



London Olympics 2012

Summary

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SUMMARY

S 1 The brief

This study assesses the cost and benefit implications of bidding for and staging the Olympic and Paralympic Games in London in 2012. The study was undertaken by Arup in association with Insignia Richard Ellis and was commissioned by a 'Stakeholders Group' comprising the Government, the Mayor of London (GLA), the London Development Agency (LDA), the British Olympic Association (BOA), UK Sport, and Sport England. The brief, issued in January 2002 required the analysis to include an assessment of the physical development requirements of the Games, including sports facilities, infrastructure, the wider economic and other impacts, legacy issues, an assessment of the bidding process, and the implications of not bidding for 2012 but delaying until a later date.

Arup has prepared an outline proposal for a 'specimen' Olympic Games for appraisal purposes only. We have aimed to ensure that to the best of our ability the issues are understood, that all costs and benefits are included in the analysis, and that the proposal presented and analysed represents the current consensus on what the content should be. The study has not included consultation except where it has been necessary to inform our assessment of the costs and benefits, though we have throughout been guided by the project Steering Group comprising representatives from the 'Stakeholders Group' organisations above.

S 2 The physical proposal

The brief stipulates that the Olympic Village, main stadium, warm-up track, and many of the other facilities be located in the Lower Lee Valley, East London. The locations for most of the other venues are also stipulated and follow the conclusions of the BOA draft report in December 2000.

S 3 The scale of a London Olympics

Even for a city the size and wealth of London, an Olympic Games would be a huge logistical undertaking:

- 11 000 athletes would compete in 300 events during the 16 days of the Games.
- They would be supported by 5000-6000 coaches and officials, and attended by 4000-5000 members of the "Olympic family".
- Over 7000 sponsors would attend the Games.
- 4000 athletes and 2500 officials would participate over 12 days in the Paralympics, which is equivalent in size to the Commonwealth Games.
- 20 000 of the world's newspaper, radio, television, and internet journalists would cover the events and require state-of-the-art communications facilities throughout.
- Over 9 million tickets would be sold, equating to nearly half a million spectators a day travelling to events in and around London.
- Staging the Games would involve 63 000 operational personnel, of whom 47 000 will be volunteers, many as stewards, marshals, and drivers.

S 4 Practical implications of a London Olympics

The most significant practical implications of the Olympics for London during the period of the Games are for transport, accommodation, and security.

Transport

With the addition by 2012 of Heathrow's Terminal 5 and the present expansion at Stansted, London's airports will easily have sufficient capacity for overseas visitors. Other, regional, airports will give additional international connections. The Channel Tunnel Rail Link through Stratford will also be running.

The athletes, Olympic family and media will require reliable routes, traffic management, and vehicles to ensure smooth, efficient travel to events at all times. Provision for the athletes will be a major consideration in the IOC decision. In addition, on a peak day up to 150 000 spectators will travel to the Olympic Zone for the morning session, 125 000 of them from or through central London.

Transport will therefore need to be managed to an unprecedented degree. However, if an Olympic Transport Agency (which could be a subsidiary of Transport for London) is set up with sufficient powers for it to effectively allocate demand to capacity, the projected flows can be accommodated without delays and without unacceptable disruption to normal travel in London.

Such a network management approach is essential for a London Olympics. It will be necessary irrespective of implementation of Crossrail and/or the River Crossings, and can provide transport for the Games with or without them. Nevertheless Crossrail would greatly improve capacity and accessibility to Stratford, and this being the case, immediate decisions must be taken for the project to be ready in time for 2012.

Accommodation

Depending on the ticket allocation, 80 000 - 100 000 hotel and hostel rooms will be required to accommodate the IOC family, media, spectators, and those who accompany them. However, by 2012 there will be at least 200 000 hotel and hostel rooms in and around London. Even on the higher assumption of 33% of tickets being allocated to overseas visitors, and taking into account the typically lower number of London tourists in August, the displacement of normal hotel visitors to London will not exceed 60%.

