

Write your name here

Surname

Other names

Centre Number

Candidate Number

**Edexcel GCSE**

# Geography B

**Unit 3: Making Geographical Decisions  
Sustainability and London's 2012 Olympic and  
Paralympic Games** **Foundation Tier**

Monday 25 June 2012 – Morning  
**Time: 1 hour**

Paper Reference  
**5GB3F/01**

**You must have:**  
Pre-released Resource Booklet

Total Marks

## Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided  
– *there may be more space than you need.*

## Information

- The total mark for this paper is 50.
- The marks for **each** question are shown in brackets  
– *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (\*) are ones where the quality of your written communication will be assessed  
– *you should take particular care on these questions with your spelling, punctuation and grammar, as well as the clarity of expression.*

## Advice

- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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**Answer ALL questions.**

**Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.**

**Section A – Getting to know London’s 2012 Games**

**1** Use Section A in the Resource Booklet to answer this question.

(a) (i) In which part of London is the new Olympic Park?

(1)

- A** North
- B** South
- C** East
- D** West

(ii) The Olympic Park is largely found in which London borough?

(1)

- A** Newham
- B** Greenwich
- C** Croydon
- D** Richmond

(b) Study the information on page 4 of the Resource Booklet.

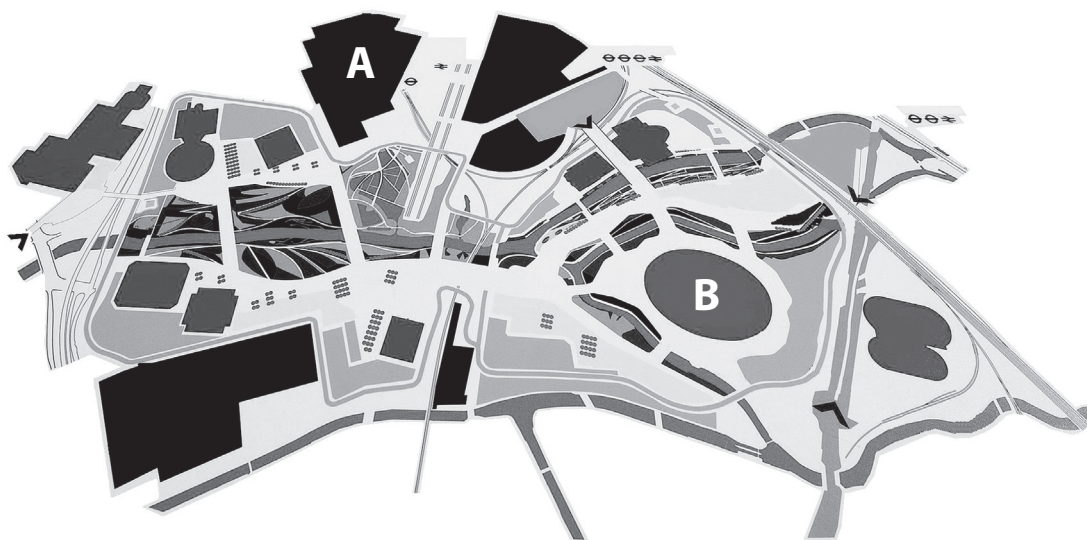
Which **three** of the following statements are true of London’s 2012 Games?

(3)

- A** London won the bid to host the 2012 Games in 2005
- B** London beat Paris to host the 2012 Games
- C** The entire cost of the Games has to be met by spectators
- D** There will be more Paralympic than Olympic athletes
- E** There will be more sponsors than Olympic athletes
- F** There will be more journalists than Olympic athletes



(c) Look at the diagram below and Figure 3a in the Resource Booklet.



Identify buildings **A** and **B** on the diagram.

(2)

**A** .....

**B** .....

(d) Look at Figure 2 in the Resource Booklet.

Suggest **two** reasons why some 2012 Games' events are being held outside London.

(4)

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P 3 9 8 6 1 A 0 3 1 2

(e) Look at page 8 and Figure 4 in the Resource Booklet.

Outline **two** pieces of evidence to show that the Olympic Park in Stratford has very good transport links.

(4)

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**(Total for Question 1 = 15 marks)**

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**TOTAL FOR SECTION A = 15 MARKS**





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**Turn over for Section B**



## Section B – Getting to know east London

2 Use Section B in the Resource Booklet to answer this question.

(a) Look at Figure 5 in the Resource Booklet.

Identify **two** differences between the population structure of Newham and that of the UK.

(2)

1 .....

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2 .....

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(b) (i) Which **one** of the following is the best definition of 'affordable housing'?

(1)

- A** Housing provided for people who work close by
- B** Housing intended for people on above-average incomes
- C** Housing intended for people on below-average incomes
- D** Housing provided for the elderly

(ii) Give **one** reason why housing in east London has become harder for local people to afford in recent years.

(1)

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(c) Look at Figures 9a and 9b in the Resource Booklet.

Which **two** of the following statements are true for Newham?

(2)

- A** Nearly 50% of people work in Professional and Managerial jobs
- B** Nearly 40% of people work in Semi-skilled and Unskilled jobs
- C** Most people are permanently sick or disabled
- D** Most people work part-time, rather than full-time
- E** Unemployment is higher in Newham than in London



(d) (i) Outline **one** way in which jobs have been created by the development of the Olympic Park.

(2)

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(ii) Outline **one** way in which local jobs have been lost by the development of the Olympic Park.

(2)

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(e) Describe **two** ways in which the local environment has improved as a result of the development of the Olympic Park.

(4)

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\*(f) Look at Figure 29 on page 25 of the Resource Booklet.

(6)

- (i) Outline **two** ways in which **you** think the 2012 Games are 'doing well' or 'doing very well' in meeting the aims for sustainability (Figure 29).

1 .....

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- (ii) Outline **one** way in which **you** think the 2012 Games are 'doing badly' or 'doing very badly' in meeting the aims for sustainability (Figure 29).

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**(Total for Question 2 = 20 marks)**

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**TOTAL FOR SECTION B = 20 MARKS**



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**Turn over for Section C**



**Section C – The Legacy of 2012 – Options for the future**

**3** Look at the options on pages 26–27 of the Resource Booklet to answer **Section C**.

\*(a) Choose **one economic** option (1, 2 or 3) which you think would be best for the people of east London.

(9)

**Economic option chosen:** .....

(i) Explain the advantages of your chosen option for the people of east London.

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(ii) Outline why you rejected the other **two** economic options.

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\*(b) Choose the **social** option (4, 5 or 6) which **you** think would be best for each of the following.

Give reasons for **each** choice.

(6)

(i) The UK as a whole.

**Social option chosen:** .....

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(ii) Low income families in Newham.

