender information and involve contractors at an early stage to reduce risk to cost and programme. In a significant departure from traditional D/B procurement, the ODA appointed design teams to develop proposals to at least RIBA stage D before going out to tender ⁵⁹ to enable it to control quality up front and focus on delivery once contracts were let. Design teams were then novated ⁶⁰ to the selected contractors. Of the forms of D/B procurement followed by the ODA, early appointment and subsequent novation of design teams proved to be the most effective to deliver quality; provided that the contractor was selected using quality criteria and the client organisation continued to champion the design through to completion. Where this was not possible, in the case of the Handball Stadium, the architects were retained on the client side. In either case, developing proposals to stage D ensured that strategic client design decisions were made and detailed requirements critical to realising design intent were embedded in the employer’s requirements before the construction contracts were let.

The ODA defended key aspects of the Handball Arena to realise the simple ‘Miesian’ box design concept that made a virtue of its cost constraints. ⁶¹ The critical details included the glass slot that made the venue appear to ‘float,’ the careful seaming of the copper cladding, the strong grid of light pipes critical to natural light and the quality of the ‘fifth elevation.’

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⁵⁸ Design and Build is routinely used to procure complex and often high quality public sector projects. It is a form of procurement under which the contractor is responsible for the design as well as construction. In the form used by the ODA, the client and its design team prepared the design to stage D and the contractor completed the final stages of design and construction.

⁵⁹ With the exception of the stadium, IBC/MPC and temporary Waterpolo venue.

⁶⁰ Novation describes a form of Design and Build agreement, in which the client initially employs the design consultant team to carry out design work and information to define its intent and requirements for tender and contractor selection. The consultant team is then re-employed by the contractor who takes design responsibility for the project to completion.

⁶¹ CABE, 25 April 2008 and 28 November 2008
2. Delivering a masterplan vision

2.3 Realising design intent

The most successful London 2012 projects were those in which the design team worked closely with a high-quality and responsive contractor that was willing to engage in the design process towards an affordable high quality product, the Velodrome being the apotheosis. It is one of a number of successful projects, including the Handball Arena, which derives its aesthetic from economy and efficiency. The ‘ultra-light, shrink-wrapped’ form of the Velodrome is a ‘diagram of lean engineering’ designed specifically to ‘minimise materials, cost and embodied energy and reduce the volume for space heating.’ At one stage, its definitive curved roof soffit profile was at a risk of being rationalised to a simpler form. The ODA was able to recognise that cost constraints had gone beyond the point where design innovation alone could produce a good outcome and reprioritised budget before the contract was let. The ingenious lightweight double cable-net structure used to achieve the curvature and lightness of the roof was ultimately safer, quicker, easier and cheaper to build than the steel roof initially proposed. Buildability, including speed and cost of construction as well as health and safety, was a central design consideration for both the ODA and its delivery partner CLM. This objective was delivered through innovative design without any visible compromise. Delivered on time and on budget, the ‘beauty’ of the Velodrome has been widely commended in the architectural press and awards.

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62 Wainwright, O (2011), February, p.22-23
63 Architect Chris Bannister quoted by Young, E, (2011), April, p.41
64 ‘Beauty in section, as well as the beauty of the cedar cladding and the dominance of natural light’ Schumacher, P, (2011)
65 The Velodrome was the Prime Minister’s Better Public Building Award winner 2011, shortlisted for the 2011 Stirling Prize
2. Delivering a masterplan vision

2.3 Realising design intent

Key recommendations for delivering design excellence

- Invest time and skills in a client-led collaborative and iterative design process that is both creative and pragmatic.

- Develop a clear Client and Design team understanding of the elements of a design that are critical to realising regeneration potential, design quality and intent.

- Make a virtue of economic constraints as the guiding principle for design excellence by developing a philosophy, and aesthetic, of efficiency do ‘simple things in a bold way’.

- Recognise when cost constraints have gone beyond the point where design innovation alone can produce a good outcome and reprioritise budget if necessary.

- Take the whole life value of buildings and infrastructure into consideration when prioritising project budgets to support economic, social and environmental sustainability.

- Appoint Design teams to develop proposals to scheme design stage (RIBA stage D) as a minimum to control quality up front and safeguard design intent.

- Retain the same Design team post-Royal Institute of British Architects (RIBA) Stage D either by novation to the contractor or, where that is not possible, by extending their appointment on the client side to oversee the project through to completion.
3. Delivering aspirations for design excellence

The London 2012 delivery programme benefited from the culture established by CABE in which clients, designers and planning authorities have ‘the confidence to stand up for quality’.

With early advice and support from CABE and other stakeholders, the ODA established a client structure and disciplined design management process, underpinned by governance, to deliver its objectives against tough constraints, and within the parameters of public sector procurement. CABE’s existence enabled the ODA, as client and planning authority, to make design central to its decisions and ‘get the most out of the Park and venues for the long-term.’

Successful building projects are underpinned by Client teams who demonstrate strong leadership, have good organisation skills and are capable of making sound and informed decisions.

Designing for Legacy, published in 2007, set out how the ODA intended to define, procure, monitor and deliver good design. Firm and skilled leadership (3.1), project briefs and design guidance that inspired excellence (3.2), excellent Design teams (3.3) and objective evaluation, including external scrutiny from CABE and the planning authority, (3.4) were the touchstones of its role as a good client for design. Clients get the buildings they deserve. The widely acknowledged success of the Park landscape, infrastructure and buildings is a testament to the quality of the ODA’s leadership and the design process it managed.

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67 ODA Design Principles. p.44
69 CABE, Creating Excellent Buildings, 2010
3.

Delivering aspirations for design excellence

3.1 Strong client structure and leadership

In the crucial setup phase in 2006, the ODA worked in collaboration with CABE and other key stakeholders (including the Mayor of London’s Design Advisory Panel and the RIBA) to establish its approach to delivering design excellence.

In high speed and intensive development projects, strong leadership and high-level influence within the delivery organisation is essential to drive key objectives, including design. The ODA set in place a client governance structure with a firm commitment to design at every level from government, board and executive to Client Design team.

Consistent representation maintained the profile of design excellence, inclusion, sustainability and legacy in decision-making on procurement, programme and cost. The design management process underpinned the effective operation of the ODA’s Client Design team structure, enabling key issues to be identified early and escalated to Board level. The range of skills and experience within the ODA, as promoter and as planning authority, in combination with a flexible but robust approach, also proved critical to delivering objectives and driving quality.
3. Delivering aspirations for design excellence

3.1 Championing best practice

A significant aspect of client leadership was the ODA’s corporate commitment to champion best practice in design throughout the process. ⁷⁰ This objective was set clearly by Secretary of State Tessa Jowell MP. ⁷¹ When he was appointed as chairman in 2007, Sir John Armitt established strong support for the value of design quality at ODA Board level that was maintained throughout. His understanding of design and delivery was set within the context of extensive experience of the complexity of the UK construction industry, local and national politics. CABE promoted design champions at board level as an essential component to achieving design quality across all sectors and advised Jowell that it was essential to appoint one for the Olympics. The role can provide leadership, generate enthusiasm for design quality and ensure the client’s commitment is followed through in decisions on all aspects of a project from setting the initial vision, through procurement to design and delivery. ⁷² Former CABE commissioner (and Tate Director) Nicholas Serota was appointed by the ODA to act as the Board’s ‘design conscience.’ ⁷³ He was kept informed of client decision-making processes and was instrumental in escalating important design issues to Board level when necessary. Most critically, he promoted quality in the appointment of consultant and contractor teams for the major buildings. Individual project progress and key areas of conflict were reported at Board and Executive Management Board level and a risk register was used to maintain the profile of unresolved design issues at the highest level.

Consistent representation and leadership from the senior management leads for each of the client boards ⁷⁴ proved instrumental in realising the priority theme objectives. In the case of individual schemes, Project Sponsors, who provided a single point of responsibility for managing the brief, budget, procurement and planning process, took on this role. The weight of ‘Legacy’ in client decision-making fluctuated depending on the certainty and activity of the future or proxy client. Stakeholders generally agree that better legacy outcomes would have resulted if a strong and funded legacy client body had been in place at the outset.

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⁷⁰ Strategic Forum Task Group, 2006 and ODA Design Principles, 2007, p. 44
⁷¹ “At the heart of [the Olympic Delivery Authority’s] approach must be a belief that design adds value rather than cost to a project of this entity, ambition and scale,” Tessa Jowell, then Secretary of State for Culture, Media, Sport and the Olympics, and UK Cabinet Design Champion in a speech at CABE to UK Design Champions, (2006)
⁷² CABE, Design champions. 2006, p.2
⁷³ ODA, Board meeting minutes, 2006
⁷⁴ The client boards represented design and accessibility, employment and skills, equality and inclusion, health, safety and security, legacy and sustainability.
3.

Delivering aspirations for design excellence

3.1 Resourcing a project with the right skills and experience

Good clients recognise the range of skills needed and make sure that a project is correctly resourced. First and foremost, strong client leadership is a function of the attributes and experience of senior executives and client design team, including Principal Design Advisors and Project Sponsors. To tackle the exceptionally challenging nature of the delivery programme, committed and inspiring built environment professionals, with exceptional skills and experience, were appointed to the client design team, individual project teams and delivery partner. Consultants and stakeholders agree that the individuals in the ODA client team demonstrated the high level of experience the task demanded and impressive leadership skills. At the most senior level, ODA Chief Executive Sir David Higgins provided exemplary leadership of the masterplanning, design and delivery programme during the first critical six years. The philosophy he championed was one of excellence without extravagance. He shared an open, flexible and politically adept approach with Chairman Sir John Armitt that proved to be effective, rather than adopting an autocratic leadership typically considered necessary for projects of this kind. Director of Design and Regeneration Alison Nimmo’s extensive background in urban regeneration was instrumental in the ODA’s practical and disciplined application of masterplanning and design, and the ongoing focus on the legacy of the Games.

The core design team comprised a permanent team of Head of Design, Deputy Head of Design and three Principal Design Advisors. During the early design team appointment stages, a Chief Design Advisor supported the design team, whose particular focus was on procurement and the design of the Athlete’s Village. The Principal Design Advisors were brought on board to oversee related infrastructure, landscape or venue projects that were allocated to align with the scope of construction contracts. The role proved central to driving design quality in the challenging and, typically, engineering-led structures, bridges and highways, and utilities projects, particularly in dealings with third party stakeholders.

Client review provided the Principal Design Advisors, working with the Project Sponsors, an opportunity to use their knowledge, experience and judgement to influence decision-making at every stage of the process, including briefing and procurement. Key issues raised early in the process could then be escalated to Board level. The Principal Design Advisors’ oversight of a number of related projects enabled cumulative knowledge to be carried from one project to another, such as the development of a common approach from the Greenway across the utilities projects.

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75 CABE, Creating Excellent Buildings. 2011, Understanding the project delivery team
76 Higgins was named ‘New Londoner of the Year’ by New London Architecture in recognition of his achievements
77 Chairman Jack Lemley was concerned at the early stage that the Olympic Project would come in late and over budget and as a result found it difficult to ‘finesse his way’ through difficult situations. He has since ‘learned to be much less rigid’ in his thinking. Forster, S. 2011.
78 North Park, South Park, venues, infrastructure and utilities, and integration with Stratford City
79 Refer Chapter 4.1
3.1 Resourcing a project with the right skills and experience

The ODA planning committee and planning decisions team staff also played an important role by setting standards through planning. The committee was strengthened by an unusually broad cross-section of relevant expertise in architecture, planning and regeneration. It also had representation from across practice and academia, the private sector, and local and national government. The planning decisions team’s breadth of experience was fundamental in brokering a position between the interests of the four neighbouring Host Boroughs ⁸⁰ and managing an efficient and timely decisions process.

