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the olympic transport legacy

Petros Ieromonachou, James Warren and Stephen Potter examine sustainable transport provision for the London 2012 Olympics and its intended legacy role in economic and social regeneration across East London



London 2012

Above

Aerial view of the Olympic Park, with the Olympic Stadium on the left and the Aquatics Centre to the right

A major part of the infrastructure programme for the London 2012 Olympics is to provide a legacy that will play a major part in supporting regeneration in the Lower Lea Valley area. Yet, to date, there is little evidence that past Games have delivered benefits to those people and places most in need.¹ Indication of a sustainable and positive legacy from previous Olympic Games is mixed and uneven – for example in terms of improvements to housing and transport, as well as in terms of community and cultural facilities.

A Lasting Legacy for London?, a document produced by the London Assembly,² has highlighted key points of the legacy of previous Games. The legacy left by the Games in four previous host cities – Barcelona in 1992, Atlanta in 1996, Sydney in 2000 and Athens in 2004 – was assessed for nine key sectors. These results are summarised in Table 1 overleaf, which analyses the data using a scorecard system based on work by Pitts and Liao.³ This shows that performance has been extremely variable.

Table 1
Olympic scorecard

	Year and host city			
	1992 Barcelona	1996 Atlanta	2000 Sydney	2004 Athens
'Strap line' aspiration	Regeneration Games	Centennial Games	Green Games	Refreshing the Olympic ideals
Urban renewal	(+)	(-)	(+)	(+)
Environment	Slight (+)	Slight (+)	(+)	(-)
City economy	(+)	(+)	(+)	(-)
Tourism	(+)	Slight (+)		
Sports and community participation	(-)	(-)	(-)	(-)
Disability awareness	(0)	(0)	(+)	(0)
Employment	(+)		Slight (+)	
Skills	(0)	(0)	(0)	(0)
Overall ranking	Very positive	Fair	Positive	Fair

(+) indicates a positive effect, (-) a detrimental effect, and (0) no measurable difference – blanks denote insufficient information

Information adapted from London Assembly, 2007 – scorecard system based on work reported in *Sustainable Olympic Design and Urban Development*³ (p.184)

Levett⁴ has explored the International Olympic Committee's (IOC's) environmental and sustainability aims for the Games, and notes the replacement of the traditional notion of spectacular Games (epitomised by the Beijing Games in 2008) with a positive green legacy. Despite the welcome change in the approach, the task of leaving no negative environmental impacts may at times seem impossible, given the scale of an Olympic event and the associated provision of the necessary infrastructure.

Apart from developing sports stadia and facilities, high expectations have been set in other areas of the 2012 Olympic and Paralympic Games. Specifically for the Stratford site, the London Olympics Candidature File⁵ states that: 'By staging the Games in this part of the city, the most enduring legacy of the Olympics will be the regeneration of an entire community for the direct benefit of everyone who lives there.'

But how will communities' experiences change over time (before, during and after the Games), and what is understood by the term 'community'? Can the IOC's 'green clause' redefine London's urban design strategy? And more broadly, exactly how is regeneration defined and measured? It is fairly obvious that in the London 2012 Candidature File regeneration is focused mostly on economic job growth and a reduction in unemployment. These

criteria rest on two of Table 1's key sectors – skills and employment – in which previous Games have not left a strong legacy.

Transport legacy and vision

Ground transport planning for the 2012 Olympics is seen as providing an infrastructure legacy for economic and social regeneration across East London. There is, however, a strategic design conundrum. This is the requirement to design transport infrastructure for a well-defined specific need (the Games themselves), yet simultaneously provide for a less well-defined long-term legacy. The long-term legacy is more important for the city economy, but the short-term design requirements are much better specified, understood and funded.