**Social option chosen:** .....

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**(Total for Question 3 = 15 marks)**

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**TOTAL FOR SECTION C = 15 MARKS**  
**TOTAL FOR PAPER = 50 MARKS**



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**Edexcel GCSE**

# **Geography B**

**Unit 3: Making Geographical Decisions  
Sustainability and London's 2012 Olympic and  
Paralympic Games**

**Paper 3F and 3H**

Monday 25 June 2012 - Morning

**Resource Booklet**

Paper Reference

**5GB3F/01**

**5GB3H/01**

**Do not return the Resource Booklet with the question paper.**

## **Instructions**

- Use this Resource Booklet to prepare for the examination. You will be asked to use the resources in the examination.
- Your teacher will go through the Resource Booklet, over about 10–15 hours, in the lessons leading up to the examination.
- The Resource Booklet must be handed in to your teacher at the end of each lesson. You **must not** write on the booklet. No notes are to be taken into the examination.

*Turn over* ►

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## Guidance and suggested activities

Dear student

Welcome to your work experience in east London's new Olympic Park. Your task during work experience is to consider whether or not London's 2012 Olympic and Paralympic Games (2012 Games) are a good example of *sustainable development*.

You should:

- begin by reading this Resource Booklet so that you can understand the issues
- make sure you understand the meaning of all the geographical terms used
- focus on terms printed in italics which are central to the issue; you could be asked to define some of these, but it is more important that you know them and get used to using them when you discuss sustainable development
- make links with topics you may already have studied e.g. Consuming Resources (Unit 2 Topic 2), or Changing Urban Environments (Unit 2 Topic 5).

You may not yet know much about London or its 2012 Games. Do not worry; we are less concerned about your detailed knowledge of the area than your ability to understand issues about the 2012 Games, and the future options that they offer for east London.

**You can do all of that using only the information in this Resource Booklet.**

### Section A

- Study the key points about London's 2012 Games.
- Identify features of the new Olympic Park and the area in which it is located.

### Section B

- Identify the characteristics of the population of east London, where the 2012 Games will take place (Part 1 in Section B, pages 10–12).
- Examine the economic, social and environmental issues, and impacts of creating the new Olympic Park (Parts 2A, B and C in Section B, pages 13–22).
- Assess how sustainable you think the 2012 Games are likely to be (Parts 3A and B in Section B, pages 23–25). To do this, think what scores you would give for each of the ten aims for sustainable development (Figure 29) on page 25.

### Section C

- Compare the possible options about the future *legacy* of the 2012 Games (pages 26–27). Look at each one to see the advantages and disadvantages it might have on east London, its people and economy.
- There are no 'correct' options. You could make a good case for any of them. East Londoners themselves are divided about this. It is less important which ones you select than the way you support your choice with evidence.

### Background research

This booklet contains all the information that you need. If you want further background research, use the following sources:

- Google Maps or Google Earth to find east London and the Olympic Park
- the 2012 Games' website – [www.london2012.com](http://www.london2012.com) – for background data.

Please do not phone or email any organisation mentioned in this booklet direct.

Yours sincerely

The 2012 Sustainability team

## The background to London's 2012 Olympic and Paralympic Games

London's 2012 Games are being promoted as the 'sustainable Games'. They use principles of sustainable development, such as:

- making the most of public transport
- including *affordable housing*
- helping people to have a good quality of life, using features such as parks
- mixing work and housing, so that people do not have to make long commutes
- avoiding environmental problems through e.g. traffic pollution, or over-use of water or energy.

Sydney's 2000 Olympic and Paralympic Games were the first to be designed upon sustainable – or 'green' – principles. Sydney made its bid for the 2000 Games in the early 1990s. It began with a design competition for the Olympic Village, organised by architects, planners, housing associations and the local Council.

One of the winning entries was from Greenpeace, which based the whole Olympic project upon 'sustainable' principles. Using these principles, Sydney designed an Olympic Park in which to host the 2000 Olympic and Paralympic Games.

London's Olympic Delivery Authority (ODA) has used the same ideas for its 2012 Games, but aims to improve on Sydney. To achieve this, it has attempted to use the same ten aims for sustainable development as Sydney (shown below). These were devised by Greenpeace in the 1990s.

### Ten aims for sustainable development

Below are ten 'aims' for environmental sustainability. These are adapted from the aims used by Greenpeace in designing Sydney's 'Green Games' in 2000. Greenpeace believed that any new development must stick to these aims. It must:

1. use or adapt existing facilities, rather than build from scratch
2. be constructed on *brownfield sites*, so that greenfield sites are untouched
3. protect and encourage native *vegetation* and *fauna*
4. include an effective public transport system, making all areas accessible
5. minimise waste and encourage recycling
6. minimise energy use, use renewable sources of energy
7. minimise water consumption, using rain water and recycled water for uses such as irrigation
8. minimise *pollution*, or where land is polluted, it should be cleaned up
9. create affordable housing and rents, within reach of everyone
10. benefit people from all communities e.g. low-income groups, *ethnic minorities*, disabled groups.

## Section A: Getting to know London's 2012 Games

London was selected in 2005 against competition from Paris, New York, Madrid, Moscow, Rio de Janeiro and Istanbul. The International Olympic Committee believed that London would host a sustainable Games. Promises were made that the new 2012 *venues* would be constructed from *environmentally-friendly materials*, and built to minimise waste and the use of energy and water.

### The challenge ahead

Staging and hosting the Olympics is a major process (Figure 1). It involves great amounts of organisation and expense. London's 2012 Games will cost at least £9.7 billion of government and National Lottery money – over £400 for every household in the UK. The final cost will not be known until after 2012.

The 2012 Games, lasting one month, will involve:

- 11 000 Olympic athletes taking part in 300 events
- Between 5000-6000 sports coaching staff and officials
- Between 4000-5000 other members of the Olympic community e.g. time keepers, event organisers, drug testers
- Over 7000 sponsors, e.g. TV companies, food and drinks companies who help to pay for the Games
- 20 000 newspaper, radio, television, and internet journalists
- Up to 500 000 spectators daily at events in and around London, whose tickets will pay for 20% of the cost of the Games
- 63 000 staff to help organise events, of whom 47 000 will be volunteers, e.g. stewards, marshals and vehicle drivers.

London's Paralympic Games alone will involve 4000 athletes and 2500 officials, equivalent in size to Manchester's 2002 Commonwealth Games.

### Figure 1 – A 2012 Games Factfile

What will be left to show that the money was worth spending? Most venues in recent Olympic and Paralympic Games have had little or no use after the athletes have left to go home.

For example, after Sydney's 2000 Games:

- the archery field became overgrown, and has only recently been used again since 2000
- housing created from the Athletes' Village was sold off to private buyers to maximise income, because the Games had cost so much. It had been planned to become affordable housing.

After Athens' 2004 Games:

- Robert Mendick, a journalist for London's 'Evening Standard' writing in 2009, five years after the Games, described facilities there as 'a diving pool with four inches of stagnant water, a brand new stadia mothballed and *derelect*, an Olympic complex abandoned and strewn with litter and graffiti'.