Security

The security operation to ensure that the Games can take place free from terrorist attack will be extensive. The attacks at Munich in 1972 and Atlanta in 1996 made Olympic security an increasingly important and expensive issue, and of course 11 September brought a new intensity of focus to the global terrorism threat. In due course a detailed analysis of the security implications of all the arrangements will be required. It may be necessary to close certain transport sites for the duration of the Games, but current Metropolitan Police thinking is that there are other solutions to minimise the risks they pose, and these costs have been included in the analysis.

A provisional sum has been included for the cost of all security for the Olympics following consultation with the Metropolitan Police and based on the experience of

Sydney 2000 and Salt Lake City 2002. Security for the Olympic Zone will be chargeable against Olympic income, but the public sector will have to pay for additional security elsewhere in London.

S 5 Organisation and delivery

It is critically important that implementation agencies exist with sufficient powers and resources to ensure that all the preparations are in place in time for 2012, and that the potentially very expensive risks are managed so that they are reduced to a minimum. These agencies are crucial: (a) for a credible bid; (b) for staging the Games if the bid is successful; (c) for managing costs and risks; and (d) for securing the wider benefits.

Without implementation agencies there can be no Olympic Games, and without effective agencies, national and London prestige is at risk. If the management of the event falls short of what is expected, the memory will be sour rather than positive. If concentration of sufficient powers and resources in agencies with an Olympic mission is not politically acceptable, it would be better not to bid for the Games.

The four key delivery agencies needed to procure, co-ordinate and manage a London Olympic Games are:

- **LOCOG** (London Organising Committee for the Olympic Games) set up in 2005; this is a requirement of the IOC's host city contract and will be a company limited by guarantee with responsibility for staging the Games;
- an **Olympic Development Agency** in place from 2005, responsible both for implementation of the £413 million facilities and infrastructure budget to prepare for the Games, and also for regeneration of the Lower Lee Valley;
- an **Olympic Transport Agency** in place by 2009 to plan and manage all aspects of transport for the Games, including providing the fleets of vehicles for transporting athletes and the IOC family as well as spectator travel;
- an **Operational Command Unit within the Metropolitan Police Service** set up in 2009 to be responsible for all aspects of Olympic security. It would take responsibility for the entire security operation so that it balances risk with cost, can respond effectively to whatever threats arise, and is closely co-ordinated with the activities of LOCOG and the Olympic Transport Agency.

S 6 Financial appraisal

The costs and revenues included in the analysis are our best estimates based on the information currently available to us. In the absence of agreed project objectives and outputs and an apportionment of obligations and responsibilities between the various agencies, this appraisal is a hybrid between a cash flow business plan and a conventional cost benefit analysis. We have built up the attributable costs and incomes for bidding, preparing and staging the Games, made provision for risk, and estimated the residual values of the assets created. This produces a total direct cash flow for LOCOG and all the public sector agencies that ultimately must provide the investment and the guarantees. From a commercial point of view this would produce a cash deficit (or surplus) if, hypothetically, one agency was responsible for everything. The additional benefits, both quantified and unquantified, must justify the funding gap and the risk.

Figure S1 Summary Financial Analysis (NPV discounted at 6%)

	Expenditure £m	Income £m	Surplus/deficit £m
Bidding for the Games	13	7	-6
Operating account for staging the Games	779	864	+85
Elite sport development programme	167	0	-167
Capital cost of infrastructure and facilities	403	0	-403
Land purchase and residual value (including value of remaining buildings and infrastructure)	325	431	+106
Cash flow balance	1687*	1302	-385
Provision for risk	109	-	-109
Cash flow including risk	1796	1302	-494

Notes

All figures are based on 2002 prices discounted to present value at 6%.
The costs and incomes are totals and have not been apportioned to LOCOG.