However, in addition to this already difficult challenge, London is seeking to do yet more with its Olympic transport legacy, making it a key part in the greening of travel. Levett⁴ explored this ambition during the pre-bid period for the 2012 Games. Historically, London has been progressive in terms of sustainable transport innovation: the introduction of a congestion-charging scheme and a low-emissions zone covering parts of the city, support for electric vehicles, and various cycling and walking initiatives have helped to change the travel habits of many of its residents. The preparations for the Olympic Games include planning for low-carbon

Table 2**Anticipated attendance for the various events at the London 2012 Games**

Expected	Olympic Games 27 July - 12 August	Paralympic Games 29 August - 9 September
Countries represented	203	170
Olympic/Paralympic family	55,000	16,000
Of which:		
Athletes and team officials	17,800	4,000
Media	22,000	4,000
Sponsors and guests	30,000	(not known)
Total ticket sales	7,700,000	1,400,000

transport through a range of initiatives and ecological protection through the creation of new habitats for local wildlife, contributing to the major Olympic Park regeneration aim of developing sustainable, healthy neighbourhoods.

The transport needs during the Games will involve moving hundreds of thousands of spectators, athletes, and support and voluntary staff, as well as media correspondents from more than 200 nations competing in the event. Transport provision was always treated as a central issue in 2012 Games bid. It is not surprising that there is much emphasis on the scale of operations: Atlanta employed approximately 15,500 staff for transport provision; Sydney spent more than Aus \$370 million on transport, and an estimated 21.7 million passenger trips took place during the Athens Games.⁶ This is

investment in new and improved rail infrastructure for both over- and underground services, coupled with increased capacity, will allow up to nearly a quarter of a million passengers an hour to access the site. This may well achieve the aim of the Olympic Delivery Authority (ODA) to host the first 'public transport' Games.⁸ This is a massive planning task, but it is one that is largely about event planning factors that are well defined, concerning sporting participants, the audience, volunteers, employees, etc. (see Table 2).

However, any investment in transport infrastructure must be justified by future use. It would be grossly inefficient to build rail lines and other transport networks that are under-utilised post-Olympics, or that need large further investment in order to make them useful after the Games. Legacy management involves factors that are not only outside the 'event management' box, but which are far less clearly defined (for example, the transport infrastructure should be able to cope with a range of economic development scenarios).

The Olympic movement has the opportunity to inspire more than sport. In the case of Beijing (and some other past Games) this has been about a vision for a nation. The 2012 Olympic Games represents a different ethos and could well establish a vision of sustainable transport which has eluded government and transport planners. It could showcase and demonstrate the urban metrics required for the sustainable 'urban village', with mixed land use, close access to amenities and facilities, compactness, restricted automobile access, rail at the core, and an emphasis on public spaces.⁹ However, Diesendorf⁹ suggests that the Olympics could establish the foundations, but not in itself deliver this vision. The transition to a more sustainable city or urban village will require a reduction in the bias towards motor vehicles, along with education and information, appropriate pricing systems, new regulations and standards, and institutional change.

'The aim of hosting the first 'public transport' Games... is a massive planning task, but one that is largely about event planning factors that are well defined. However, investment in transport infrastructure must be justified by future use'

all about ensuring that there is effective transport to allow the Games to operate smoothly. This is a specific, known and understood situation – albeit one that is immensely challenging if visitor trips are to be undertaken by sustainable modes.

On any given day, the Olympic Park will need to accommodate approximately 200,000 visitors.⁷ There is no provision for private vehicle access and parking, but more than 7,000 cycle docking points will be provided in and around the park. In addition,



Above

Stratford Regional Station – the main gateway station to the Olympic Park

There always seems to be a quest for successful ‘right-first-time’ solutions, as when designing new towns or regenerating large urban areas. The truth seems to be that most initiatives need decades to mature and allow for realistic evaluation – see, for example, Carmona’s analysis of the four development waves in the Isle of Dogs’ 35-year regeneration.¹⁰ There is undoubtedly a need for new towns and major urban regeneration in creating a vision for and actual future sustainable communities. But it cannot be expected that everything that is envisioned now will be favoured by users and observers decades later. Thus our view of legacy success partly rests on how success is defined.