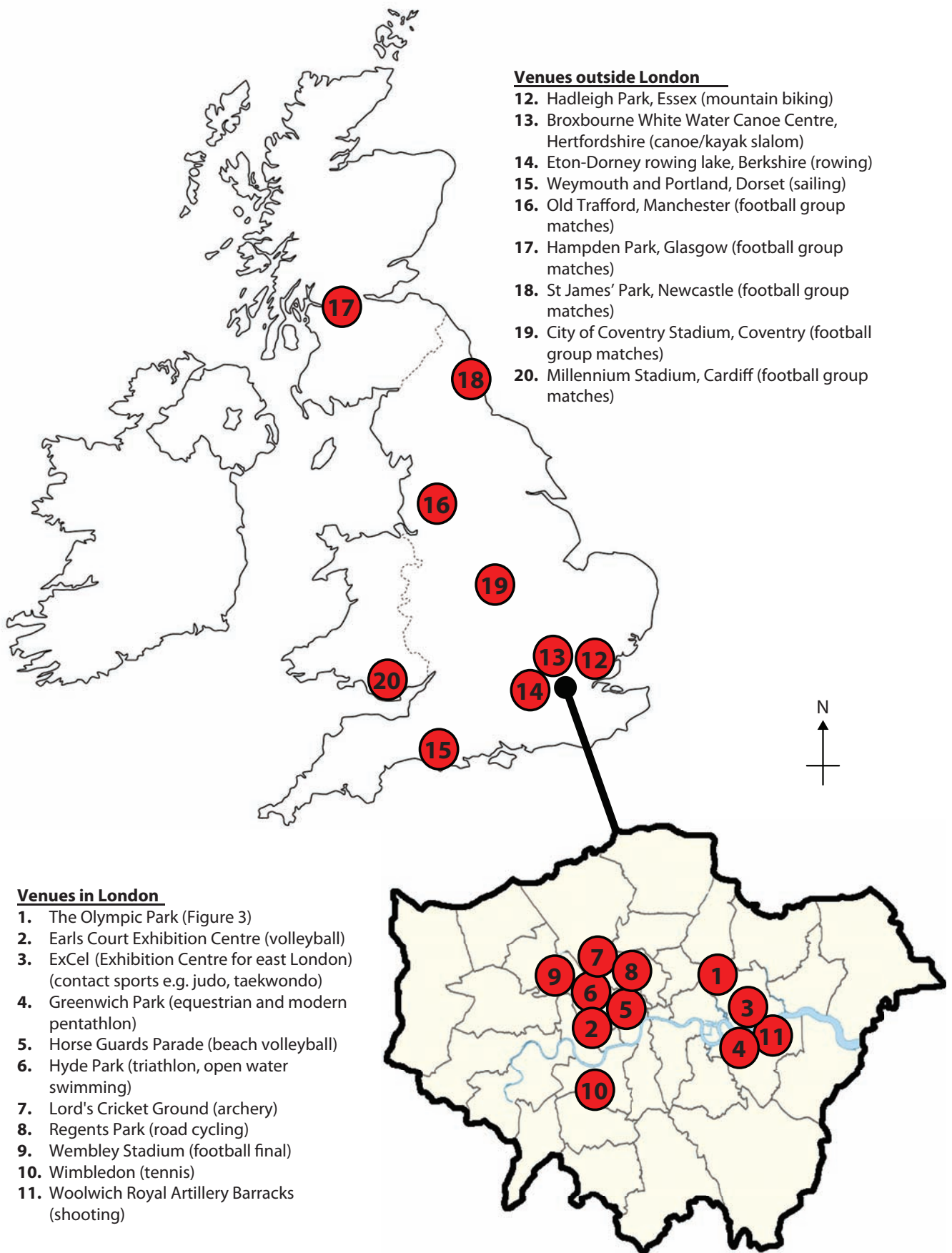
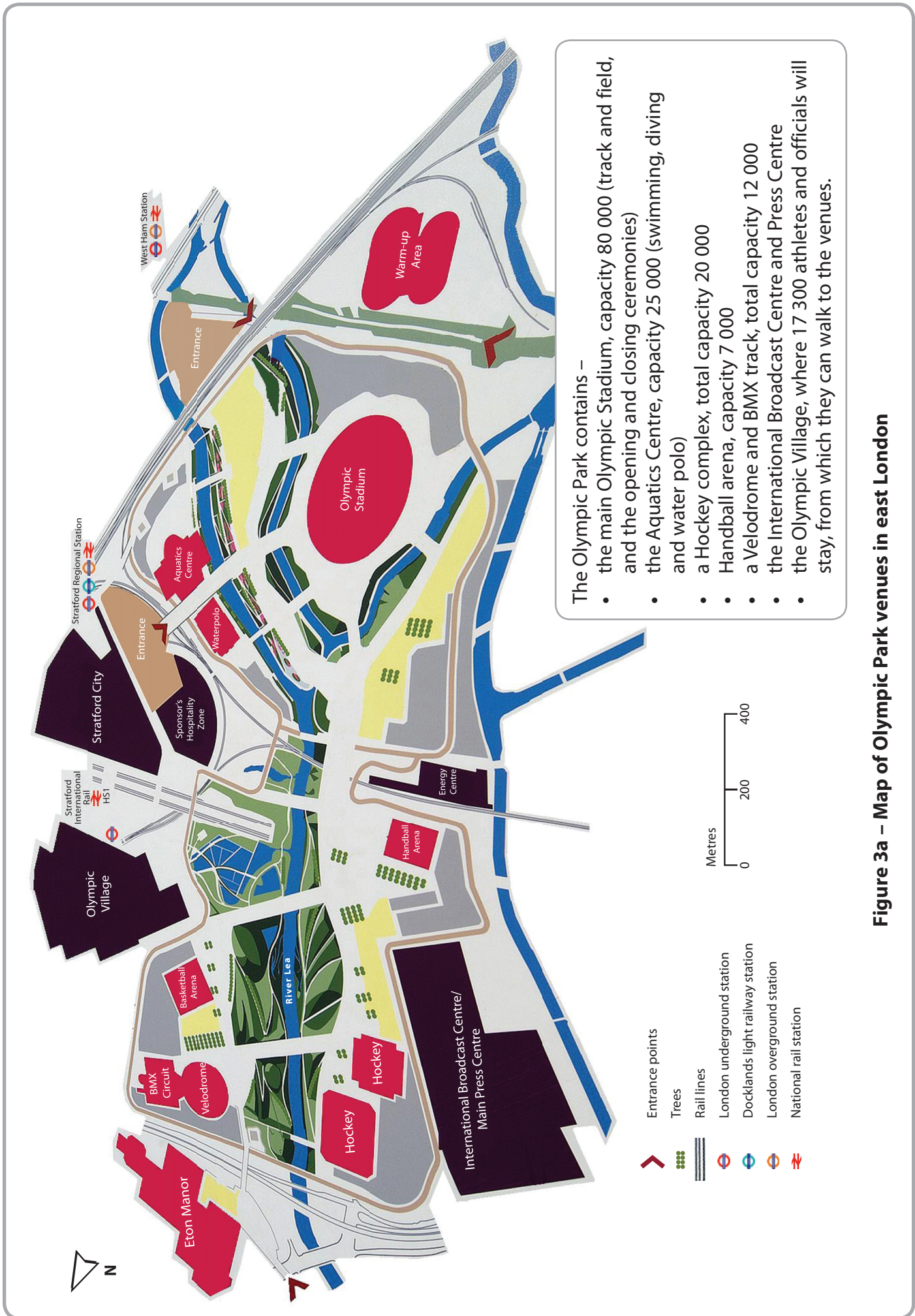


Figure 2 – A map of the UK showing the 20 venues





- The Olympic Park contains –
- the main Olympic Stadium, capacity 80 000 (track and field, and the opening and closing ceremonies)
  - the Aquatics Centre, capacity 25 000 (swimming, diving and water polo)
  - a Hockey complex, total capacity 20 000
  - Handball arena, capacity 7 000
  - a Velodrome and BMX track, total capacity 12 000
  - the International Broadcast Centre and Press Centre
  - the Olympic Village, where 17 300 athletes and officials will stay, from which they can walk to the venues.