The 'specimen' Olympic Games we have costed has two alternative legacies for the Olympic Stadium (football or athletics) and two alternative Olympic Village locations in the Lower Lee Valley. The lowest cost option has been used for the costs and benefits in Figure ES1. The Net Present Value is minus £385 million with financial characteristics that include:

- the net cost of bidding for the Games estimated at £6 million, which is assumed to be the public sector contribution to the bid;
- surpluses from staging (£85 million) and land value (£106 million including the legacy value of the buildings constructed);
- these surpluses covering approximately 45% of the cost of the infrastructure (£403 million);
- the Olympic Village assumed to be developed by others for the legacy on a commercial basis and so only the land cost/value is attributable; and
- provision made for an elite sport development programme (£167 million) for which there are no quantified benefits.

S 7 Risk

In the absence of a detailed risk assessment we have used sensitivities to estimate overall risk. Our sensitivity analysis shows the financial deficit as sensitive both to substantial cost over-run and to a lesser extent to a substantial reduction in media income. It would also be sensitive to a greatly reduced ticket income, but we think it very unlikely that a London Olympics would fail to sell the number of tickets we have assumed.

The risk assumption used in Figure ES1 is that all bidding and staging costs will be 5% higher than estimated and that capital costs will be 30-50% higher than estimated in the last three years before the Games as the deadline for completion approaches. These provisions total £109 million, making a total deficit of £494 million. We have not included a provision for reduced media income because it is just as likely to be higher than estimated as lower. The opportunity therefore cancels out the risk.

As well as the risks associated with the estimates of cost and income, there are inevitably risks attached to implementation of the physical and transport proposals, to the technology requirements of the Games, and to security (including the threat of a major terrorist attack a year or two before the Games which could impact not only on cost but on ticket revenues and tourism benefits). These risks will need to be taken into account in the decision whether or not to bid, but should be set against the opportunities to avoid or mitigate risk through management, anticipation, and planning.

S 8 Quantified costs and benefits

We then made estimates of the quantifiable additional benefits to the UK economy of income from the net increase in tourists and other wider economic effects of the Games to produce an appraisal of the total quantifiable costs and benefits.

Figure S2 Summary cost-benefit analysis (NPV discounted at 6%)

	Expenditure £m	Income £m	Surplus/deficit £m
Cash flow including risk	1796	1302	-494
Additional tourism income	103*	280-610	+280 - +507
Other quantified benefits	0	69	+69
Total cashflow including benefits	1899	1651-1981	-145 - +82

* Additional investment to secure additional tourism for higher income forecast

Growth in tourism

For our low net additional tourism figure, we have made a relatively conservative estimate (that there would be an increase in tourism during the years 2011-13 equivalent to 20% of the additional tourism attracted for the event itself) of the impact of the Olympics on the national economy based on an assumption that no special effort will be made to attract tourists and the effect before and after the Games will be limited and short-lived. However, if the opportunity is seized, we consider there is great potential for the Olympics to be used as a catalyst to increase tourism to Britain in the long term, and an assumption similar to the effect estimated for other Olympic cities has been used for our high tourist estimate. This is a second order effect, but if it is considered attributable to the Olympics, we estimate that it could eliminate the financial deficit.

Other quantified benefits

Around £70 million of the other benefits is an estimate of the fiscal impacts of the growth in the economy attributable to the Olympics. The remainder is for the local effects of creating around 3000 full-time equivalent jobs in the east London economy.

We have made no estimate of the other regeneration effects, nor have we included any advantage for the 100ha of land that would be developed except insofar as it is reflected in the land values before and after.

Figure ES2 shows that the quantified net total ranges from minus £145 million to plus £82 million, depending on the income from additional tourism.

S 9 Unquantified benefits and legacies

There are a range of benefits and legacies that we have not been able to quantify in this study, but which would have a significant impact, and should be taken into account when deciding whether or not a bid is viable. An optimal legacy package needs to be developed covering all the potential advantages of a London Olympics in order to obtain maximum value for money to offset against any financial deficit.