The ODA involved a range of stakeholders and experts to inform its strategic approach during the critical formative period of the organisation. Senior members of CABE staff were seconded to collaborate with the ODA to develop the client organisation structure, design and inclusive design strategy, briefing and procurement process that would realise the ODA’s corporate aspirations. CABE’s public space team provided enabling assistance and technical advice on best practice and benchmarks, governance and funding, design and management procurement, and delivery of the Olympic Park. CABE’s contribution to the project demonstrated its core commitment to work with clients to create the right conditions for good design to prosper. ⁸¹

The ODA Chief Executive assembled a group of experienced built environment professionals representing a range of key high-level stakeholder interests to flag up and discuss overarching and underlying design issues. The Design Reference Group was a valuable forum to ensure the views of CABE, the Mayor, the development industry, and professional bodies ⁸² informed ODA decision-making on strategic and detailed matters. The ODA’s overall strategy to deliver good design, the legacy of 2012 Games proposals and the relationship to the broader context were core themes of the group’s discussions. Other matters addressed included the procurement and design of individual projects and ways to optimise investment and quality in the design and delivery of infrastructure and landscape. ⁸³

⁸⁰Hackney, Newham, Tower Hamlets and Waltham Forest
⁸¹ Simmons, R. 2008, p.5.
⁸² Royal Institute of British Architects and Landscape Institute
⁸³ The number of bridge crossings needed to reconnect the Lea Valley to maximise limited investment, and the design and delivery strategy needed to reduce the amount of spoil moved off site working with the existing topography and re-using demolition arisings on site.
3. Delivering aspirations for design excellence

3.1 Resourcing a project with the right skills and experience

Key recommendations for providing strong client leadership

- Establish a governance structure with representation for, and commitment to, client objectives at every level.

- Appoint a high profile and effective design champion to represent design quality at Board level.

- Resource complex masterplan delivery programmes and projects with the right range of skills, experience and influence.

- Adopt an open, flexible and politically adept leadership approach to difficult situations and changing circumstances.

- Work in collaboration with, and take advice from, a range of stakeholders and experts from the start to inform the strategic approach to design and delivery.

- Structure the Client Design team and design management process to promote joined-up thinking and ongoing learning between teams.
3. Delivering aspirations for design excellence

3.2 Defining a vision for excellence

The ODA’s defined its aspirations for design excellence in high-level strategy documents, masterplan design guidance and individual project briefs. At the start of the project, its commitment to quality, sustainability, inclusive design and designing for legacy, and the process by which they would be delivered, were published in a range of corporate documents.

The Design Strategy, Designing for Legacy⁸⁴, identified seven core objectives to assess design quality: value for money; on time; fit-for-purpose; legacy; environment; health and well-being; safe and secure; inclusion⁸⁵. The ODA used these strategies to inform and direct its own internal design review process, its Delivery Partner and to address stakeholder and planning authority expectations.

The ODA client body and planning authority shared an ambition to promote design quality, sustainability and inclusivity while retaining scope for innovation and distinctive design character. In a direct delivery project, the greater risk is creating a contrived and uniform scheme that works against regeneration through inflexibility during the development phase.

The design guidance in support of the planning applications set the expected level of quality without predicting design solutions. Well-refined project briefs informed by core client objectives were embedded in project procurement and planning. This approach provided certainty on delivery and cost and allowed the design to develop to respond to unique circumstances. With its Design teams, the ODA have succeeded in inspiring excellence⁸⁶, carrying design intent through to completion and creating a sense of place.

⁸⁴ Chapter 2.2 ‘Delivering the highest standards’ examines how the ODA integrated inclusive and sustainable design in all aspects of the masterplan at the most fundamental level.
⁸⁵ ODA. 2007, Designing for Legacy, p.10
⁸⁶ ODA, Design Strategy. 2007, p.9
3. Delivering aspirations for design excellence

3.2 Defining design quality

In the context of a fast-moving delivery programme with many unknowns, the ODA were aware of the risk that fixing design principles at a moment in time would inhibit design evolution and innovation. The original intention was to produce a hierarchy of design guidance documents to set clear principles and benchmarks for the key elements of venue and Park design and capture its overall commitment to quality. The planning authority were assured that these documents were being prepared early enough in the process to inform design development, provided they were not too prescriptive to allow thinking to evolve. Before the documents were completed, the ODA concluded that comprehensive detailed design guidance was not appropriate to define the final character of buildings and landscape before design teams had been appointed. It might even prove counter-productive to the many measures already in place to secure design quality. ⁸⁷

The high-level design principles in the Design and Access Statement (DAS) ⁸⁸ were deliberately broad brush at the point the outline planning application was submitted to set the expected level of quality without predicting design solutions. For example, the guiding design principle in many cases was that, provided exemplary design teams were appointed, architectural character should evolve from function. This approach is successfully born out in the delivered buildings: the Handball Arena reflecting the large clear spaces it encloses; the form and structure of the Velodrome developed in response to the oval shape of the track; and the form and materiality of the Energy Centre and Primary Substation reflecting their forward-looking and dynamic function. The creative and innovative use of materials, texture, colour and lighting to reinforce legibility, identity and durability is also a common thread in delivered projects. This guidance has been realised with particular ingenuity in some of the smaller utilities projects and temporary venues, such as the delicately pigmented cast concrete panels and pink filtration tanks of the Foul Water Pumping Station, and the illuminated rippling façade and bold coloured seating of the Basketball Arena. The design intent set out in the DAS was critical to give the planning authority the confidence to approve the outline application and allow the design of the Park to be built up in layers. The two applications submitted for the Olympic Stadium – layout and substructures followed by reserved matters - allowed the essential enabling works to continue in advance of a resolved detailed design. CABE’s scrutiny of design development through to the submission of Reserved Matters applications reassured the planning authority that the quality of detailed design proposals would be followed through.

⁸⁷ Refer to key recommendations
⁸⁸ DAS sections 9.6, 10.6, 11.5
3. Delivering aspirations for design excellence

3.2 Defining design quality

To bridge the gap between the high-level design principles set out in the DAS and the detailed design of individual projects yet to come forward, the ODA produced an Urban Design and Landscape Framework (UDLF). It described the character of buildings, infrastructure and landscape sufficiently to guide the reserved matters applications, while leaving flexibility for design development and future phases. In the context of such a rapidly developing masterplanning and design programme, detailed planning guidance could only capture a moment in time. For example, much of the detailed public realm guidance in the UDLF was based on an emerging two-level park concept that was superseded by a reworked landscape design shortly after the document was completed. The challenge for the ODA was to create an approved framework that would remain relevant. A flexible approach to applying the guidance was negotiated with PDT and the planning committee. For example, the western bridges diverged from the standard detailed design approach set out in the UDLF but responded to a new condition on the Park boundary.
Delivering aspirations for design excellence

3.2 Getting the brief right

Getting the project brief right is an essential client deliverable. The ODA set out to produce well-researched and tested briefs for individual projects that clearly stated design aspirations and inspired excellence. The ODA’s tailored D/B route and client review process allowed briefs to be developed and refined in response to priority theme objectives and design evolution up to RIBA stage D. The well-defined employer’s requirements and briefs that were then expanded and issued to contractors created confidence and certainty on delivery, price and design outcome. In practice, clear and concise briefs were instrumental in the procurement of the right design teams and the quality of the built outcomes.

In practice, clear and concise briefs were instrumental in the procurement of the right design teams and the quality of the built outcomes.

In the context of a multi-level ‘client’ that related to different phases of operation and use, it was important to provide strong and realistic briefs, informed by the ODA as procuring client, the IOC, LOCOG and International Sporting Federations and long-term operators and end-users, to allow design teams to produce well-resolved designs for Games and Legacy use. The Velodrome’s ‘near-perfect synthesis of form and function,’ that requires minor modifications after the Games, was a response to a clear Games-time and Legacy brief. Input from the Lee Valley Regional Park Authority (LVRPA, the future owner and operator of the VeloPark after the Games), British Cycling and the existing Eastway Cycle Group shaped the brief and subsequent widely acclaimed design.

The appointment of a long-term owner is a central factor in determining the brief for a building’s post-Games use, urban form and economic viability. The Aquatics Centre has proved challenging to design for its long-term condition. Its design development engaged with potential operators and was informed by future business case requirements, but without an appointed operator, the vested interest in engaging with the process proved less focussed. In contrast, the design development of the International Broadcast Centre/Main Press Centre (IBC/MPC) buildings benefited from the certainty of a long-term owner in the early stages. The future owners had intended to use the large floor plates required for the Games to maximise future urban layout and economic potential. When the intended future owners stood down in 2008 in response to the economic crisis, the difficulty of reconciling the Games-time configuration with an adaptable future use required the ODA to adopt a pragmatic approach. It delivered a large flexible permanent building to be marketed for appropriate future uses.

90 CABE, Creating Excellent Buildings. 2010: Defining the outline brief.
91 ODA, Design Strategy. 2007, p.9
92 The International Olympic Committee sets the Design Standards for Competition Venues in a technical manual that forms part of the Host City Contract. The host city requires written approval of the IOC, in consultation with the relevant International Sporting Federation to make any changes.
LOCOG and the International Sporting Federations worked in close collaboration on the characteristics of the technical facilities and the sports equipment to be used in the venues during the 2012 Games. (IOC, 2010)
93 Schumacher, P. (2011) May
94 Stirling Prize short-listed, Architects’ Journal ‘Building of the Year’ 2011; RIBA London arts and leisure building of the year 2011; Building Awards Client of the Year 2011; NLA project of the year 2011; Building Design sports architect of the year 2011.
The modular structure could be broken into smaller development plots to open up and key east west connections, or quickly converted into a range of different commercial uses.
3.2 Getting the brief right

Key recommendations for defining a vision for excellence

- Clearly articulate the client understanding of design quality, and its purpose in improving the experience of a project for end users and the wider community.

- Define expectations for design quality in strategy documents, masterplan design guidance, planning documents and individual project briefs to secure the quality of the outcome.

- Leave scope in the planning process for innovation and distinctive design character for skilled Design teams to develop design proposals in response to unique site and practical constraints.

- Develop clear, well-refined briefs informed by client objectives and proposals designed up to RIBA stage D and embed them in project procurement.

- Involve end-users and future stakeholders in developing project briefs as the basis for well-resolved designs fit for their long-term purpose.
Delivering aspirations for design excellence

3.3 Procuring excellent design

Experienced clients say the choice of the Design team is the single most important factor in achieving high quality and is crucial to the long-term success of a project. The ODA prioritised design and artistic excellence in its Design team selection criteria. This was an important step towards overcoming the misconception in parts of the construction industry that ‘good’ architects design expensive and complex schemes. Competing contractors and Design teams were selected based on ability and quality, with core requirements embedded in tender documents. Integrated project teams that included skilled design professionals with the right experience proved critical to meet the wide, and sometimes conflicting, range of project requirements.

The ODA, along with the wider construction industry, signed up to diverse and inclusive procurement to create opportunities for a range of current and emerging creative talent. But the non-negotiable and nationally accepted requirement to manage risk, the complexity of delivering major venues and the nature of the public-sector procurement process proved to be significant hurdles.

The ODA initially intended to procure a series of smaller structures across the Park and planned to establish and follow a tailor-made design Official Journal of the European Union (OJEU) procurement procedure to create opportunities for small practices. In the end, the few smaller scale projects were delivered by LOCOG that was able to procure a range of emerging designers, through private sector sponsorship outside the limitations of public sector regulation. The critically acclaimed completed buildings demonstrate that appointing Project teams with the right skills, experience and a track record of design excellence is the essential basis for delivering best value and complex brief requirements without compromising on quality.