**Figure 3a – Map of Olympic Park venues in east London**



### The Olympic Park

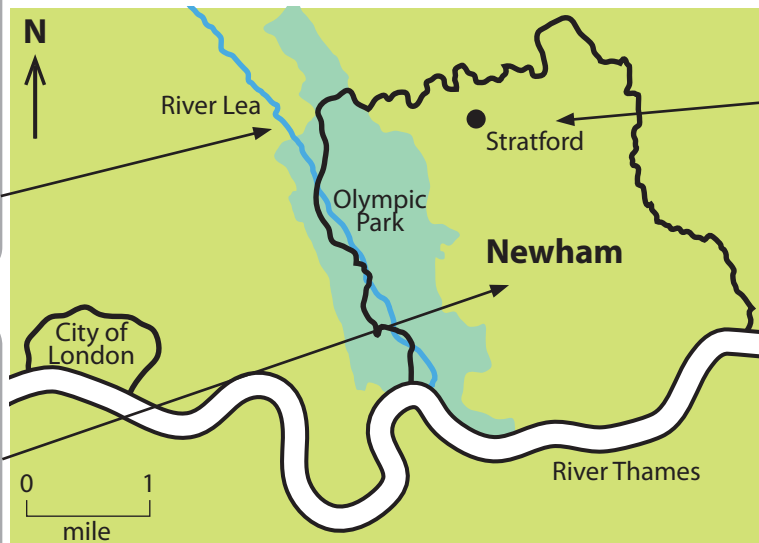
A new park created for the 2012 Games, where the main venues have been built. After 2012, it will be a park open to the public, the first one opened in London for over a century.

### The Lea Valley

The valley of the River Lea; the river runs through east London and the Olympic Park.

### Newham

The London Borough in which most of the Olympic Park is located.



### Stratford

The largest suburb in Newham, with Europe's largest shopping centre at Westfield Stratford, (opened 2011). Stratford is well connected, by surface and underground rail links (see Figure 4), one reason why it was chosen for the 2012 Games.

Figure 3b – The location of the Olympic Park



Figure 3c – An image of the Olympic Park and beyond looking south

## London's transport for the 2012 Games

Stratford was selected as the location for the 2012 Games as it is the most *connected* part of London outside central London. It will have to cope with the following pressures.

- Each day of the 2012 Games, up to half a million people will come to the Olympic Park.
- In the early part of each day, up to 200 000 people will arrive for afternoon events.
- On most evenings, a further 200 000 will arrive.
- The pressure on transport systems will come during the late afternoon and early evening, as one group departs and meets the second arriving.

London's 2012 Games will follow Sydney's example from its Games in 2000: competitors will walk to venues from the Athletes' Village, reducing road traffic congestion which has *gridlocked* some Olympic cities, e.g. Atlanta in 1996.

All spectators will arrive by public transport. The Olympic Park has no space for car parking. The main arrival point for spectators will be Stratford and Stratford International stations, using surface rail and underground networks (Figure 4).

### Road links

Motorways links: M11 (to Cambridge and East Anglia)  
M25 (10 km away via the M11)

Main road links: A12 (linking Central London with Essex and Suffolk)  
A13 (5 km away, linking central London with the Thames Estuary and Southend-on-Sea)

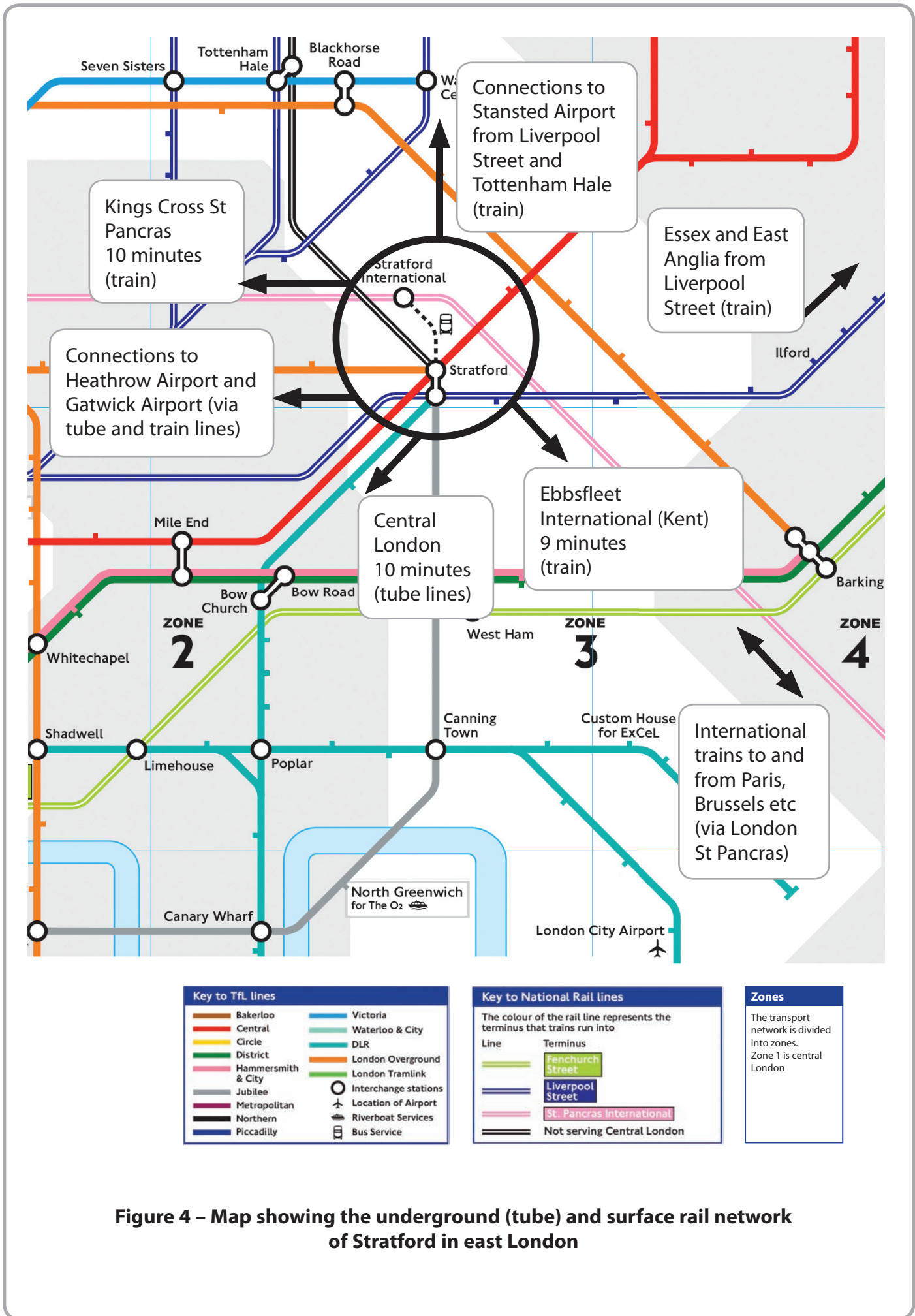
### Bus links

- 15 London bus routes serve Stratford, with most services averaging 6 buses per hour during the day.
- Three coach routes link Stratford with Stansted Airport, Cambridge and Hertfordshire.