Hard and soft legacies

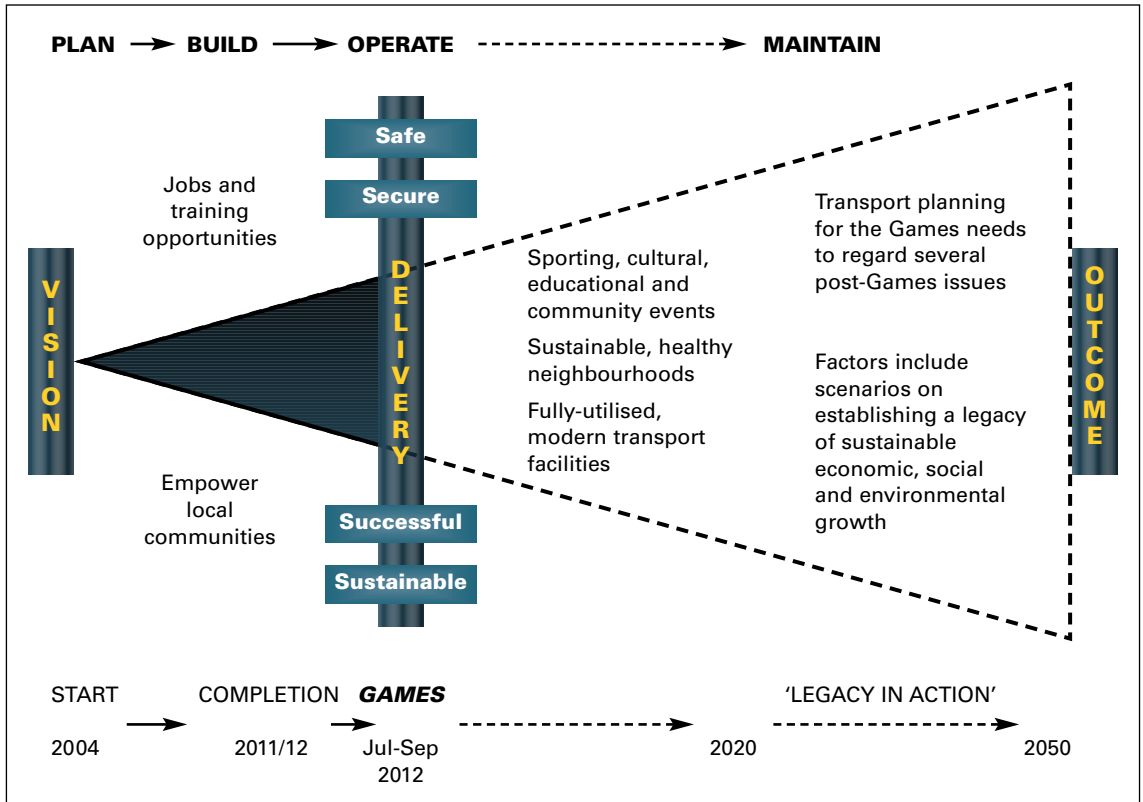
Legacy can mean different things to different stakeholders, and the ways in which the various meanings of legacy can be interpreted can sometimes be confusing, and often difficult to quantify. Broadly defined, for the Olympics, design for legacy means creating structures, things, and processes that, post-Games, should be long-lasting and of permanent benefit to the host city. The ‘benefits to society are a difficult, but important, component to measure in any investment that claims to have a legacy value over and above its

purely economic return. This is an area where subjective valuations and poorly substantiated claims are found more often than robust estimates of the value elicited from the public.’⁶

Part of the dilemma in these types of measurement is the role of hindsight: the impact of the Games is not clearly known until after they are complete. There are also so many differences between host cities that it is only possible to make direct comparisons with a rich amount of information for each city situation. According to Gold and Gold,¹¹ legacy can take two major forms:

- tangible/hard – for example, sports facilities, infrastructure, urban and economic regeneration, jobs, the promotion of sustainability, barrier-free environments, and cultural tourism; and
- intangible/soft – for example, sports participation, inclusion, skills, experience, international understanding, community spirit, friendship, Olympic values, place promotion, volunteering, and memories.