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95 CABE, Creating Excellent Buildings. 2010: Selecting the project delivery design team.
96 ODA, Design Strategy. 2007, p.9; ODA, Design Principles. 2007. P.44
97 Strategic Forum Task Group. 2006
98 Strategic Forum Task Group. 2006; ODA, Design Strategy. 2007, p.4; and Design Principles. 2007 p.35
99 ODA, Design Strategy. 2007, p.9
3. Delivering aspirations for design excellence

3.3 Procuring excellent design teams and construction expertise

The selection and evaluation process of design teams, and contractors, itself proved critical. The ODA took the view that project success depended on an integrated design team with a breadth of experience, able to address a range of requirements. Selection was based on the quality and capability of the contractor and design team, not a specific scheme. The initial evaluation tended to weigh in favour of sports or arena specialists on the basis of cost, time, risk and ability to meet the detailed IOC brief. An expert jury ensured that, in the final selection, these key criteria were counter-balanced with the equally critical future urban design requirements tested in the planning process. Including sports specialists as part of, but not the lead consultant in, multi-disciplinary design teams proved to be a successful approach in developing fit for purpose and distinctive designs for the Aquatics Centre, Handball Arena and Velodrome.

Core requirements for high-quality designers were set out in the (D/B or DBFO) tender documents to ensure that only exceptional design teams were short-listed. For smaller projects of lower risk, the RIBA small practices lists and the list of nominees for Young Architects of the Year Awards were used as a reliable basis for short-listing or inviting expressions of interest from up-and-coming design teams of sufficient stature. The success of this approach is born out by the design team appointments for the award-winning Primary Substation and Greenway projects. In the selection process for the Greenway project, procured below OJEU, an outline scheme was also provided to benchmark the design quality expected.

¹⁰⁰ The jury included the ODA Board design champion, and senior representation from the ODA client design team, CLM, LOCOG, the RIBA and Design for London.

¹⁰¹ The Olympic Park and Stratford Energy Centres were procured through Design Build Finance Operate through a 40 year concession agreement with a private sector partner.
3. Delivering aspirations for design excellence

3.3 Procuring excellent design teams and construction expertise

The ODA continuously monitored its approach to design team procurement and was prepared to change tack mid-way through the process when its aspirations and project briefs were not being met.\(^{102}\) The landscape approach to the masterplan went through a number of iterations and design teams.\(^{103}\) When it was struggling to resolve the relationship between landscape character and infrastructure, the ODA identified the need to bring in a different team to reconsider bridge design within the context of the Park as a whole. The clarity of the two-level park concept that emerged solved a number of design and delivery challenges.\(^{104}\) The most significant shift was the late appointment of a practice that combined a strong three-dimensional understanding of landscape with sustainability and value for money. The delivered design translated the two-level diagram into a more integrated and distinctive Park experience that is more economical and sustainable.\(^{105}\)

The ODA had a clear strategy from the outset not to appoint on the strength of the design team as a whole, not the lead architect. The multi-disciplinary nature of the masterplanning consultant team was essential to tackle the complexity of the site and delivery programme. The high-profile Velodrome competition delivered a ‘perfectly distilled marriage of architect and engineer.’\(^{106}\) The success of the project is attributable to the quality of the entire design team working together towards a synthetic solution. The team included a widely acclaimed architectural practice with broad experience, relatively small but design-led engineering and landscape practices, and specialist mountain bike track designers. The selection process must also recognise the importance of a positive and integrated project team culture in D/B (or DBFO) projects, to ensure that client, contractor and design team can work together to achieve the best possible solution in terms of design, buildability and environmental performance.\(^{107}\) The working client for the Primary Substation EDF met face to face with the teams short-listed by the ODA after a 10-day selection process to ensure there was a good fit.

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\(^{102}\) When ground contamination required the site for Broxbourne canoe slalom course to be changed, the ODA reassigned the project, with advice from CABE, to a design team with skills better suited to the nature of the project. The shift from an architect- to landscape-led design team transformed the new sports facility into a regeneration project.

\(^{103}\) Refer section 2.2: ‘from the graphically memorable concept that captured the imagination of the public and the IOC; to the highly sustainable outline planning scheme that met its targets did not provide the conceptual framework needed to create a coherent sense of place or define the experience of the river valley park; to the unlocking of the bridge design and the spectacular and responsive delivered landscape.’

\(^{104}\) Refer section 2.2: ‘the clear conceptual separation between the infrastructure and landscape on the critical path and the permanent landscape in the valley below created certainty in the delivery programme.’

\(^{105}\) Refer 4.1: ‘The delivered north park landscape design further emphasizes the existing riverine character by softening the valley section and opening the river to its surroundings. This major topographical shift created a flood reservoir and wetland area at the lower levels of the landscape bowl.’

\(^{106}\) Wainwright, O (2011) July, p.3

\(^{107}\) Strategic Forum Task Group. 2006
3. Delivering aspirations for design excellence

3.3 Overcoming barriers to inclusive procurement

In practice, the ODA found it difficult to reconcile its aspiration to support emerging talent with the scale and complexity of delivering most of the venues, and the specific and largely inflexible procurement laws imposed to minimise risk to cost and programme in public sector projects. Against the background of significant losses suffered by the main contractor and architects of the delayed Wembley Stadium construction project, there was only one viable bid from a contractor prepared to put its reputation at stake on the Olympic Stadium. The monopoly situation this created demonstrates that the most high-risk projects can put off all but the largest contractor and design teams and put design quality at risk as a result. The procurement of the Olympic Stadium, and the fact that architectural practices of largely consistent scale and experience were appointed to design the remaining major projects provoked criticism at the time from the architectural media. It was also an ongoing concern of the planning authority. Both agree, however, that the procurement process has delivered excellent results.¹⁰⁸

A significant barrier to more diverse and inclusive procurement was the risk-averse and complex nature of the public-sector procurement process itself. As a public body, the ODA was required to follow standard Office of Government Commerce (OGC) guidelines that set turnover and Professional Indemnity (PI) cover requirements as a ratio of the contract sum. The standard PI cover level originally set would have excluded all but the biggest UK architectural firms. The process inevitably made it more difficult for small practices to compete and overcome the procurement hurdles for big budget projects; in a project of this kind, there is limited scope for multiple small projects, and, in the end, the ODA delivered too few small-scale commissions to justify a framework. The ODA successfully negotiated reduced PI cover or accepted agreements to increase cover on a project basis, to access a broader pool of practices.

The ODA’s difficulty in creating opportunities for emerging practices on large public-sector projects suggests there is a role for industry bodies to provide a lighter touch approach to procurement, using design professionals to support selection. Early, clear guidance from public sector clients on the baseline policy and priority theme requirements, and simplifying the submission process, would help to make the process more inclusive. Tenders were handled through an online portal CompeteFor as a means of streamlining and improving procurement. In practice, the pre-qualification questionnaire (PQQ) required significant resources and advanced knowledge of the qualifying policies.¹⁰⁹ The process was a very significant deterrent for small practices and favoured larger well-resourced and bureaucratic organisations.

¹⁰⁸ The ODA has engaged a number of small and emerging practices including DSDHA, DRMM, Panter Hudspith and Niall McLaughlin on the Olympic Village, John Lyall Architects on the Foul Water Pumping Station, Nord on the Primary Substation, Adams and Sutherland on the Greenway, and Heneghan Peng on the Central Park Bridge.
¹⁰⁹ Quality Management, Health and Safety, Equal Opportunities
3. Delivering aspirations for design excellence

3.3 Overcoming barriers to inclusive procurement

To allow emerging practices access to larger projects within standard procurement guidelines, the ODA identified the opportunity for larger practices or existing contractors to help develop the design concepts of smaller less experienced consultants. The collaborative rigour and creativity of the Central Park Bridge design team produced a synthetic design resolution that was short-listed for British Construction Industry Awards 2011. The successful team consisted of a small architectural practice working in partnership with a more experienced engineer who was able to provide the resources, turn over requirements, PI cover and expertise.

Where there was no requirement to follow Official Journal of the European Union (OJEU) procurement guidelines, the ODA Principal Design Advisor worked closely alongside the operator to make sure the critical requirement for a high-quality design team was embedded within the project brief. For example, the DBFO model used to procure the utilities buildings presented more scope for the procuring body and selected operator to define their own consultant appointment process outside of OJEU regulations. The ODA Principal Design Advisor played a critical role in guiding their partners to a high-quality designer selection. Expressions of interest to design the Energy Centre were invited from a long list of practices whose experience met with the ODA’s core brief requirements. The operator independently ran a mini competition between a shortlist of three and selected award-winning architects. The operator for the Foul Water Pumping Station also directly appointed the design team based on the ODA brief requirement for high quality. The project went on to win an NLA award, a CEEQUAL Outstanding Achievement Award and a Civic Trust Award.

¹¹⁰ ODA, Design Strategy. 2007, p.12
3. Delivering aspirations for design excellence

3.3 Overcoming barriers to inclusive procurement

Key recommendations for procuring excellent design

- Select consultants and contractors on the basis of ability and quality of the team as a whole rather than basing selection on a specific competition scheme.

- Use independently approved lists of high-quality consultants \(^{111}\) and outline schemes to benchmark design quality in the Design team selection process.

- Use the expertise of senior members of the Client team and an expert jury to advise on the Design team selection process and reach a balanced consensus view.

- Monitor whether the selected Design team is delivering the desired outcome and be prepared to bring in a new team if project briefs are not being met.

- Appoint integrated Project teams that include skilled design professionals with the right experience to meet a wide range of conflicting and complex requirements.

- Identify opportunities to allow emerging practices access to larger projects within standard procurement guidelines by working with larger practices or contractors.

- Scale the procurement process (including PI requirements) in proportion to the projects and make the process less bureaucratic to access emerging practices.

- Provide early, clear guidance to Design teams on the client’s baseline policies and design requirements, and simplify the submission process.

\(^{111}\) For example practices recognised in industry awards such as RIBA, Architect of the Year (AYA) and Young Architect of the Year (YAYA) or Architects Journal awards.
3. **Delivering aspirations for design excellence**

3.4 **Evaluating design quality**

A core ODA commitment was to establish a comprehensive design management process with its Delivery Partner CLM to deliver design quality, functionality and value for money \(^{112}\). The absolute need to get the project right first time required a focussed hands-on client approach and a collaborative design process.

The ODA developed a disciplined client review process to track and report project performance and progress at every stage. The process informed client decision-making and drove design quality, innovation and creativity. In the context of a demanding programme, establishing a forum to address stakeholder issues from the outset was also critical to minimise risk to delivery.

Quality indicators played an important role in monitoring the measurable aspects of sustainability and inclusion in design. The ongoing iterative design and client review process was equally reliant on good client judgement, with advice from CABE and other stakeholders. In particular, the influence of the ODA’s Principal Design Advisors, working together with the Project Sponsors, proved essential to reconcile competing objectives, to prioritise key aspects of design in managing budgets and project interfaces, and to evaluate the more elusive aspects of design. Testing its ideas on key strategic and detailed design matters with a range of stakeholders and experts at the appropriate stage in the design process proved fundamental to keep the project on track. External reviews from CABE were considered crucial to give the planning authority confidence to support innovation and require design quality.

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\(^{112}\) ODA, Design Strategy. 2007, p. 9-11
3.4 Leading a disciplined design management process

The design management process led by the ODA client team was highly disciplined and collaborative. This approach was implemented from signing off the brief with key delivery partners (including LOCOG and the LDA) and a complex mix of stakeholders, through to the post-contract change management process, and material selection and supply. A structured client review process, following the RIBA plan of work, was built into the delivery programme to formally track and report on project performance at each stage. This approach ran counter to the typically reactive way issues are dealt with in many architectural projects. The client review process was the primary measure for day-to-day decision-making based on priority theme objectives, value for money, and buildability. The ODA originally had intended to evaluate project performance and support investment decisions using a tailored version of the six core value measurements developed by CABE to help clients and end-users assess whether they are getting the most out of buildings and places.¹¹³ In the end, the ‘value matrix,’ that set out how the ODA intended to measure the different aspects of design value,¹¹⁴ was used to maintain the profile of design quality and assess overall project performance at Board level.