### Underground and surface rail links

Refer to Figure 4.





**Figure 4 – Map showing the underground (tube) and surface rail network of Stratford in east London**

## Section B: Getting to know east London

As the former Mayor of London in 2005, Ken Livingstone supported Newham as the location for the Olympic Park, because:

- (a) it was, and is, one of London's most deprived areas with very high levels of *multiple deprivation*
- (b) the construction of the Olympic Park would *regenerate* one of London's poorest areas; the Park would be developed from industrial and derelict land
- (c) the 2012 Games would leave a legacy of housing and sports facilities for people there
- (d) it would create a new park in east London, where many venues would be located.

Much of the information in this section is from 2001, and provides the background to London's bid.

### 1 The Population of Newham

#### 1 A Age-sex structure

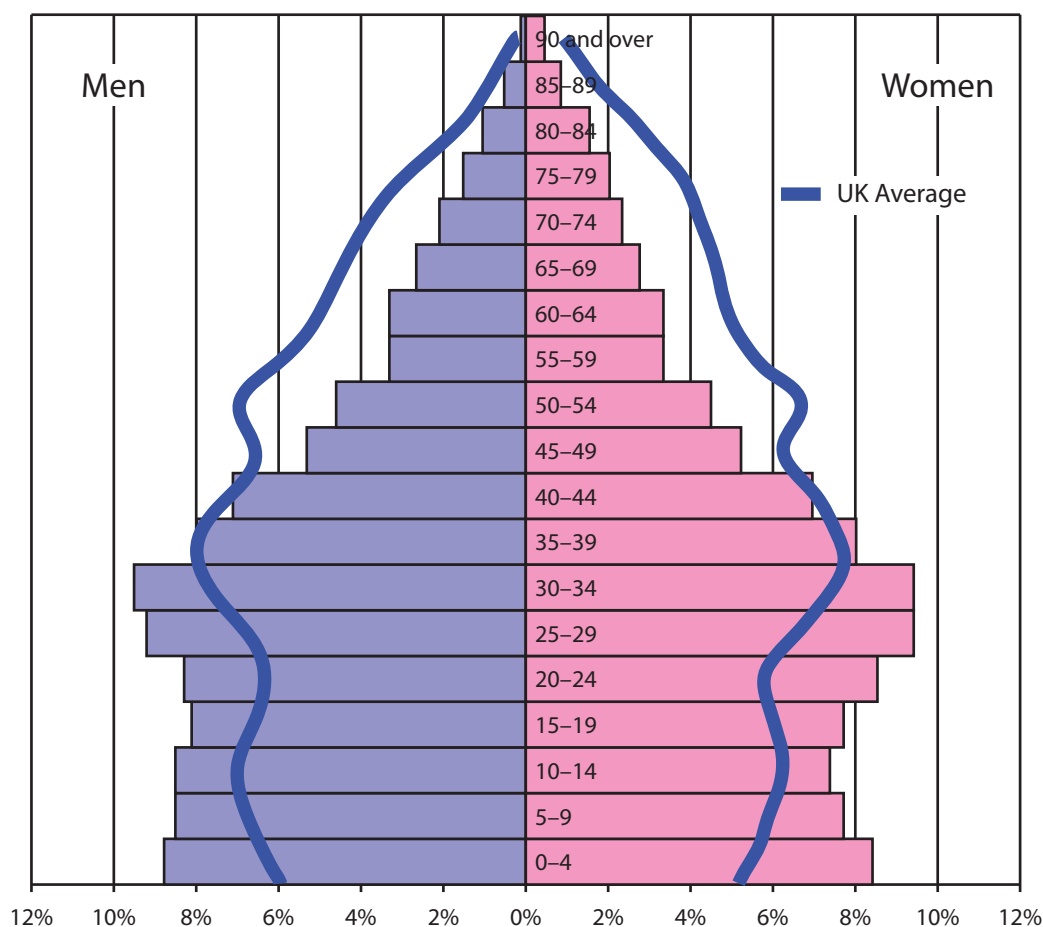


Figure 5 – The age-sex structure of Newham's population compared to the UK, 2001

## 1 B Ethnicity

Newham is one of the UK's most *ethnically diverse* areas; 2006 government estimates for the population of Newham and England are shown in Figure 6.

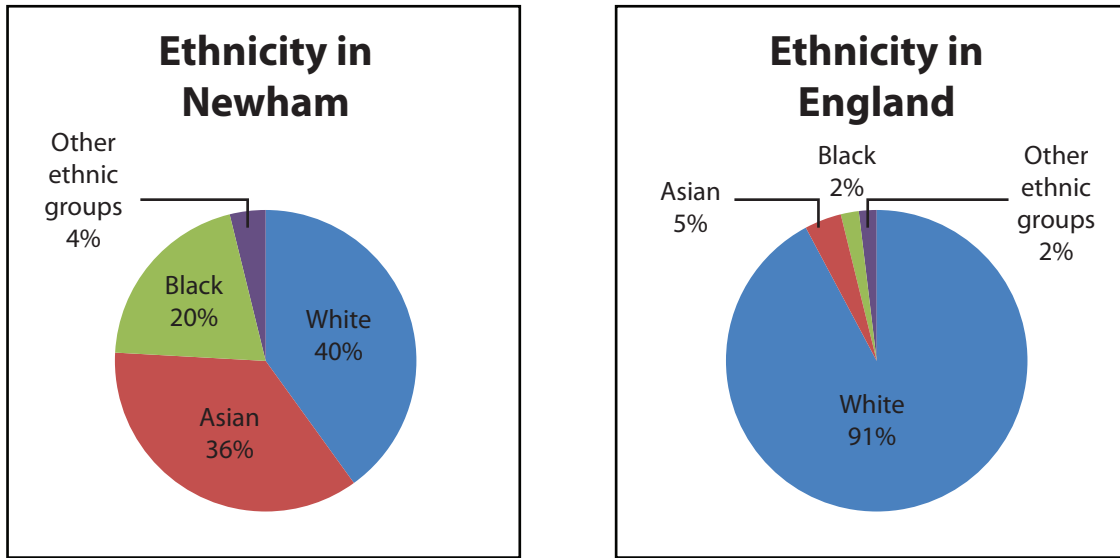


Figure 6 – The ethnic structure of Newham compared to England in 2006

## 1 C Multiple deprivation

Newham is one of the most *deprived* areas of London, and of England and Wales as a whole. In 2008, the government compiled an index to show the least and most deprived areas of the UK. To do this, it included data on incomes, numbers of people claiming *benefits*, housing, education and other indicators. Newham's position between the least and most deprived areas – out of 34 000 areas of England and Wales – is shown by the arrow in Figure 7.