Hard legacy planning has received the bulk of the attention for many Olympic Games. For example, following the experience of the Sydney Stadium in Australia, the London Olympic Stadium is being designed so that it will accommodate high numbers for Olympic events and then be easily adapted for



Above

Fig. 1 Planning and delivering transport for the London 2012 Olympic Games and beyond

Source: Adapted from *How to Leave an Olympic Legacy: Using the Past and the Present to Deliver the Future*,¹⁴ p.2

smaller numbers for post-Olympics use. By designing specifically for two sets of targets, or for a sub-set of larger set, both the Games' peak requirement and later lower levels of regular visitors can be accommodated successfully.

However, soft legacy benefits such as volunteering, skills, sports participation and disability awareness are about process management, as well as various behavioural changes which have strong links to the host city's social-cultural and economic make-up. This is very different from the sort of actions and skills needed for physical infrastructure, and it is in these areas that previous cities have struggled to make their mark. Job creation takes much longer to deliver than building stadiums and requires a considerably higher level of effort and incentives.

It is notable that thinking around the Olympic movement increasingly seeks an integration of hard and soft legacies. For example, a symposium meeting held under the auspices of the IOC¹² explored the diversity of the term 'legacy' and concluded that 'the effects of the legacy have many aspects and dimensions, ranging from the more commonly recognised aspects – architecture, urban

planning, city marketing, sports infrastructures, economic and tourist development – to others [...] that are less recognised [...] it is necessary to point out the importance of so called intangible legacies, such as production of ideas and cultural values, intercultural and non-exclusionary experiences (based on gender, ethnicity or physical abilities), popular memory, education, archives, collective effort and voluntarism, new sport practitioners, notoriety on a global scale, experience and know-how'.

Furthermore, the IOC Chairman Jacques Rogge, while addressing the Chicago Council on Global Affairs in 2007, explained the importance of legacy: 'Legacy is our *raison d'être*. It ensures that the Olympic Games are more than metres and medals. [...] Values, partnership and legacy are all required to turn the Olympic Games into an enduring celebration of the human spirit. [...] Once an Olympic City, always an Olympic City. Wherever the Games have appeared, cities are changed forever.'¹³

Legacy use of post-Olympic sports and transport facilities is but one example of a potential solution to the design conundrum, and possibly an easier one to consider.

The Olympic Park, 2012 and beyond

Fig. 1, on the preceding page, illustrates this design conundrum using the various phases, or packages, building up to the Olympics and period after the Games.¹⁴ Here, one can consider three main periods: planning, playing, and legacy. These three periods last approximately 5 years, 60 days, and 25+ years, respectively, with each period having specific requirements.

In terms of hard transport infrastructure, the design and build functions are most critical during the pre-Games (planning) phase, with the operation and maintenance phases then running simultaneously from just before the Games begin, in pre-Games testing, and in modified form for legacy use after the Games. The vertical axis in Fig. 1, although purposely unlabelled, can be considered to be the amount of capital invested into the planning process, whether social or economic. The more invested into this 'cone' during the pre-Games period, the larger one might expect the legacy to be.

The cone also represents the increasing complexity of post-Games issues, as the future cannot be easily predicted beyond a certain point. Future timescales are also complex in the case of transport, as typical lifetimes for infrastructure can be considered as running from 20 to hundreds of years.

Ultimately, legacy success will depend on the ability to adapt to, and adopt, the new processes and cultural shifts over time, quickly assimilating them in a move towards more sustainable transport systems. The Olympics can put into place the foundations for a more sustainable society, but it needs more than this alone to realise the potential.

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