Client reviews presented a key opportunity for the ODA to show leadership, gain an overview of progress and evaluate design proposals against the standards. They were an essential forum to reconcile competing priorities - not least the conflicts between the uncertain future brief and technical Games requirements - and formalise client decision-making with stakeholders and delivery partners to help de-risk delivery. Addressing key urban design matters tested at planning stage created certainty that applications would be approved without delay. Red-Amber-Green (RAG) status reporting enabled the ODA to prioritise the critical issues that needed urgent resolution. This disciplined approach ensured projects delivered the best value and design quality and met technical requirements as well as wider masterplan objectives.¹¹⁵

The client review process allowed the ODA to work alongside and challenge its professional consultant team to meet the project brief and quality expectations. A client review was required for each project at every stage of design development to evaluate whether all comments from the Design and Town Planning Board had been addressed, before progressing to the next stage. Understanding and embedding the critical objectives from the outset proved essential to avoid the review process becoming too bureaucratic; feedback from early client reviews informed the work practices of later projects. Ultimately, individual project performance depended on the extent to which the Project Sponsor and design team embraced the priority theme objectives from day one. The Velodrome team produced the most sustainable and highly acclaimed venue in the Park by embedding sustainability in every aspect of design development from the outset. A sense of competition and shared best practice between projects working to the same priority themes created a positive dynamic and was a powerful driver for innovation and creativity.

¹¹³ CABE, The Value Handbook. 2006, p. 10
¹¹⁴ ODA, Design Strategy. 2007, p.11
¹¹⁵ ODA, Design Strategy. 2007, p.9
3. Delivering aspirations for design excellence

3.4 Making sound decisions

The ODA recognised the value of ongoing credible independent expert advice to help it meet its commitments to design quality and a lasting legacy.\(^{116}\) CABE’s first dedicated design review process was set up jointly with the Mayor’s advisory body on design quality - the Architecture and Urbanism Unit, subsequently Design for London\(^{117}\) - to provide a single source of robust advice to client, planning authority and strategic planning authority.\(^{118}\) An independent critical analysis of the projects throughout design development was a helpful client steer. It also gave the planning committee confidence to support innovation, and to take a robust position when proposals needed further resolution.\(^{119}\)

The London 2012 panel followed the rigorous, transparent and accountable process established by CABE’s national design review service.\(^{120}\) The ODA decided to fund CABE to provide a dedicated design review, instead of using the free service funded by central government, recognising the benefits of this service during the critical ‘preparation’ phase of the project. At a cost of £150,000 over two years - less than 0.003% of the ODA’s overall £5.25bn construction budget - the service represented excellent added value, both in the design development and planning decision-making process.

The external design review process worked in parallel with the quality and performance indicators (priority themes) used to assess the measurable aspects of design through the ODA’s internal client review process. It created a forum to consider schemes in the round as a synthesis of the attributes of good design that can be more elusive to measure \(^{121}\) and raise a broader range of issues beyond the remit of the project. Interrogation at critical points of the design development process challenged the ODA and its design teams to step back and consider, both strategically and in detail, how proposals related to the masterplan as a whole, sat within the wider context and anticipated the future. The broad context for the reviews was underpinned by the chair’s experience of reviewing strategically important schemes on CABE’s national panel and participating in the neighbouring Stratford City’s Design Review Panel. The continuity of relevant knowledge from one review to another through a consistent panel produced coherent and well-informed advice.

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\(^{116}\) The ODA identified design review as a key part of a rigorous design management process to deliver design quality. Design Principles. P. 44

\(^{117}\) To maintain design review’s independence, Design for London had to withdraw from the administration of the service on 1 October 2008 after it was merged into the LDA, a principal landowner of the Park site.

\(^{118}\) CABE was merged with the Design Council from 1 April 2011, by which point the London 2012 design review programme for the ODA had come to an end, on completion of the design and planning of the majority of the London 2012 facilities. Design Council CABE has, however, taken forward the LOCOG design review programme, looking at the design of operational aspects of the London 2012 Games.

\(^{119}\) For example, to embrace the unprecedented ‘simple, elegant and efficient strategy’ for a temporary stadium structure. (CABE, 27 July 2008)

\(^{120}\) CABE. Design review principles and practice. 2009, p.9

\(^{121}\) For example, CABE’s summary of the Central Park Bridge design was ‘This scheme successfully characterises the sectional nature of the site and fuses Olympics and Legacy in one convincing design proposition, that we think works equally well in either mode.’ (CABE, 23 December 2008)
3. **Delivering aspirations for design excellence**

3.4 **Making sound decisions**

Producing current three-dimensional information would have been a valuable tool for design development and to allow CABE and other stakeholders to better understand the proposals in relation to the scale and complexity of the site. However, it was not feasible for the ODA to continually update a comprehensive site wide view analysis and working topographical model in the context of rapid and ongoing design evolution.

The design review process reassured the planning authority that, in addition to extensive design expertise on its committee, decision-making on design quality was informed by independent, objective and well-informed expert advice,¹²² rather than the opinion of an individual internal design officer. Planning conditions were informed by CABE’s specific recommendations including: The setting out and detailing of the Aquatics Centre standing seam roof panels to work with the complex geometry of the flowing roof form;¹²³ the gabion design, abutment treatment, box girders, surface and parapet treatment of the bridges; the details included in the UDLF appendices; and the requirement to retain the architects for the Handball Arena post-planning stage to ensure continuity of concept and design skill.¹²⁴ In the context of a programme where planning refusal was an unacceptable risk, the legitimacy of CABE’s advice in the planning process¹²⁵ was used effectively as leverage for design quality by the planning authority¹²⁶ and was instrumental in negotiations between the client and its delivery partner and contractors.

Key recommendations for evaluating design quality

- Establish a disciplined and collaborative design management process that tracks and reports of project performance at each stage.
- Closely monitor project performance and secure sign off from relevant stakeholders at each stage to drive quality, innovation and creativity.
- Develop good client judgement, informed by internal knowledge and experience and expert external advice, to prioritise design in project budgets and interfaces.
- Take external independent advice at key stages through a credible, design review service to ensure wider and long-term issues are considered.

¹²² From a range of respected design professionals from the fields of architecture, urban design, planning, engineering, development and regeneration, landscape architecture and inclusive design
¹²³ CABE, 28 February 2008
¹²⁴ CABE, 25 April 2008
¹²⁵ s.87 of the Clean Neighbourhoods and Environment Act 2005
¹²⁶ “When necessary, stakeholders such as CABE were brought into negotiations directly to clarify what was needed and a firm line was taken, which ensured consistent protection of quality within quick decision making”. Dr Richard Simmons, former chief executive of CABE.
Creating a sense of place

Creating a Park with a coherent and relevant sense of place was considered central to delivering a platform for a sustainable legacy of social, economic and physical regeneration ¹²⁷.

The vast, semi-industrial, contaminated and largely isolated site, criss-crossed by infrastructure, in a deprived area ¹²⁸ of the Lower Lea Valley was identified as a preferred site to optimise the regeneration potential of the London 2012 Games. The latent positive physical attributes were also an opportunity to create a compact linear Park alongside the River Lea ¹²⁹ in an existing urban context.

The challenge for any regeneration project is to bring about positive and major change and, at the same time, root the emerging development form in the identity of the local area and people. The ODA faced the significant task of transforming a huge area that had proved too difficult to regenerate in the past ¹³⁰ into an exceptional physical environment in only six years. There was a risk that, in the rush to build, site remediation and preparation would wipe away any vestigial character of the site.

The ODA committed to creating a Park that reflects the heritage and diversity of the Lea Valley and fosters a sense of ‘ownership’ in those who are most likely to use it ¹³¹. It led to a contextual masterplanning process (4.1) that grew out of its vision for, and an understanding of what it should be like to visit, compete, live or work in the Park during and after the Games ¹³².

The design of the masterplan and buildings were measured at ODA Board level against its relationship to the location and context and its contribution to a sense of place ¹³³.

The sheer scale and compressed timeframe for the directly delivered first phase of the masterplan also required the programme to be managed as individual construction packages and submitted as separate planning applications.

The ODA’s Client Design team developed a design integration process to reinforce quality and consistency and minimise risk. This internal design review process, set against a background of a robust design strategy and principles ¹³⁴, ensured that overall masterplan intent was not lost through disconnected decisions on individual contracts (4.2). The distinctive design character of the Park, which has emerged from a range of exceptional UK and international masterplanning and design talent, builds on the existing site characteristics and captures the excitement of the event.

¹²⁷ ODA, DAS 5.6.6. 2007 p.54
¹²⁸ Wards in and adjoining the Lower Lea Valley are generally within the 10% most deprived in England, with some in the 5% most deprived. Rose, D.2006. p.11
¹²⁹ Rose, D. 2006, p.14
¹³⁰ Rose, D. 2006, p.11 and p.286
¹³¹ ODA, Design Principles. 2007, p.8
¹³² ODA, Design Principles. 2007, p.6
¹³³ ODA, Design Strategy. 2007, p.11
¹³⁴ Set out in Design Principles and the Design and Access Statement (ODA, 2007). In Design Principles the ODA and its design teams imagined what it would be like to compete in, visit, live and work in the Park during and after the Games in a series of scenarios.
Creating a sense of place

4.1 Capturing local identity

The foundation of a successful masterplan is first to understand the physical context of a place - through urban design, and historic and landscape characterisation analyses - before trying to change those aspects that need changing.¹³⁵

At the start of the masterplanning process, the ODA and its Masterplanning team invested time and thought investigating the wider socio-economic and topographical context. This early analysis was translated into the masterplan design principles, and the typologies and languages of the landscape, infrastructure and architecture.

When architectural teams were brought on board to develop the individual projects, a diverse range of designs emerged that were still grounded in the early masterplan thinking. The existing positive qualities of place also needed to be integrated into a strong new identity to bring about change. The delivered Park landscape and buildings capture the spirit of place by re-presenting the industrial and riverine character in distinctive new forms, rather than literally preserving or re-using aspects of, or elements from the site. The family of utilities buildings was designed to celebrate the industrial archaeology of the site and act as the ‘visible legacy of the Games infrastructure.’¹³⁶

The distinctive North Park landscape enhances the existing wetland topography and creates a strong context for the architecture. A clear attitude to landscape setting was fundamental to ensure all the large-scale permanent buildings contribute to the character and value of the Park in the long term.

¹³⁵ CABE, Design Review. 2006, p.10
¹³⁶ ODA, DAS 7.6.19. 2007, p.88
Creating a sense of place

4.1 Capturing the riverine and industrial landscape

The ODA envisaged the identity of the Park growing out of the ‘spirit’ of the Valley to define a unique ‘sense of place’ that will evolve as the site is developed. Alongside an extensive socio-economic analysis of the area, the ODA’s masterplanning team sought to understand the sense of its past and the potential of its future. The unique qualities and physical characteristics of the site to be retained and enhanced by the project - open space, waterways, wildlife and natural habitat - were translated into design principles in the Design and Access Statement to inform the development of the masterplan and projects within it, by ‘emphasizing the intimacy and waterways’ or ‘paying homage to the utilities history of the Lower Lea Valley.’

The analysis of the unique landscape of rivers, canals and industrial heritage was synthesised into the early masterplan thinking. The Park masterplan was inevitably ‘shaped by the confluence of the rivers and canals that drive the form and character of the special environment.’ The masterplan diagram was structured around the north/south alignment of the existing river valley, creating a linear Park with first venues and then development on either side. The intimate wild wetland characteristics of the river valleys and waterways were retained and enhanced as the major asset in the North Park, in contrast to a flat, open and flexible concourse space populated with large new structures at the upper level. Restoring the recreational and ecological function of the water was a key design driver.

The delivered North Park landscape design further emphasises the existing riverine character by softening the valley section and opening the river to its surroundings. This major topographical shift created a flood reservoir and wetland area at the lower levels of the landscape bowl. The Landscape Institute commended the Park design as ‘one of the most significant landscape-led regenerations project in the UK’ that will ‘contribute to the art and science of landscape architecture.’ The ODA, its designers, planning authority and critics agree that the North Park has not only delivered the ODA’s targets for sustainability, biodiversity, ecology, but has succeeded in enhancing the existing spatial and topographic characteristics while creating a strong identity for the new Park.