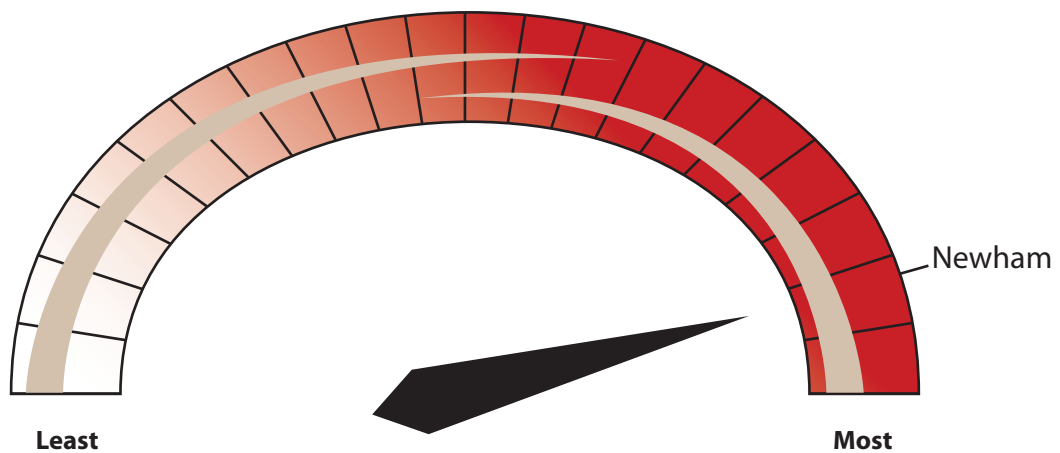
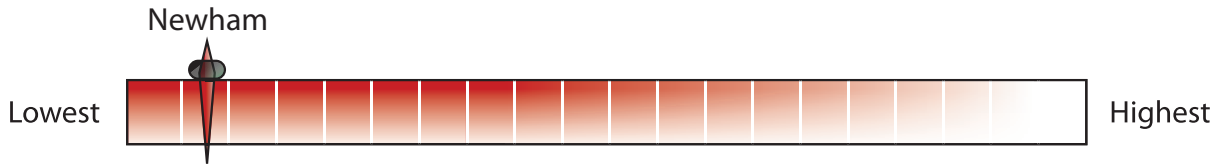


Figure 7 – Deprivation in Newham compared to the least and most deprived areas of England and Wales, 2008

## 1 D Employment and Income

Incomes in Newham are lower than elsewhere in London or England. Out of the 34 000 areas of England and Wales, incomes in Newham are among the lowest (Figure 8).



**Figure 8 – How incomes in Newham (shown by the arrow) compare with the rest of England and Wales, 2008**

Incomes are low because of people's employment status and job type (Figure 9a & 9b).

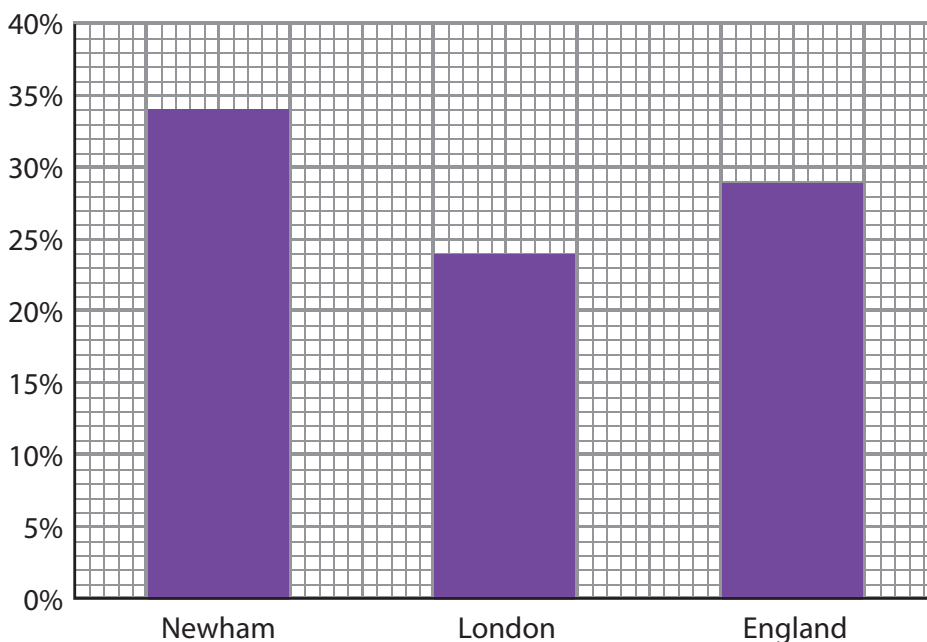
|  | Newham | London | England |
|--|--------|--------|---------|
| <b>Employment of adults aged 16-74</b>     |        |        |         |
| % Employed full-time                       | 40.0   | 51.6   | 49.1    |
| % Employed part-time                       | 7.7    | 8.6    | 11.8    |
| % Unemployed                               | 6.7    | 4.4    | 3.4     |
| % Looking after home / family              | 10.4   | 7.2    | 6.5     |
| % Permanently sick / disabled from working | 6.8    | 4.6    | 5.3     |

**Figure 9a – Employment status in Newham, 2001**

| <b>Employment type for those in full-time and part-time work</b> |      |      |      |
|--|------|------|------|
| % in <i>Managerial and Professional</i> employment               | 34.7 | 50.4 | 40.3 |
| % in <i>Semi-skilled or Unskilled</i> employment                 | 39.7 | 26.5 | 34.8 |

**Figure 9b – Employment type in Newham, 2001**

## 1 E Education and qualifications in Newham



**Figure 10 – The % of the population with no educational qualifications, 2001**

## 2 The impacts of creating the Olympic Park

In the past, the Lea Valley used to be the UK's largest *manufacturing* area, and the Port of London was the UK's largest port. However, two changes affected the region after 1980:

- London's port closed in 1980, putting 10 000 people out of work
- Industries closed as the port closed; many moved to other parts or went overseas where costs were lower.

In the 1980s and 1990s, the docks were redeveloped as 'London's Docklands' to provide new offices and housing. Since then, unemployment in east London has fallen, but many feel that new jobs there have not benefited east Londoners.

### 2 A Changing economy

The new Olympic Park is being built in east London, in one of London's most run-down and derelict areas. Before the development of the Olympic Park could begin, the Olympic Delivery Authority (ODA) had to buy all the land. Part of the job of the ODA was to find suitable sites for companies who had to be moved.