National prestige

Staging the Olympics would have important community, social inclusion, cultural, and educational benefits for both the local East London community and the nation as a whole. Also, as well as the 'feelgood factor', there would be a legacy of over 47 000 trained volunteers.

Uses of the facilities

Much could be done to further exploit the physical legacies of the Games. Very little of the cost of the Olympic Village is attributable, as it will be funded for legacy use and the most cost-effective way of providing for most minority sports is by smaller expenditure on temporary facilities and adaptations.

Cultural

The Olympics would provide an opportunity to promote the cultural diversity of London and of the local communities directly adjacent to the Olympic Zone. Careful planning and capacity building in the run-up to the Games will deliver opportunities to improve social cohesion through the promotion of diversity and inclusiveness of minority ethnic communities and disabled groups.

Sporting performance

As well as promoting participation in sport across the nation, the Olympics would leave a legacy of facilities including a new stadium and aquatics centre in East London. The key to delivering these benefits is effective identification and planning of linkages between the event, its exposure, heightened public interest, and sports development programmes. Pro-active programmes are also required to engage and secure ongoing participation. This means improving capacity across a range of areas including facilities, coaching, volunteer recruitment, and club management.

Levering investment

It would be surprising if an event of such high profile and so prestigious as the Olympics did not generate opportunities for attracting inward investment. Both Atlanta and Sydney claimed that the global marketing opportunity created by their Olympics was instrumental in attracting inward investment, though neither final report

is explicit as to the extent of this effect. For London the effect is likely to be less pronounced because it already enjoys a very high international profile and we have not included it in our quantitative appraisal.

S 10 Olympic developments and regeneration

The overwhelming majority of the investment in physical facilities for the Olympics will be located in the Olympic Zone in the Lower Lee Valley. This is predominantly an area of low intensity uses and physical dereliction in boroughs suffering high unemployment and multiple deprivation. A crucial issue will be the extent to which it is possible to integrate Olympic developments with wider regeneration initiatives in Stratford and the Lower Lee Valley.

The possibility exists to build a new mixed use commercial and residential area centred on the Lower Lee Valley that will carry the Olympic cachet and will for all time be identifiably the 2012 Olympic Zone. If this vision is to be achieved, it will first be necessary to ensure that the Olympic developments themselves leave a strong, viable, long-term legacy that can be used for many years as a flagship to attract continuing investment into the area. It will be equally necessary to ensure that the projects are part of an attractive and successful urban design concept that includes lively neighbourhoods, distinguished architecture, and quality environments.

At this stage we have prepared a preliminary layout as a starting point for discussion, and we set out the issues and opportunities that should be explored. We have not yet attempted to evaluate the scale of the opportunity as to do so would require discussions with local interests and, at least in outline, preparation of proposals for integrating the Olympics with other regeneration initiatives in the area. We nevertheless believe there are numerous possibilities to harness the Olympic investment and effects to create investor interest in the Olympic Zone and the wider area, to build property values, and accelerate the enormous task of redevelopment and restructuring in the Thames Gateway.

S 11 Experience from Sydney & Atlanta in quantifying the indirect and non-financial benefits

Quantifying indirect and non-financial benefits is fraught with difficulties of estimation, valuation and attribution, particularly for an ex ante evaluation. The £350-£680 million benefits estimated in this appraisal should be compared with assessments of other events such as:

- Atlanta Olympics £3.2 billion in tourism
- Sydney Olympics £4.2 billion of which £2.4 billion was additional tourism

Although international comparisons can be difficult, it is useful to make a comparison with Sydney because of its perceived success despite issues of legacy with some of the facilities. Figures for Sydney have been obtained from the IOC official report, released in May 2002, and Ministerial statements reported in the press. The major differences in staging costs and revenues between Sydney and our proposal for London are the additional costs anticipated for security and higher anticipated revenues due to larger spectator capacity and growth in sponsorship and media income. Differences are due to attribution of costs and revenues between the

different stakeholders and uncertainty over the full coverage of costs and revenues in the Sydney report.