¹³⁷ ODA, DAS 5.6.6. 2007, p.54
¹³⁸ ODA. DAS. 6.3.12 and 9.6.8
¹³⁹ ODA. DAS, p.67
¹⁴⁰ ODA, Design Principles. 2007, p.8
4.

Creating a sense of place

4.1 Capturing the riverine and industrial landscape

As the design of the North Park continues to evolve in future phases, the challenge for the Olympic Park Legacy Company (OPLC) and its design teams in taking forward the development of the Park, as well as the Lee Valley Regional Park Authority (LVRPA), \textsuperscript{143} will be to retain and celebrate its unique wetland character in contrast to the active and urban South Park. It will also need to ensure that the area of parklands, and with it its ecological balance and value, is maintained. For example, the ODA’s original aspiration for a Park character that extends its recreational and ecological function into the local green space network to connect existing and emerging future communities together \textsuperscript{144} is challenged by the emerging model for the ‘Queen Elizabeth Olympic Park’ developed by the OPLC of green space bounded by a road and defined by traditional terraced housing. This illustrates the difficulty of securing continuity in masterplanning over time when clients are changed. \textsuperscript{145}

Celebrating the extraordinary post-industrial landscape of the Lea Valley was a core masterplan principle from the start. The masterplanning team mapped the industrial remnants on the site with the original intention of working with the local arts community to creatively re-use salvaged materials to reveal the layers of archaeology in structures (gabions) or for wayfinding (train gantries marking the processional route). The process of commissioning and managing the careful translation of a site-specific narrative into built form proved too difficult on such a large scale within a fast-moving programme. The mini design competition-winning scheme to improve the Greenway in 2007, however, was selected on the principle of re-using found materials from the Park site, informed by Dimitri Pikionis’ path of re-used relics to the Parthenon. \textsuperscript{146} The architects were determined to hold what was valued about the place faced with huge changes \textsuperscript{147} and sustainably embedded character into the strategic local route rather than ‘regenerating’ it out. The creative re-use of materials did not prove to be a compelling enough narrative to define the overall character of the Park. Recycling demolition arisings as fill for gabions that are a core feature of the Park infrastructure has, however, created a degree of consistency and enhanced the sustainability of construction.

\textsuperscript{143} LVRPA own one third of the Parklands.
\textsuperscript{144} ODA, DAS 6.3.1. 2007, p.64
\textsuperscript{145} Refer Chapter 5.1 ‘If clients have to change during the masterplanning process, consider extending the role of key members of the masterplanning and client team to create continuity across phases to maintain a coherent sense of place.’
\textsuperscript{146} Dimitri Pikionis was a major Greek architect who designed the landscape around the Acropolis in the 1950.
\textsuperscript{147} Shepheard, P (2011) August. p.12
4. Creating a sense of place

4.1 Capturing the riverine and industrial landscape

Early site analysis was, however, central in establishing the common typology and language for the family of utility buildings. The approach that emerged, directly influenced by the competition-winning scheme for the Greenway, was a celebration of the industrial archaeology of the site. The strong design-led approach to the utilities buildings reflected their crucial role in the running of Games and as the ‘building blocks of the new community post 2012.’ ¹⁴⁸ The permanent public venues, in comparison, draw their character from the memory of their Games-time function and sporting legacy.

The Primary Substation, awarded Commercial and Industrial Building of the Year and short-listed for Project of the Year by the RIBA, was the forerunner of the family of utility buildings. The design evolved from an early proposal to literally re-use bricks reclaimed from the site into an interpretation of existing dark brick bridge structures and local building typologies. The ODA and its design teams developed a common language and palette ¹⁴⁹ of ‘background’ architecture in the form, construction and materiality of the utilities buildings. To embed the structures in their context, reflect their function and represent the heroic industrial past of the site, ¹⁵⁰ this language was characterised by dark industrial materials. Black brick was used for the Primary Substation and Corten Steel mesh for the Energy Centre. The delivered infrastructure buildings ‘appear heavy, sitting in the land…contrasting to the venues many of which visually float above the site.’ ¹⁵¹ Great attention was paid to the form, setting and integration of the utilities buildings, in recognition that these factors would influence the site values and character of future developments.

¹⁴⁸Young. E (2011), March. p.38
¹⁴⁹ ODA, DAS, 7.6.19. 2007. p.88
¹⁵⁰ Including canal structures, and the great sewerage works of Sir Joseph Bazalgette.
¹⁵¹ ODA Principal Design Advisor Kay Hughes quoted by Young, E. 2011 March. p. 40
Creating a sense of place

4.1 Creating a sense of place and occasion

Faced with challenging physical, cost and time constraints, it was crucial that the ODA and its design teams kept in mind what the delivered Park would be like for all people who visit, live or work there during the Games and in future. The ODA’s inclusive design principles placed people at the centre of the design process. The way the landscape and buildings were experienced fundamentally affected the layout and design of the Park from the start, not least the site topography. Integrating the large-scale and distinctive object buildings into the three-dimensional complexity of the wider landscape was critical to creating a coherent sense of place. The ODA’s objective was to design a masterplan, landscape and buildings for the 2012 Games that together create a spectacular visitor experience and make as much of a long-term impact as the sporting and cultural performances themselves.

With its masterplanning team, the ODA developed the underlying Games masterplan diagram to create a compact precinct that concentrated the excitement of the event. The major venues were clustered in strong spatial tension around a central linear unifying concourse structured along the existing river valley. This arrangement created a critical mass of activity and consolidated essential support facilities behind, minimising visual impact and maximising open space within the Park. Temporary venues were placed to complete the ‘string of pearls.’ When the Park is developed in future, a careful balance will be needed between retaining the memory of the spatial character of the Park during the event and leaving divisively expansive spaces that work against creating an integrated townscape.

The delivered landscape creates a strong and unifying context for the permanent venues that drives a particular character of place, rather than the stark characterless environments that typically surround large stadia. The philosophy was to create a spectacular and responsive landscape that is experienced dynamically and episodically, and functions as an event in itself. The delivered North Park landscape fully engages with the architecture by carefully framing and obscuring views of the venues, creating a middle ground of topography between the flat concourse and the large structures rising up behind. The broad masterplan principle of a green landscape in the North Park and an urban character to the south was established in the outline application. But the programme, budget and implementation structure, combined with tightly drawn red-line project boundaries, meant that venue design was developed in advance of, or in parallel with, detailed proposals for the parkland immediately surrounding it.

¹⁵² In simple terms, what is the experience before, during and after the Olympics, for the different kinds of people who visit or live in the area, of arriving in and moving through the Olympic Park? (CABE response to planning application 07/90011/FUODA and /OUODA, 23 March 2007.)
¹⁵³ ODA Design Strategy: Designing For Legacy. P.17
¹⁵⁴ Refer Chapter 2.2 Delivering the highest standards: ‘the Olympic concourse was specifically designed and graded at 1:60 to make movement through the park easy for people of all ages and abilities.’
¹⁵⁵ ODA. DAS 5.6.2. 2007, p.53
¹⁵⁶ Support facilities were accessed from the Loop Road
¹⁵⁷ Basketball Arena, Waterpolo venue and Hockey stadia
4. Creating a sense of place

4.1 Creating a sense of place and occasion

The design concept for each of the major venues emerged with a clear attitude to its landscape setting and complex site topography. This has allowed the permanent structures to have a strong presence without being divisive to the overall sense of place: the Aquatics Centre floating roof form was designed to let the park apparently flow through the building; the sculptural berm of the North Park design forming a visual plinth for the Velodrome so that it appears to ‘hover above the plateau with effortless grace,’¹⁵⁹ and the legible concept of the Olympic Stadium anchored into its own island site and designed to sink back into the landscape post-Games.

The architectural character and spatial quality of the venues were driven to a great extent by the template of the sporting event itself. Each has evolved its own distinctive character derived from a clear attitude to the core ODA principles of sustainability, efficiency and legacy. Building forms are also characterised by a sense of dynamism and animation to capture the essence or excitement of the sporting event itself – the lightweight and efficient engineering of the Velodrome representing the spirit of a bicycle and the ‘sensational’ wave form of the Aquatics Centre roof¹⁶⁰ inspired by the fluid geometry of water in motion. Colour and lighting are used with great effect to transform the temporary venues, such as the dramatically lit sculpted membrane of the Basketball Arena. The ‘field of play’ has been designed to reinforce the excitement of the event¹⁶¹ - the geometry of the Velodrome track ‘exuding the drama of the race,’¹⁶² the energy burst of colourful seats the ‘jewels’ inside the simple black box of the Handball Arena, and the ‘pure awesome theatre’¹⁶³ of the Aquatics Centre pool hall roof form and concrete diving boards that exploit the ‘spectacle of ascending the dive boards and diving.’ The value of the striking architecture of the venues is predicted to extend beyond the two-week event. The Aquatics Centre and Velodrome are expected to inspire ‘tens of thousands of people’ to participate in sport.¹⁶⁴

Key recommendations for capturing local identity

- Carry out a comprehensive site analysis at the start to inform the masterplan, and the typology and language of the landscape, infrastructure and architecture.
- Develop a strong new identity that builds on site characteristics by re-presenting existing character in distinctive new forms.
- Create a distinctive destination through the strong spatial quality of the public realm, and the character and setting of the buildings within it.
- [Design large-scale object buildings (venues and utilities buildings) in response to context ensuring their form and setting contribute to urban character.]

¹⁵⁸ A sloped wall of earth.
¹⁵⁹ Wainwright, O. 2011. p.20
¹⁶⁰ Merrick, J, (2011) 28 July
¹⁶¹ World records have already been set in the World Championships in February 2012
¹⁶² Architect Mike Taylor quoted by Wainwright, O. 2011. p.22
¹⁶³ Merrick, J, (2011) 28 July
¹⁶⁴ Merrick, J, (2011) 28 July
Creating a sense of place

4.2 Reinforcing quality and consistency

The ODA was committed to delivering a large-scale, multi-functional Park with a strong character and design quality. This undertaking was grounded in the proven role of high quality and coherent public realm in creating value and a sense of place in regeneration projects ¹⁶⁵.

The overall composition and materiality of, and detailed interfaces between, the infrastructure, buildings and landscape will be central to the way people experience the Park. These aspects demanded as much consideration as the major projects themselves. The ODA established a disciplined design integration process to ensure all projects and elements worked together across individual budgets and programmes.

Leadership within the Client and Masterplanning team on the detailed realisation of the masterplan as a whole proved critical. An integrated design approach to architecture, landscape, infrastructure and art, set within a coherent site-wide public realm strategy, was required from the outset. The planning process also provided a strong benchmark for consistency and design quality, primarily through approved guidance on street and infrastructure design ¹⁶⁶.

From bid to delivered Park, a strong overarching narrative that drove the character of the masterplan and elements within it was necessary to communicate the vision and create consistency across the different development phases, Design teams and clients.

¹⁶⁵ Grant Thornton. 2011. p.2
¹⁶⁶ ODA, Olympic Park Urban Design and Landscape Framework. 2007
4.

Creating a sense of place

4.2 Implementing measures to deliver coherence and quality

An integrated design process that allowed different teams to work with each other often resulted in the most creative solutions \(^{167}\) and was central to achieving the overriding objective of good design - a synthesis of engineering, architecture, infrastructure and landscape. It was particularly important in the context of a complex site and a fast-moving programme that demanded each project team worked to its own clearly defined footprint and budget. This became apparent when CLM \(^{168}\) split the masterplan delivery programme into individual teams with independent Project Sponsors working to their own clearly defined footprints and budgets. The ODA design team, supported by CLM, established a forum to track and resolve project interfaces in collaboration with design teams and to drive project managers to approach integration in a disciplined way. Weekly design-focused meetings with the client design team, architects, engineers and CLM design managers were held to address individual areas of the site. The ODA was required to show leadership and judgement in resolving conflicts between projects, whether a scope, cost or design issue. Design integration decisions were supported at the ODA Executive Management Board level, by both client and delivery partner executive. CLM set up its own integration team that later became the construction integration team, with a continued focus on detecting clashes in individual project interfaces.