#### Before the Olympic Park was built

- About 380 companies employing 11 000 people had to be *relocated* to make way for Olympic venues. Some, such as Forman's smoked salmon factory (Figure 11), were on the site of the Olympic stadium itself, though were relocated close by (Figure 12). According to the ODA, most companies stayed within east London.
- However, some factories were successful businesses before the land was cleared, and did not want to move (Figure 13).
- As well as manufacturing, some companies provided services, e.g. recycling collection points and bus depots (Figure 14).
- The remainder of the land was derelict (Figure 15), but still had to be purchased.

#### Creating the Olympic Park

- Many jobs were created in developing the Olympic Park. In all, about 7000 temporary jobs were created, plus those created in supplying materials. It has brought over 5000 construction jobs alone (Figure 16) to east London.
- In the period before and during the 2012 Games, several thousand more temporary jobs are being created, in addition to the thousands of unpaid volunteers.
- Whatever jobs remain after 2012 will depend upon decisions made about the use of the Olympic Park once the 2012 Games have ended.





**Figure 11 – Forman's smoked salmon factory in 2007, now demolished**



**Figure 12 – Forman's replacement factory, overlooking the new Olympic Stadium**





**Figure 13 – Protest in 2006 outside a business on the site of the new Olympic Stadium**



**Figure 14 – The old Hackney Stadium, a former greyhound stadium, and used as a bus depot until 2007. It was cleared to make way for the new Hockey Stadium**



**Figure 15 – An abandoned factory which had to be cleared for the new Olympic Park**



**Figure 16 – Building the Olympic Stadium – a boom for construction jobs**



## 2 B Changing housing

|                  | <b>Newham</b> | <b>London</b> | <b>England</b> |
|------------------|---------------|---------------|----------------|
| % Owner occupied | 43.7          | 56.5          | 68.8           |
| % Rented         | 56.3          | 44.5          | 31.2           |

**Figure 17 – Housing tenure in Newham, 2001**

- Many people in Newham live in some of the most *densely populated* housing estates in the UK (Figure 18).
- Newham has one of the largest proportions of population living in *social housing*.
- A large proportion of Newham's population lives in one and two bedroom flats, some of which are in *high-rise* blocks.
- There is more overcrowding in Newham than in any other part of England and Wales, with many families of three or more children living in small houses or flats.
- Newham Borough Council believes that it needs more family housing.



**Figure 18 – Housing in Newham**

About 500 residents had to be moved to make way for the proposed Olympic Park. They lived in Clays Lane, on the site of what is now the Athletes' Village. Three groups of residents lived there.

- Students at the University of East London who lived in two tower blocks (Figure 19). The University sold the land, and moved its students to a new campus within Newham.
- One site (Figure 20) was occupied by *travellers*. They were found a new site within Newham by the Borough Council.
- The third group – the largest – were people living in community housing run by a *housing association* (Figure 21). It was built in 1981 as a *co-operative* in which residents would share living costs. It was intended for people on low incomes and included many vulnerable adults. In 2007, the average weekly rent there was £65, including council tax and energy bills. In 2007, rents outside the area averaged £130 per week. Newham Borough Council were given the job of finding suitable housing for these people.



**Figure 19 – Student halls of residence in Clays Lane in 2007 before clearance**





**Figure 20 – The travellers' site at Clays Lane in 2007 before clearance**



**Figure 21 – Clays Lane Community Housing (2007) before clearance.  
As residents moved out, windows were boarded up**

### One resident's story from Clays Lane

"We were told the housing we would move to would be of higher quality than at Clays Lane. For some that has been so; others have moved to damp or poorly maintained properties. Housing at Clays Lane was perfectly sound but the authorities insisted it was of low quality, even though the estate was only 25 years old. We had the use of a community centre, free car parking, day and night buses and a large open space nearby. The nearest shops were about eight minutes walk away and the nearest *tube station* was a fifteen minute walk.

Most residents lived in flats with shared facilities (e.g. washing machines) and most were happy to be offered a similar flat in exchange. However, for several there has been little improvement in their housing and some are worse off. Many were unable to find homes where they wanted.

Clays Lane was cheap to live in, with low rents and plentiful heating and hot water from community boilers. Council tax was included in the rent. Most residents are now £30 a week worse off and, many in low paid jobs or on benefits, are struggling with increased rent and bills. The ODA paid £8500 per person as *compensation*. In reality most people have spent more than this on furnishing and carpeting their flats."

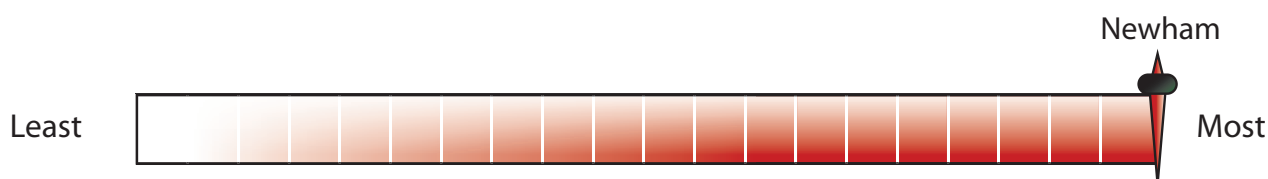
**Adapted from an account in response to a question in Parliament, 2008**

**Figure 22 – Clays Lane – one resident's story of being moved**

### The problem of affordable housing

Affordable housing is a major problem in Newham.

- Deprivation in housing has worsened in Newham since 2004 and it is now among the most deprived areas in the UK in terms of overcrowding and homelessness (Figure 23).
- House prices and rents have risen, while incomes in Newham have remained the same or have fallen, making it more difficult for people to find accommodation.



**Figure 23 – Government assessment of housing deprivation in Newham (shown by the arrow) compared to the rest of England and Wales, 2008**



## The 'Olympic effect' on house prices in east London

East London has undergone a house price 'boom' since July 2005 when London was awarded the 2012 Games. Research from Lloyds TSB shows that, between 2005–10, on average:

- to the north of the Olympic Park, house prices in Homerton rose by 69% and in Dalston and Clapton by 39%
- to the south of the Olympic Park, prices in Bow rose by 32%
- to the west of the Olympic Park, prices in Shoreditch rose by 53%, and in Bethnal Green by 35%.

With rising house prices, new housing has been built within short distances of the Olympic Park. Much of the new housing is flats (Figure 24). Is this the best kind of housing for the people of east London?



**Figure 24 – Some of the new flats built by private developers since 2005**

## 2 C Changing environment

Part of the promise for 2012 was to improve the environment. Before clearance in 2007, the area within the proposed Olympic Park had several environmental problems.

- Abandoned land had been used as dumping grounds (Figure 25).
- Land was *contaminated* from previous industrial pollution.
- The soil contained chemicals used in armaments from World War 2 e.g. mercury.
- The River Lea and its canals were polluted with chemicals and waste.
- Surface electricity pylons were built across open spaces (Figure 26).