Currently there is a huge difference between the figures reported for Sydney and Atlanta for anticipated tourism and other benefit revenue flows, and our estimates for London. The main differences are that our estimates are limited by the number of years the effect will last and the attribution of growth in tourism to the Games. It is our view that we have applied conservative assumptions for both these issues in the case of London.

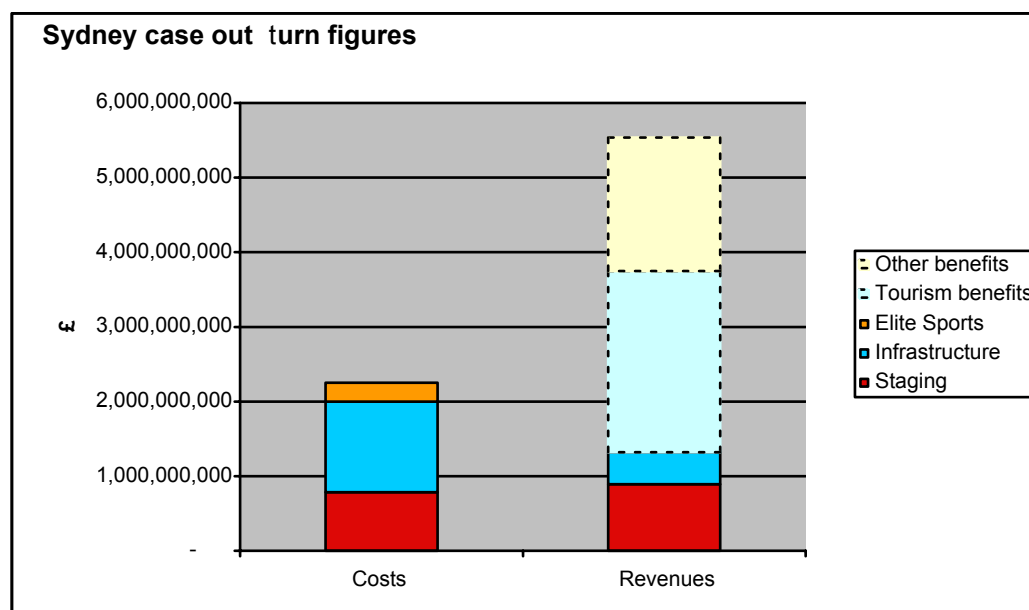
Figure S3 Sydney – summary costs & revenues

£*million (out turn figures)	Costs	Revenues	Surplus/deficit
Staging (SOCOG)	793	883	+90
Infrastructure	1,221	432	-789
Elite Sports	233	0	-233
Tourism benefits	5	2,448	+2,443
Other benefits**	0	1,785	+1,785
Total	2,252	5,548	+3,296

* Based upon 1 December 2000 exchange rate of £0.37 = A\$1, US\$1 = A\$1.89

** Other benefits include: Inward Investment - £219,780,000, Exports - £1,110,000,000 Conference bookings - £233,100,000, Olympic contracts for local businesses - £222,000,000.

Figure S4 Sydney costs and revenues



S 12 Postponing a bid until 2016 or later

The implications for postponing a bid for the Games until 2016 or later are:

- A delayed Stratford/Lower Lee Valley-based bid would entail a much more serious threat of blighting much-needed regeneration, though there would be advantages in greater certainty over the availability of major new transport infrastructure. In view of the priority and expectation for regeneration in the area, we think it would be very unattractive politically.

- Nowhere else in East London would be able offer such an attractive proposal, particularly because of Stratford's transport capacity and connectivity, and most areas would raise the same issues concerning blight.
- An alternative location elsewhere in London would need to combine the transport capability with large sites becoming available in five to 10 years' time: there are no obvious candidates at this stage.
- The only way to avoid the additional blight would be to plan the redevelopment so that the permanent facilities and development at Stratford could accommodate a future Olympics.
- A bid for 2016 or beyond would almost certainly look very different from a bid for 2012. Further work much nearer the time would be required to identify whether any suitable potential sites would be available for such an undertaking.