In the transition from masterplanning to detail design, ongoing strong client ownership of \(^{169}\), and clear design responsibility for, the detailed realisation of the masterplan was critical. To ensure no core themes or areas were lost in the process, the ODA appointed the masterplan architects as client design advisors. The role provided design quality leadership on the aspects of that were outside the red line of venue or landscape project boundaries such as lighting, street furniture, utilities structures and external surfacing. It also proved important to support continuity of place between the individual project budgets and programmes, ensuring that the Park read as one place as opposed to a series of separate unrelated projects. The client design advisor role would have been a valuable asset from the start. Treating the masterplan as a work stream with its own dedicated Project Sponsor as part of the core client team might have helped to reinforce its primacy as the main co-ordination tool for the design of the projects within it.

\(^{167}\) The firms often worked in an integrated way. Often you couldn’t tell who worked for which firm. Leadership shifted at different stages of the programme. However, when different voices led to disagreements and tensions it often resulted in the most creative solutions. A lot of the ideas came from the design consultancy teams.’ Bob Allies, Allies and Morrison, interviewed by Dr Richard Simmons (former CEO of CABE) July 2012
\(^{168}\) CLM were the ODA’s project management development partner.
\(^{169}\) ODA ownership of the masterplan was identified as a key aspect of ensuring design quality was achieved. Design Principles p. 44
Creating a sense of place

4.2 Implementing measures to deliver coherence and quality

In retrospect, the oversight of a strong landscape team as part of the masterplanning team across all projects and phases would have been another effective way of ensuring that infrastructure, architecture and landscape were properly integrated throughout the process. To some extent, this approach is alien to British design culture, where landscape is typically just the setting for architectural centrepieces. Experience on the London 2012 project as a whole suggests that to deliver decent public realm through the masterplanning process on large-scale projects, landscape teams need a greater share of design and budget responsibility. The Lee Valley Canoe Slalom course at Broxbourne designed by an American landscape architect is a positive example of a landscape-led masterplan. There is a stronger recent tradition of landscape-led regeneration in the US - Brooklyn Bridge Park and Crissy Fields in San Francisco ¹⁷⁰ - where in common with the Park, landscape thinking in on a large scale and is often used as a means to resolve post-industrial environments and create development value.

The design of small-scale infrastructure – lighting, speakers and signage – also has an impact on the sense of quality and coherence of a place. Site-wide strategies typically help to co-ordinate an overall approach to, and inform the detailed design of, specific elements across a masterplan. In response to programme demands, the ODA focussed on delivering essential infrastructure and large-scale venues, and deferred non-programme critical elements until a later stage in the process.

Recognising the importance of arts and culture in creating a sense of place, community ownership and value, the ODA made a commitment to make art and sculpture central to the 2012 project from the start. ¹⁷¹ The objective to physically integrate public art into the landscape and buildings ¹⁷² had been realised across the park. Artists have been involved in the design of elements of lighting, way finding, bridge surfacing, retaining walls, and infrastructure enclosures. With the exception of the Arcelor Mittal Orbit Tower that was commissioned outside the influence of the ODA’s priorities to deliver integrated public art and sustainability, ¹⁷³ and the ‘RUN’ sculpture that will signpost the Handball Arena, there are no art ‘objects’ in the park.

The Public Realm Commissioning programme will contribute to the function and unique character of the Park. Embedding art conceptually, as well as physically, in the masterplan and the design of elements within it required an overall public realm strategy that integrated architecture, landscape and infrastructure from the outset. It is critical to ring-fence budgets and commission specialist design work - for lighting, signage and art - at the start of a project. Rather than delivering a series of discrete commissions at a late stage in the design process, the scope and influence of the arts and culture strategy could effectively have been extended to fundamentally inform the lighting, way finding and bridge strategy. The ‘one whirl’ surface graphics and the ‘fast, faster, fastest’ lighting scheme will facilitate way finding within the Park but these represent only two out of 31 bridges.

¹⁷⁰ Michael Van Valkenburgh designed Brooklyn Bridge Park and George Hargreave designed Crissy Fields.
¹⁷¹ Strategic Forum Task Group. 2006
¹⁷² ODA, Art in the Park. 2012
¹⁷³ An Olympic Tower was the idea of Mayor of London Boris Johnson and Olympics Minister Tessa Jowell to ‘distinguish’ the Park on the London skyline. The project was funded by Arcelor Mittal and the LDA. The designers - artist Anish Kapoor and engineer Cecil Balmond - were selected from a shortlist by an advisory panel that included representation from the ODA.
4. Creating a sense of place

4.2 Setting benchmarks for the quality and consistency of public realm

In the context of a project split into construction contracts that were submitted for planning consent in a series of 'layers,' the planning authority needed reassurance that design quality and coherence would be realised in the delivery of all elements across the park. In public sector procurement, it is critical that the planning process provides a strong benchmark for design. The approval of an Urban Design and Landscape Framework (UDLF) was made a condition of the 2007 planning permission. The framework set principles for the design of the Park during the Games and Legacy Transformation stages and described the character of buildings, infrastructure and landscape to guide the reserved matters applications. Typical details and materials were included in the appendices to illustrate design intent to designers, contractors and the planning authority, rather than prescribing design solutions. Although the UDLF guidance did not prove relevant for many aspects of the buildings, infrastructure and landscape, the framework was critical for the planning authority and committee to set their expectations for the quality and consistency of the design of the bridges across a series of separate applications. The appendices became extremely valuable as streetscape design manual to define and set clear benchmarks for standard materials and details of the street design, the quality of the surface materials to be used for example. Prototypes were used as a means to communicate the quality and consistency required of the predominant elements to different contractors.

174 Condition OD.0.9
175 Parapet sections, gabion basket and lighting.
Creating a sense of place

4.2 Integrating disciplines through a clearly defined overall concept

The rethinking of the bridges within the context of the Park at a critical point in the project, demonstrates the added value of an integrated design approach. In the context of early programme and logistical pressure, the initial intention was to develop an engineering-led design of structural box girders sized to carry utilities and to defer key landscape integration and architectural details until post-planning consent and post-contract stage. After CABE and the planning authority expressed concerns that an engineering-led bridge solution that divorced from landscape and architecture would not deliver high-quality public realm, the ODA brought forward the drafting of the UDLF and appointed the masterplan architects to consider the design of the bridges in the context of a clearly articulated concept for the landscape as a whole.

The reappraisal of the bridge design as part of a re-conceptualisation of the park as a whole generated a simple, elegant and coherent landscape and bridge concept and unlocked a range of design, delivery and integration challenges. A clear distinction was made between the Upper Plateau, which functions as a concourse during the Games and a development platform in future, and the River Valley for the permanent parkland below, with a formal hard ‘rim’ of movement infrastructure separating the two. The concept fully embedded the core masterplan principle of balancing permanent and temporary elements to maximise investment and minimise transformation, and generated a detailed language of bridge abutments, retaining walls and handrails. More significantly, the clear conceptual separation between the infrastructure and landscape on the critical path and the permanent landscape in the valley below created certainty in the high-speed delivery programme.

The evolution of the Park landscape proposals demonstrates the value of conceptual design, not as an esoteric or indulgent aspect of the process, but as the means to achieve consistency, communicate, prioritise and rationalise design and delivery: from the graphically memorable concept that captured the imagination of the public and the IOC; to the highly sustainable outline planning scheme that met its targets did not provide the conceptual framework needed to create a coherent sense of place or define the experience of the river valley park; to the unlocking of the bridge design and the spectacular and responsive delivered landscape.

¹⁷⁶ The architectural details deferred were the detailed resolution of the gabion design, abutment treatment, box girders, surface and parapet treatment.
Creating a sense of place

4.2 Integrating disciplines through a clearly defined overall concept

Key recommendations for reinforcing quality and consistency

- Develop a strong overarching narrative to communicate the vision and create consistency across the different development phases, Design teams and clients.

- Prioritise high-quality streetscape and landscape design to create a sense of place, attract investment, and promote recreational and cultural uses.

- Foster a culture of integrated working between Design teams to generate creative solutions to conflicts between projects within a masterplan.

- Appoint a senior member of the Client team to take strategic responsibility for the detailed realisation of the masterplan.

- Appoint the Masterplanning design team to support and advise on detailed delivery and the interfaces between projects and with the surrounding area.

- Ensure Landscape teams have a significant share of design responsibility and budget from the start, and oversight across masterplan projects and phases.

- Develop an overall public realm strategy that integrates architecture, landscape, infrastructure and art from the outset.

- Establish a disciplined design integration process from the start to track and resolve project interfaces in collaboration with Design teams.

- Commission and ring-fence a budget for art at the start to ensure it is embedded conceptually, as well as physically, at the right time in the project.

- Develop site-wide strategies from the outset to co-ordinate small-scale infrastructure and other smaller elements across the masterplan.

- Use approved guidance on street and infrastructure design to set expectations for the quality and consistency of the public realm.

- Use prototypes and sample areas to communicate the quality and consistency required of predominant elements to different contractors.
The catalytic effect of Olympic investment has proved significant in the past. For the London 2012 Games presented a rare opportunity to kick start regeneration in one of the most deprived areas of the UK.

To realise the long-term potential of the project, the ODA followed the bid commitment to plan Legacy and Games together from the start. But the two distinct phases with totally different development timescales presented a unique challenge in design and planning terms; particularly during the period before the future client body was established. Four key strategies emerged that enabled the ODA to future-proof construction for the Games:

1. Legacy was ‘locked-in’, as far as possible, to the design, planning and delivery process (section 5.1);

2. Investment in infrastructure was prioritised as the necessary basis for economically and environmentally sustainable regeneration (5.2);

3. The long-term impact of the Games-time masterplan on the quality of the urban environment was considered from the start (5.3).

4. Where it was not possible to achieve clarity from stakeholders about future requirements, the ODA opted for what was necessary to deliver the 2012 Games, leaving long-term options open as far as possible without compromising the event itself.

In any long-term development project, it is not possible fully to predict the future. The London 2012 development project faced an exceptionally complex and uncertain context. Apart from the bid team, few had been confident that London would be selected to host the 2012 Games.

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177 For example, the urban transformation generated by the 1992 Barcelona Games had far reaching economic and social impacts and was highly successful in harnessing the impetus and legacy of the Games (Brunet, Ferran Cid. 2002)
178 Rose, D, 2006, p13
179 Paris was a strong long-term favourite to win the bid to host the London 2012 Olympic Games.
5. Anticipating the future

The Games-time masterplan was brought forward in a complex social context, changing political and economic circumstances and an evolving physical environment. Although a strategic framework for the regeneration of the Lower Lea Valley was in place, the masterplan had to be overlaid on a patchwork of local authority plans (Local Development Frameworks) at different stages of preparation. Fundamental long-term governance arrangements to deliver regeneration were unresolved. It was not always possible to achieve consensus between all the stakeholders, or to allow the time to negotiate consensus in many cases. The critical question is whether the ODA put in place the best possible foundation for others to deliver long-term regeneration, based on the information and advice available at the time?

It will be difficult to measure the success with which the ODA has played its role in realising the potential of the Games to transform one of the 10 per cent most socio-economic deprived areas in the UK, for some time ¹⁸⁰.

Whatever happens in the long-term, the ODA will leave behind a flexible development site with a framework of essential utilities, linkages, green space and social infrastructure to support a future low carbon community. The challenge set down for the Olympic Park Legacy Company (OPLC), since reconstituted as the London Legacy Development Corporation (LLDC), will be to ensure that Games-time public investment is secured as it takes forward the masterplanning and development of the strong platform it has inherited.