**Figure 25 – Waste dumping ground before clearance**



**Figure 26 – Electricity pylons before power lines were buried underground**



### 3 A Sustainability and the new Olympic Park

The challenge was to turn an area the size of London's Hyde Park (250 hectares or 2.5 sq km – the size of 350 Wembley football pitches), much of it contaminated and neglected for decades, into an Olympic Park and a sustainable area of London for the community to live, work and play in, after the Games.

**Adapted from ODA, 'From brown to green: transforming the Olympic Park'**



**Figure 27 – An artist's image of the Olympic Park after 2012**

#### **Creating a new habitat**

During demolition and construction, a habitat plan was developed to conserve and protect many animals and plants and, after construction, to encourage them back into the area.

- Many venues and bridges have created artificial habitats built into walls and roofs.
- A 'soil hospital' was set up to clean hundreds of thousands of tonnes of soil contaminated by industrial pollution, which could then be reused on the Park.
- Polluted groundwater was treated to remove harmful chemicals.
- Over 4000 trees and 400 000 other plants were planted in the Olympic Park, one of the largest planting projects ever in the UK.
- The Olympic Park and its venues have now created 45 hectares of wildlife *habitat*, including reeds, ponds, woodlands, and hundreds of bird and bat boxes have been built.
- Rare species of newt and lizard were moved to temporary habitats outside the Park.

#### **Demolition, reuse and recycling**

- Over 200 buildings were demolished to create the Olympic Park.
- 97 per cent of demolition material was reused.

## Building Design

- The Velodrome is naturally ventilated, maximising natural light and cutting energy consumption. Rainwater from the roof is used for flushing toilets and irrigation.
- Water used to clean pool filters in the Aquatics Centre is recycled for toilet flushing.



**Figure 28 – The Olympic Stadium roof – made out of unwanted gas pipelines**

## Construction

- To reduce the *eco-footprint* of the Olympic Park, contractors had to use *eco-friendly* materials, e.g. timber from sustainable sources and *low-carbon concrete*.

## Energy Conservation

- A new Energy Centre will provide efficient low-carbon power and heat using new technology e.g. biomass boilers.
- A *Combined Cooling Heat and Power (CCHP)* plant will reuse heat generated during electricity production.

## Transport

- Dredging canals and rivers removed 30 000 tonnes of rubble, tyres, shopping trolleys, and a car. It improved water quality and encouraged wildlife.
- A new lock has been built, creating a navigable route for freight and leisure boats.
- Towpaths have been improved for public access.
- To reduce road transport and carbon emissions, rail and water were used to deliver construction materials and remove waste.



### 3 B How sustainable are London's 2012 Games?

While you are on your work experience with us, we would like you to assess how London is doing so far. In Sydney, Greenpeace gave the 2000 Games half marks. How well do you think London has done? To help you think about this, and to help you decide upon options for the future in Section C of this booklet, complete Figure 29 below. Score as follows:

- score each of the ten statements from +2 (London is doing well) to -2 (London is doing badly). If you think the good and bad cancel each other out, or are not sure, score 0
- add your total score, which will range from +20 to -20.

Whatever scores you give, remember that you should be able to give reasons for your decisions.

|  | Doing very well<br>+2 | Doing well<br>+1 | Not sure<br>0 | Doing badly<br>-1 | Doing very badly<br>-2 |
|--|-----------------------|------------------|---------------|-------------------|------------------------|
| 1. Use or adapt existing sports facilities, rather than build from scratch                           |                       |                  |               |                   |                        |
| 2. Protect and encourage plants and animals  |                       |                  |               |                   |                        |
| 3. Any new construction should be on brownfield sites, leaving greenfield land untouched             |                       |                  |               |                   |                        |
| 4. Create an effective public transport system, making all areas accessible                          |                       |                  |               |                   |                        |
| 5. Minimise waste, and encourage recycling   |                       |                  |               |                   |                        |
| 6. Minimise energy use, use renewable sources of energy  |                       |                  |               |                   |                        |
| 7. Minimise water consumption, using rain water and recycled water for uses such as flushing toilets |                       |                  |               |                   |                        |
| 8. Minimise pollution, or, where land is polluted, it should be cleaned up                           |                       |                  |               |                   |                        |
| 9. Create affordable housing and rents, within reach of everyone                                     |                       |                  |               |                   |                        |
| 10. Benefit all people in local communities especially low-income groups                             |                       |                  |               |                   |                        |
| Total score  |                       |                  |               |                   |                        |

Overall total score

**Figure 29 – Your assessment of how well London is meeting the aims for sustainability of the 2012 Games**

## Section C: The Legacy of 2012 – Options for the future

The new Olympic Park will be London's first major park for over 100 years. As well as creating a leisure environment for east Londoners, it provides an opportunity to develop space around the Olympic Park to provide wider benefits such as jobs or housing. How well will London's 2012 Games provide a legacy for the people of east London?

For this section, we would like you to suggest what our future priorities should be to ensure that the 2012 Games legacy is sustainable.

Should they be –

- Economic – focusing on jobs
- Social – focusing on local people
- A mixture of both the economic and social?

We would like you to consider the following options. You could use your scores in Figure 29 to help you decide what east London most needs.

### Economic Options

#### Option 1      **Develop a 'Green Park' for sustainable employment and research**

Create a range of eco-friendly businesses based around the Olympic Park. These would:

- develop further aspects of sustainable living, leading research into green technology e.g. in buildings and building materials, energy use and conservation, and transport
- create a range of new 'green' jobs in construction, including apprenticeships for young people and employment for highly qualified researchers and managers
- expand to create contracts elsewhere in the UK, promoting London as a model for other cities.

#### Option 2      **Develop a new Technology Park**

Develop new research, managerial and professional jobs in hi-tech industries around the Media and Broadcasting Centre. These would:

- develop the *knowledge economy* of the area
- create a '*Silicon Valley*' of east London, encouraging companies such as Google, Facebook and Intel
- attract companies to lead new IT research.

#### Option 3      **Create a world-class Sports Park**

Maximise the economic use of venues e.g. the Olympic Stadium, Aquatics Centre, Hockey Stadium. This would:

- create a new world-class sporting park, holding major national and international sports and leisure events
- generate jobs in the venues themselves
- create further employment in the *hospitality industry* and those supplying goods to it.

## Social Options

### Option 4      **Develop sustainable housing**

Develop 2000 world-class sustainable homes as an environmental *flagship*. These would:

- create homes which would conform to the highest *carbon neutral* standards, exceeding the new 2015 Environmental Building Standards
- create a new high status suburb for managerial and professional people.

### Option 5      **Build 10 000 affordable homes**

Create a large supply of affordable social housing run by housing associations in and around the Olympic Park to create a housing legacy of 2012. These would:

- create a mix of flats, starter homes, and homes built for larger families
- create a mix of private and social housing, built in bulk to reduce costs.

To help fund social housing, some large high-quality houses would be built for professionals.

### Option 6      **Develop a world-class education facility**

A world-class specialist sports university should be built around the Olympic Stadium.

This would:

- provide a legacy of sports education and training facilities to support young people throughout the UK
- improve UK sporting achievement
- lead world research into participation in sport by young people.

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