S 13 Timetable

The IOC issued their provisional deadlines for selecting the Host City early in March 2002. It covers a period of 27 months - from the IOC invitation to National Olympic Committees to submit Applicant Cities, to the election of the Host City for the 2012 Olympic Games in July 2005.

Figure S5 Provisional IOC bidding timetable

2003	
May (early)	IOC circular to BOA inviting to submit UK Applicant City.
15 Jul	BOA informs IOC of Applicant City (London).
2004	
15 Jan	Applicant City's IOC Questionnaire submitted.
May/June	Acceptance of Candidate Cities by IOC.
13-29 Aug	Athens Olympic Games.
Jun/Nov	Preparation of Candidate Files.
15 Nov	London Bid (Candidate Files) to IOC.
Nov/Jan (est)	IOC analysis of Candidate Files.
2005	
Feb-Mar	IOC Evaluation Commission visits Candidate Cities.
May (early)	Evaluation Commission report.
Jul	Election of Host City for 2012 by IOC Session.

S 14 Bidding & losing

Should London bid for the Games but be unsuccessful in securing the nomination, there are still significant non-quantifiable benefits to be gained from deciding to bid.

The most important benefit will be the potentially catalytic impact on the regeneration of the Lower Lee Valley, by facilitating the assembly of sites and allowing a strategic approach to redevelopment within the area. Regeneration benefits to the area during the bidding phase can be realised through careful planning during the further development of the Olympic masterplan so that an alternative 'bidding and losing' masterplan is developed and is an integral part of the Olympic proposal.

Irrespective of whether it is successful or not, a well-managed bid would also have the potential to deliver prestige and promotion benefits both to East London and to the UK as a whole.

S 15 Conclusions

Our overall conclusions on the evaluation are:

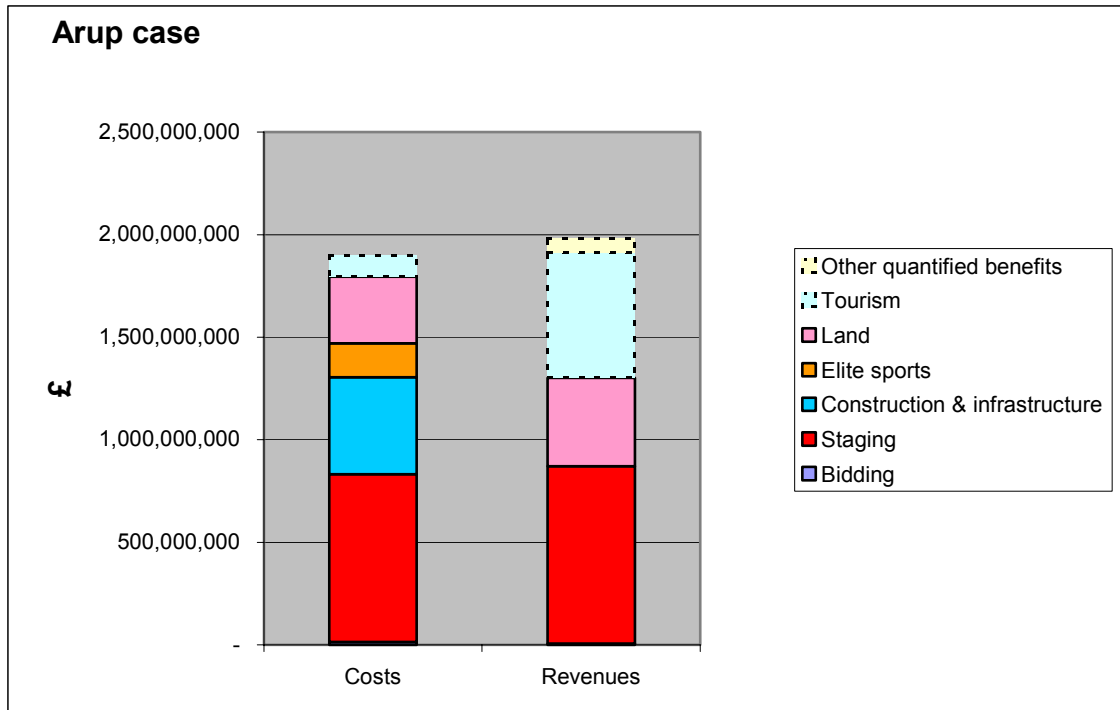
- Bidding for and staging the Olympics in London in 2012 as set out in our 'specimen' proposal would produce a net surplus in the order of £79 million (NPV discounted at 6%). The cost of bidding is £13 million (NPV discounted at 6%).
- The capital costs associated with land assembly, the construction of new sporting venues, and the infrastructure required to facilitate staging the Games (including a provision for risk) are projected to exceed anticipated land and infrastructure values by £297 million (NPV discounted at 6%).
- The overall net costs of the physical infrastructure and costs of staging the Games exceed the staging and land disposal revenues by £494 million including a provision for risk (NPV discounted at 6%). This pattern of net costs is in line with recent Games and it is highly improbable that the Games could be staged without incurring such a deficit.
- The quantified wider benefits, mainly from additional tourism, are estimated to range from £349 million to £679 million, leading to an overall cashflow position of between minus £145 million and plus £82 million. Our estimate of these wider benefits is conservative when compared to evaluations of recent Olympic Games.
- There is scope to increase the benefits from the physical legacies (and tourism) through changes and additions to the 'specimen' proposal.
- There are benefits that we have not been able to quantify within the scope of this study, including the potential for the Olympics to boost regeneration in the Lower Lee Valley and Thames Gateway, and to attract additional inward investment. We believe there to be major long-term advantages in exploiting a co-ordinated approach, especially for local regeneration. If these benefits are realised, then on the basis of the figures presented above there will be a further substantial net economic benefit associated with securing the Games for London.

Overall, there is considerable potential to improve the financial profile of the 'specimen' proposal through further development, though there will remain a large net cash deficit to be justified by the wider economic, social, sporting and cultural benefits. In our view it should be possible to develop the specimen proposal so that the quantified benefits exceed the costs.

If all levels of government and other agencies are committed to a common proposal, the potential advantages of a 2012 Games centred on the Lower Lee Valley can be developed into a world-beating Olympic bid.

The most important ingredient of success will be the political priority to pursue both the nomination, and if successful the staging of the Games, wholeheartedly. The Olympics will require a concentration of political focus and priority in favour of Olympic sports, East London, and tourism.

Figure S6 Arup case costs and benefits (NPV discounted at 6%)



S 16 The next steps

The task between now and autumn 2002 is to improve the benefits that would accrue from an Olympic bid so that they obviously justify the costs, risks, and loss of other opportunities, and can command the necessary popular and political support. A concordat agreed by all the key stakeholders and covering objectives and priorities is essential to determine the content of the proposal and provide the policy context for developing the proposals. Without such a concordat there would be little point in proceeding.

The main areas for project definition and development between now and a decision in the autumn are:

- The development proposals in the Olympic Zone need to be refined, in discussion with the local authorities, so that they are aligned with their regeneration plans to the maximum advantage of both, and form the basis of further quantification of the wider benefits.
- The legacy uses for key Olympic venues like the stadium need to be secured.
- A land acquisition strategy has to be further developed ready for immediate implementation if a decision is made to bid.
- The opportunities for maximising tourism potential from both the bid and the Games need to be explored.
- The attribution of costs to the various agencies and public sector budgets should be determined *inter alia* in order to establish more precisely:
 - what public expenditure is attributable to the Olympics and what would happen anyway
 - the proportions of income and expenditure that will accrue to LOCOG and to the taxpayer respectively.