¹⁸⁰ DCMS have commissioned a meta-evaluation to assess the legacy and impacts of Games-time investment.
5. Anticipating the future

5.1 Locking in legacy

The need for the regeneration of, and investment in, Stratford and the Lower Lea Valley was well established at a regional level before the site was selected for London 2012 bid. But the critical long-term governance arrangements for the Olympic Park and post-Games development remained unconfirmed throughout the first three years of the project.

The OPLC was set up in 2009 to secure a lasting legacy after the 2012 Games. By the time the OPLC began design work on the masterplan framework for the long-term phased, mixed-use development of the Park (Legacy Communities Scheme), the ODA was already into its second year of construction delivery. In the absence of a long-term legacy organisation, the landowners (LDA) acted as proxy long-term masterplanning client, and worked closely with the ODA to future-proof the Games-time proposals.

In this uncertain context, the ODA developed a unique multi-layered design and planning process to achieve the greatest possible between the different requirements of each phase. In parallel with the Games-time proposals, the ODA developed a conceptual masterplan for the Legacy Communities, and transformation of the park immediately after the Games. A long-life loose fit approach to masterplanning was adopted, ensuring that buildings and infrastructure delivered by the ODA did not preclude long-term development options. In the absence of a long-term client body, the ODA worked collaboratively with the LDA, as landowners and proxy long-term masterplanning client, and with the surrounding Boroughs, to take account of the future needs of the wider area. Strong political leadership, skills and capacity at local level proved crucial to maximise the regeneration benefits of Games-time investment.

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182 The Olympic Park Legacy Company was established on 8th May 2009 as a company limited by guarantee with three Founder Members: the Mayor of London; the Secretary of State for Communities and Local Government; and the Secretary of State for Culture, Olympics, Media and Sport. Margaret Ford was appointed as Chair of the OPLC Board in April 2009 and Andrew Altman as Chief Executive in August 2009.
183 This was a legal requirement of the 2007 application.
184 ODA, Design Principles. 2007, p.8
185 ‘Long life loose-fit and low energy’ an expression coined by RIBA President Sir Alex Gordon, has been used by CABE to describe sustainable design and good design as ‘how a building, space or place meets the social, economic and environmental needs of the people it serves, and how it can be managed and adapted as those needs change over time.’ CABE, Sustainable Design, Climate Change and the Built Environment, 2007, p.2.
5.

Anticipating the future

5.1 Locking in legacy

The experience of previous host cities suggests that an organisational structure with the remit, capacity and funding to consider the two phases together is needed to make the most of one-off investment.¹⁸⁶

One possible governance model to allow the framework for future requirements to be set in collaboration with the Olympic delivery body, is to form a legacy company, or establish a proxy client, at the early stages.¹⁸⁷ Alternatively, the responsibility for future development could be embedded within the remit of the Olympic delivery organisation [ensures that long-term incentives influence short-term decision-making. The question remains whether earlier certainty about the delivery structure for post-Games regeneration and integration between the ODA and legacy body’s masterplans would have improved the overall process and, potentially, legacy outcomes.] this has been omitted from summary – move to main text?

¹⁸⁶ A lack of policy for what would happen to the 2000 Sydney Olympics Park after the Games and a delay in establishing the governance structure (2001) and long-term redevelopment plan (2005) has been identified as the reason for the post-Games hiatus and subsequent slow transformation of the site. Former chief planner for the Sydney Games Sue Holliday quoted in: Usborne, S (2008). 19 August.
¹⁸⁷ The 1972 Munich Olympics set up a Regeneration Agency before the Games and the Olympic Village became a ‘showcase of regeneration.’ (Vigor, A, Mean, M and Tims, C 2004)
5. Anticipating the future

5.1 Establishing a collaborative masterplanning process

The ODA learnt from previous Games that a collaborative process with powerful advocacy for ‘Legacy’ was needed to ensure that design decisions for the Games considered the potential impact on the future phase and the wider area.\(^{188}\) The ODA worked closely with the LDA as landowners to establish the long-term vision for the area. Together, the two agencies set out a mutually agreed ‘route map’ for developing the longer-term development proposals for the Park in support of the 2007 application.\(^{189}\) At the same time, the LDA commissioned an integrated spatial masterplan for future development, known as the Legacy Masterplan Framework (LMF). During the initial period of work LMF, the Director of Olympic Development at the LDA worked collaboratively with the ODA to ensure that the legacy of Games proposals was taken into account. When the OPLC was established in 2009, work on the LMF was suspended while the OPLC Board and Chief Executive reviewed the long-term vision for the Park in relation to the changing economic and political context.\(^{190}\) During the hiatus, Design for London continued to act as the proxy design client. The CABE design review process became a valuable sounding board to test the long-term and wider impacts of London 2012 projects. One significant review investigated whether the proposed stadium design would accommodate a range of future development options.

A collaborative ‘two-way’ approach to masterplanning with the surrounding areas was also needed to extend the regeneration benefits beyond the immediate project boundary. During the early development of the Games and Transformation masterplans, the ODA and its design teams worked closely with the Host Boroughs to develop and promote strategies to connect the new Park with, and extend the benefits of London 2012 development, to the existing communities. The Borough planning departments with urban design expertise were more successful at attracting and delivering public realm improvement projects, Hackney being one example. An understanding of the nature and value of connectivity proved critical to translate the political aspirations shared by all the Boroughs into specific deliverable proposals for physical interventions. An Olympic Fringe delivery programme was established by the LDA, with Design for London leading the design process, to improve and integrate the neglected areas immediately adjacent to the Olympic zone that acted as physical barriers.\(^{192}\) Regeneration of the Lower Lea Valley has been frustrated in the past by the administrative and governance complexities of involving the four Boroughs.\(^{193}\) The imminent establishment of a Mayoral Development Corporation with greater powers over a wider area of relevant public land should help to ensure that the vision and implementation of change in the area is co-ordinated in future.

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\(^{188}\) The regeneration of the Sydney Olympic Park could have been more effective with a group focusing on legacy issues working alongside those delivering the Games. Former Chief Operating Officer from the Sydney Games quoted in MPA (2008).

\(^{189}\) ODA, The Commitment to Sustainable Regeneration, in support of the 2007 application.

\(^{190}\) The LMF vision for high density housing was influenced by the then Mayoral policy for high quality high density housing and the requirement to maximise capital return from the land to pay off the LDAs land acquisition debt. The new political administration in London, in combination with an expectation that government would pay off the debt, resulted in a lower density vision following a traditional London housing typology.

\(^{191}\) The Olympic Park Transport and Environmental Management Scheme (OPTEMS) had a £20 million budget through a S106 agreement to allocate to schemes that mitigated Transportation Effects including improved pedestrian and cycling facilities and wayfinding by an independently chaired group. (ODA and Crosby, V, 2011 [online])

\(^{192}\) The six projects are Hackney Wick and Fish Island, Stratford Town Centre, Hackney Marshes and Mabley Green, Leyton Links and Three Mills Olympic Link and Public Art.

\(^{193}\) Rose, D. 2006. p.11
5. Anticipating the future

5.1 Future-proofing the masterplan

A hypothetical long-term masterplan that demonstrated the regeneration potential of the Games was an integral part of the successful bid. The ODA continued to develop a conceptual Legacy Communities masterplan and deliverable post-Games transformation masterplan in parallel with the Games-time proposals to achieve the least amount of change between each phase. In developing the multi-layered masterplan, the ODA and its design team were tasked with reconciling conflicting brief requirements. An Olympic venue is inherently inward looking, whereas long-term regeneration requires a publicly accessible Park and development platforms integrated with the wider area. It was an ongoing challenge to balance the specific, detailed and programmatically challenging 2012 Games masterplan with a conceptual ‘Legacy’ scheme based on assumptions about the long-term needs of the future communities. The Games masterplan was designed to create a compact and secure Games precinct with a public concourse at its heart, ringed by venues, back of house space and perimeter loop road. Inevitably, this concentric organisational diagram has, to some extent, become a fix for subsequent phases.

Although its activities and investment will inevitably contribute significantly to the regeneration of the area, at a certain point in the process, the ODA had to prioritise delivering a fantastic Olympic Games on time, on budget and to a high quality to avoid the consequences of failure on the international reputation of UK plc. In this context, it managed the development of the masterplan to maintain flexibility up to a certain point and then fixed aspects as the delivery programme required. Ideally, a phased masterplanning process would start with a robust long-term vision and retrofit both the interim condition and the Games design. Although it was not part of the original 2005 outline planning consent for Stratford City, the integration of the Athlete’s Village within an existing zonal masterplan demonstrates that a long-term masterplan can be adapted in the short term to meet a different brief. The Athlete’s Village has been modified to accommodate the competitors and team members and will be retrofitted after the 2012 Games to provide new homes in the Park by 2013.

Learning from the post-Games hiatus in previous host cities, the transformation masterplan was developed to integrate the Park with the surrounding area and make the facilities and spaces accessible shortly after the Games. Retained venues will be transformed to meet their long-term brief and temporary elements will be removed to make way for serviced development platforms. New or adapted pedestrian and cycle links will connect through and to the Park; the Olympic Loop Road will be transformed to create a network of streets designed, following UDLF principles, to enhance the quality of public realm; areas of temporary landscape and public realm ‘Interim Landscape Zones’ will create connections from within adjoining areas and form new edges to the Park.

194 This was a legal requirement of the 2007 application.
195 ODA, Design Principles. 2007, p.8
196 The UK’s ability to deliver the Olympics was surrounded by a ‘maze of scepticism’ after the failure to deliver Pickett’s Lock for the World Athletics Championships and Wembley Arena. Rt Hon. David Curry quoted in Great Britain. Parliament. House of Commons, 2007. Ev. 7
197 The transformation masterplan was initially developed by the ODA and will now be delivered by the OPLC.
5.

Anticipating the future

5.1 Future-proofing the masterplan

The change of client body leading the masterplanning and development of the Park presents a risk to maintaining a coherent sense of place. The subsequent phases of this project will benefit from the constant guiding hand of a pragmatic and adaptable masterplanning team that has been involved from bid stage, to the development of the Games-time and transformation proposals, and through to the initial Legacy Masterplan Framework and current Legacy Communities Plan. Key members of the ODA client team have also transferred across to the OPLC ensuring continuity of embedded knowledge and experience.

Key recommendations for locking in legacy

- Set in place a robust but flexible masterplan framework that maximises investment, secures quality without precluding options for future development.
- Adopt a collaborative masterplanning approach with the surrounding areas to maximise physical integration and regeneration benefits.
- Work in close collaboration with long-term stakeholders to take into account the potential impact of a masterplan on future phases and the wider area.
- In a project with distinct phases and development timescales, embed the interim and long-term vision in the masterplanning and planning process from the start.
- Establish an organisational structure with the remit, capacity and funding to consider different development phases together.
- Establish transitional arrangements if clients have to change during a masterplanning process and clarify the fixed elements essential to quality and community value.
Anticipating the future

5.2 Investing in infrastructure and facilities

Regeneration of the Lower Lea Valley had been frustrated in the past by a combination of physical, social, economic and administrative barriers.¹⁹⁹ In many respects, the challenge of transforming one of the most intractable and deprived areas in the UK could not be a better starting point to exploit Games investment.

To maximise the economic, social and environmental benefits of hosting the Olympic and Paralympic Games, the ODA invested in a flexible and future-proofed framework of infrastructure and facilities with the capacity to support sustainable regeneration.

A clear structure of transport and physical connections will breakdown barriers to movement and transform the Olympic site into an accessible public park. New power, water and gas networks will sustain a large-scale low carbon community. A large-scale, high quality and sustainable landscape will form the ‘nucleus’ of the long-term vision for the Lower Lea Valley and the East of London.²⁰¹

The location and scale of permanent buildings and infrastructure within the masterplan were designed to have a long-term positive impact on the quality of the urban environment. The strategy of considering future needs will also minimise the time, cost and energy needed to transform the Park after the Games. London 2012 investment in essential social, movement, transport and green space infrastructure is already generating value, attracting investment and improving the life opportunities of local communities.²⁰²

¹⁹⁹ Rose, D. 2006. p.11 and p.286
²⁰⁰ ODA, Design Principles. 2007, p.6
²⁰¹ ODA, DAS 6.3.1. 2007. p.64
²⁰² The objective stated in the Host Boroughs, SRF, 2009, P.1 was that ‘within 20 years, the communities which host the Olympic and Paralympic Games will enjoy the same social and economic chances as their neighbours across the London.’
5. Anticipating the future

5.2 Reconnecting the site

The topographic and infrastructure constraints within the existing site made integrating the Lower Lea Valley particularly challenging. Overcoming significant level changes and disconnecting networks of railways, waterways and utility corridors, was a core masterplan principle from the start. ²⁰³ The ODA delivered a framework of connection points to transform the inward looking international venue into an accessible public park. By 2013, investment in new or improved roads, bridges, underpasses, footpaths and cycle-ways will have helped to ‘stitch’ together the east/west ‘tear’ in the urban fabric, significantly changing for the better what it is like to live in the surrounding areas. ²⁰⁴ 31 new bridge connections have been delivered to create a continuous concourse in Games time and reintegrate the Park with the surrounding areas in future. North-south routes over the A12 and National Rail Lines will reconnect the Park to the Lea Valley and Three Mills. Pedestrian bridge connections over the Lea Navigation Canal to the west of the site delivered after the Games will transform Hackney Wick and Fish Island ‘from a cut-off archipelago to a key link between two major public parks.’ ²⁰⁵ The ODA’s light-touch improvements that transform the Greenway into a safe, accessible and convenient route and point of entry to the Park ²⁰⁶ will be a major benefit for the wider area and the way it functions.

²⁰³ ODA, Design Principles, 2007, p.7
²⁰⁴ ODA, Design Principles, 2007, p.8
²⁰⁶ From West Ham and Victoria Park.
5. Anticipating the future

5.2 Considering future needs

In the absence of a future client to lead a parallel ‘Legacy’ masterplanning process, the ODA made the best possible effort to leave options open for future development. Infrastructure and permanent buildings delivered for the 2012 Games were designed to a scale and configuration that worked equally well in future, and required minimal transformation. New utilities networks were future-proofed to anticipate long-term capacity, with additional Games-time requirements achieved through temporary generators and support equipment. Utilities corridors were aligned along primary infrastructure (roads, bridges, and existing utility routes) to simplify delivery and maintenance, and create ready access to venues and future development plots. The shortest practical routes were also used to minimize distribution losses and bridge deck sections were designed and sized specifically to carry utilities through their structure. The layouts of utilities and roads were based on the broad assumptions in the initial conceptual ‘Legacy’ masterplan developed to future-proof Games-time proposals. The roads delivered for the 2012 Games were designed with a flexible capacity and configuration and will form the basis of a new framework of streets integrated into the local route network. Base courses for future roads were laid at that stage to minimise post-Games transformation. The challenge for the ODA and its design teams was to tailor the road layout needed to isolate and circulate the site, as closely as possible to a configuration that improved connectivity and maximised the developable site area in future.

The ODA took account of the potential long-term benefits of high quality well-managed green space for the surrounding communities in the design of the Park. It invested in one of the largest new urban parks in Europe in the past 150 years, with 45ha of new bio-diverse habitats. The ODA optimised its investment in green infrastructure by increasing the size of permanent parklands delivered for the 2012 Games, leaving minimal additional concourse to be subsequently transformed into park space.

The ODA adopted a strategy of designing movement infrastructure and permanent buildings so that their capacity can be reduced to a more urban scale immediately post-Games to ensure that the construction for the 2012 Games does not blight the character of the new district. The Aquatics Centre and Olympic Stadium are two key examples. An innovative design solution was needed to reconcile the significant bridge widths required during the 2012 Games with the smaller urban scale required in future. The striking bid stage ‘perforated’ bridge concept used temporary decks placed between permanent sections to allow capacity to be reduced or retained. The Central Park Bridge is the remaining example of this approach. The design proved impractical and undeliverable. The permanent bridges and abutments that were subsequently developed were designed for their permanent capacity and location, and widened for the Games with temporary structures. This simpler, more deliverable and better value approach will reintegrate with the Park landscape with minimal transformation after the 2012 Games and improve the experience and light penetration at towpath level.

207 ODA, Design Principles. 2007, p.15.
209 ODA, DAS 6.3.1. 2007. p.64
210 Needed to accommodate the volume of visitors during the Games.
211 To accommodate up to 200,000 people moving through the park at acceptable densities and comfort levels. ODA, Design Principles. 2007, p.31.
Anticipating the future

5.2 Considering future needs

Research shows that good street design contributes to economic benefits and public value. It is critical that the quality of public realm and road infrastructure is considered in relation to its effect on development values. A key lesson for future projects with major infrastructure investment is to test the implications of applying technical standards (for scale, land-take and location of roads and utilities) on the character and quality of the future urban environment at the start of the process, on streetscape in particular. Urban design criteria can then be embedded within the regulatory framework, by making provision within the planning permission and transport impact assessment to adapt conventions where necessary and indemnity allows.

There were some instances where the application of rigid highways standards agreed at the start of the process with the Olympic Infrastructure Technical Approvals Authority (OITAA) made it challenging for both the design teams and planning authority to deliver high quality public realm. Although the OITAA was able to depart from standards, particularly in temporary infrastructure, adhering to Highways Agency Standards for higher speed roads lead to over-engineering, and unnecessary barriers and wider road layouts. The relationship between speed limits and the extent of road bridge parapets, for example, demonstrates the potential negative consequences of applying a standard without the scope to take into account the impact on pedestrian experience. Equally, provision for elements that make a significant positive contribution to the quality and character of streets such as tree planting can be built into road design guidelines. There are also some locations where the land-take, location and standard installation of the utilities may restrict the scale and nature of future development. The speed with which the infrastructure works had to be delivered, in combination with the greater cost and risk of challenging standards, were barriers to investigating alternative ways of organising the utilities corridors to minimise their land take.

²¹² CABE, Paved with gold. 2007, p.4
²¹³ A independent approvals authority representing the five London Host Boroughs set up by the ODA to approve street design.
²¹⁴ ODA/Hoskins, N. 2011. [online] p.2
²¹⁵ Following the National Joint Utility Group guidelines and Statutory Utility Suppliers standard details (ODA, DAS.7.6.15. 2007, p. 87)
5. Anticipating the future

5.2 Capturing limited investment to deliver regeneration

Given the unavoidable planning, institutional and political uncertainties outlined at the start of this chapter, the evidence suggests that the ODA’s strategy for handling this complexity is bearing fruit. There are early indications that investment in infrastructure has created the conditions needed to transform the life opportunities of local communities.²¹⁷ There is also evidence that, even without direct physical interventions beyond its site boundary, the project has levered in further public investment, attracted the private sector and generated value in the wider area. It is likely that some development would have occurred without the Olympic Games but not of a nature and scale to socially, economically and physically transform the Lower Lea Valley.²¹⁸ In fact, the infrastructure delivered for London 2012 has enabled the mixed-used retail-led development at Stratford City at the south-eastern edge of the Park to be significantly accelerated, even during a recession. The resulting benefits to the London economy represent extremely good value for the public-sector investment.²¹⁹ The business models for the future phase that support the Legacy Communities Scheme planning application already suggest that the OPLC will be able to afford the schools, health centres, and recreation spaces needed to create well-balanced neighbourhoods, as well as the ongoing funding to manage them.

The ODA has delivered a highly accessible new commercial centre, 2,800 new homes (50% of which will be affordable) and social facilities in the Athlete’s Village. This £1.5 billion investment will be critical to accelerate regeneration in terms of job creation, footfall and attracting further private investment and housing developers. The level of commercial interest to operate the Olympic Stadium, invest in the Athlete’s Village and lease the Press and Media Centre is a strong indication that value has been created. Private sector confidence is also evident in the numbers of new high-density residential developments emerging along Stratford High Street,²²⁰ although many do not meet the design quality benchmark set by the projects delivered by the ODA within the Park. The project has enabled the Host Boroughs to invest in and lever in funding for wider public realm improvements, including Stratford High Street and Newham Town Centre. The quality of the Park project has demonstrated the potential benefits that can be achieved throughout the Lower Lea Valley and wider East London as a whole.²²¹

²¹⁷ The objective stated in the Host Boroughs, SRF, 2009. P.1 was that ‘within 20 years, the communities which host the Olympic and Paralympic Games will enjoy the same social and economic chances as their neighbours across the London.’


²¹⁹ Bringing forward the benefits of this significant scheme by around 5-7 years is estimated to be worth £1.1-£2.2 billion to the London economy which represents extremely good value for money on the public sector investment in infrastructure estimated at £500-600 million. (Volterra, 2011, p.1.)

²²⁰ More than 3000 new units.

²²¹ Rose, D. 2006. p.13
5. **Anticipating the future**

5.2 **Capturing limited investment to deliver regeneration**

Key recommendations for investing in infrastructure and facilities

- Invest in essential utilities, transport, movement, green space and social infrastructure as the foundations for sustainable regeneration.

- Set in place a robust framework of critical physical connection points from the start as the basis for an accessible and integrated urban district to evolve in future.

- Future-proof the capacity and location of utilities, transport, movement and green space infrastructure in the first phase to deliver a high quality and sustainable long-term development platform.

- Size and locate viable permanent elements to meet long-term needs and retrofit temporary or adaptable structures to meet additional short-term requirements.

- Test the impact of the scale, land-take and location of roads and utilities dictated by technical standards on the character of the urban environment at the start.

- Make provision within the planning permission and transport impact assessment to adapt conventions where necessary and indemnity allows.

- Anticipate future demand in sizing transport and utility corridors to ensure the quality of the public realm is not compromised in the long-term.
6. Appendix

6.1 Interviews

Bob Allies, London 2012 masterplanner, Partner, Allies and Morrison, 14 April 2011

Paul Finch, Chairman of CABE and Chair of London 2012 design review, CABE, 29 March 2011

Simon Fraser, Client Design Advisor, Allies and Morrison, 14 April 2011

Jerome Frost, Head of Design and Regeneration, ODA, 1 April 2011

Anthony Hollingsworth, Chief Planner, ODA Planning Decisions Team, 28 April 2011

Kay Hughes, Principal Design Advisor, ODA, 5 April 2011

Selina Mason, Deputy Head of Design and Regeneration, ODA, 18 March 2011

Alison Nimmo, Director of Design and Regeneration, ODA, 29 March 2011

Jason Prior, London 2012 masterplanner, Executive Director, AECOM, 19 April 2011

Vivienne Ramsey, Head of Development Control, ODA Planning Decisions Team, 28 April 2011

Richard Simmons, Chief Executive, CABE, 22 March 2011

Steve Shaw, Chief Planner, ODA, 28 April 2011
6. Appendix

6.2 Olympic Delivery Authority publications


6. Olympic Delivery Authority publications


6.2 CABE publications


Appendix

6.2 CABE publications


6. Appendix

6.2 CABE advice letters

Confidential pre-application CABE advice letter, 2 October 2007
Confidential pre-application CABE advice letter, 25 April 2008
Confidential pre-application CABE advice letter, 28 November 2008


6. Appendix

6.2 Other reports and documents


Appendix

6.2 Other reports and documents


6.

Appendix

6.2 Articles


Merrick, J (2011). The Aquatics Centre’s beauty will only be revealed once its Olympic add-ons are gone. The Independent, [online] 28 July. Available at: http://www.independent.co.uk/sport/olympics/the-aquatics-centres-beauty-will-only-be-revealed-once-its-olympic-addons-are-gone-2327026.html [accessed 1 August 2011].

6. Appendix

6.2 Articles


Wainwright, O (2011). This Stirling shortlist favours the safe and generic. Building Design, 22 July. p.3


Young, E (2011). In the pink. RIBA Journal, March. p. 36-44

