15 Urbanisation

'The invasion from the countryside … is overwhelming the ability of city planners and governments to provide affordable land, water, sanitation, transport, building materials and food for the urban poor. Cities such as Bangkok, Bogota, Bombay, Cairo, Delhi, Lagos and Manila each have over one million people living in illegally developed squatter settlements or shanty towns.'

L. Timberlake, *Only One Earth*, 1987

Urban growth – trends and distribution

Urbanisation is defined as the process by which an increasing proportion of the total population, usually that of a country, lives in towns and cities. Although the process began at least as far back as the fourth millennium BC (Figure 14.2), the number of people living in urban areas formed, until fairly recently, only a small proportion of a country's population. One estimate suggests that in 1800 only 3 per cent of the world's population were urban dwellers, a figure that has risen, according to latest UN estimates, to 50 per cent (2008) and which is predicted to rise to 60 per cent (Figure 15.2) before 2025.

Rapid urbanisation has occurred twice in time and space.

1 During the 19th century, in what are now referred to as the economically more developed countries, industrialisation led to a huge demand for labour in mining and manufacturing centres. Urbanisation was, in these parts of the world, a consequence of economic development.

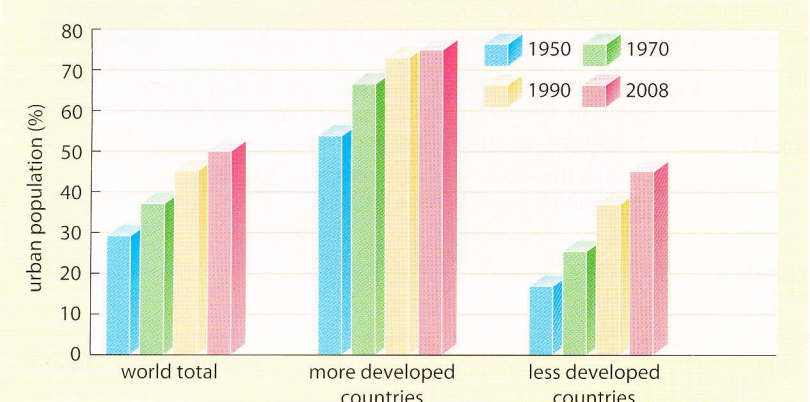
2 Since the 1950s, in the economically less developed countries, the twin processes of migration from rural areas (page 366) and the high rate of natural increase in population (resulting from high birth rates and falling death rates, Figure 13.10) have resulted in the uncontrolled growth of many cities. Urbanisation is, in the developing countries, a consequence of population movement and growth and is not, as was previously believed, an integral part of development.

In 2008, the UN claimed that 74 per cent of the total population lived in urban areas of the developed countries, and 45 per cent in developing countries (the prediction for 2050 is 86 and 67 per cent respectively) (Figure 15.1).

Simultaneous with urbanisation has been the growth of very large cities. Whereas the only cities in the world with a population exceeding 1 million in 1900 were London and Paris, there were, again according to the UN, 70 in 1950 and 410 in 2005. Of these cities, most of which are in developing countries and including China, 48 had a population of over 5 million with 18 – the so-called **megacities** – exceeding 10 million. Although the largest cities are named and listed in rank-order of size in Figure 15.3, their population is not given due to problems in collecting accurate data, although figures are available from the UN's World Urbanisation Prospects. These problems include:

- the use of different criteria by countries to define the size of an urban area, e.g São Paulo city is quoted as 10.239 million, its urban agglomeration as 18.333 million (2007), while other countries give data for conurbations, e.g. Osaka-Kobe
- problems in collecting accurate census data (e.g. within shanty towns) or accurately estimating natural changes made annually between each 10-year census
- difficulties in obtaining accurate migration figures, especially where refugees and illegal immigrants are involved (page 367).

Figure 15.1
Urban population growth (UN)



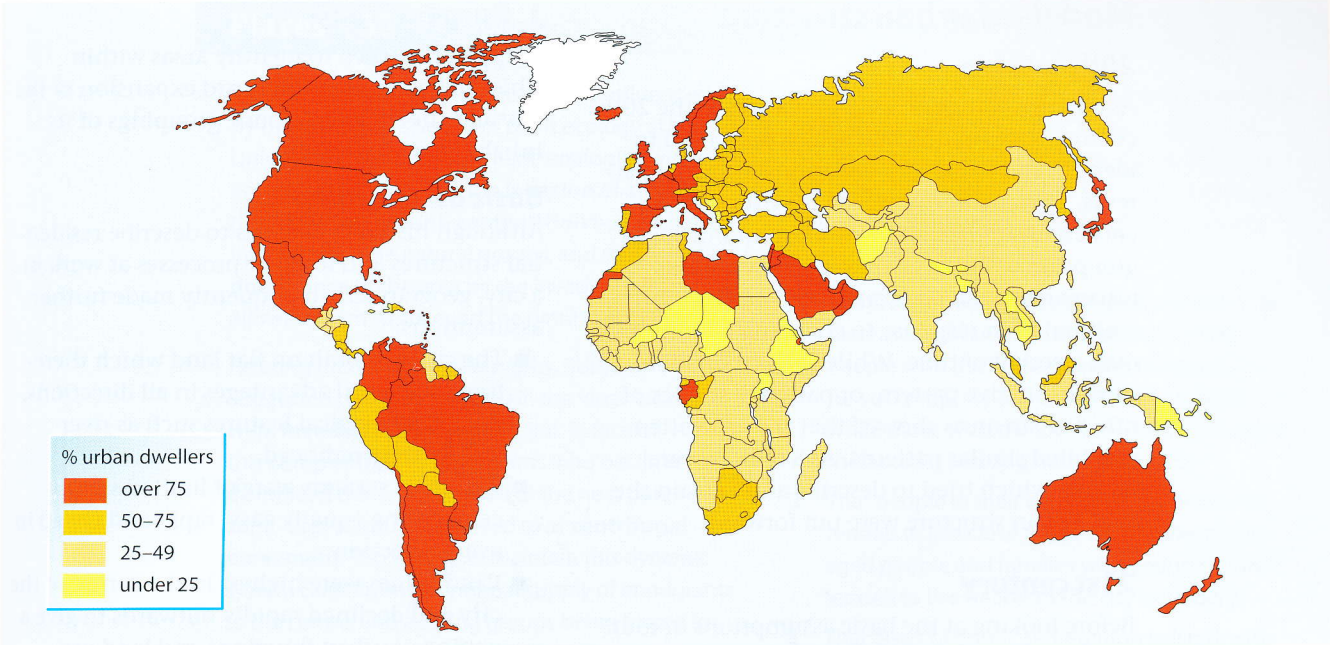


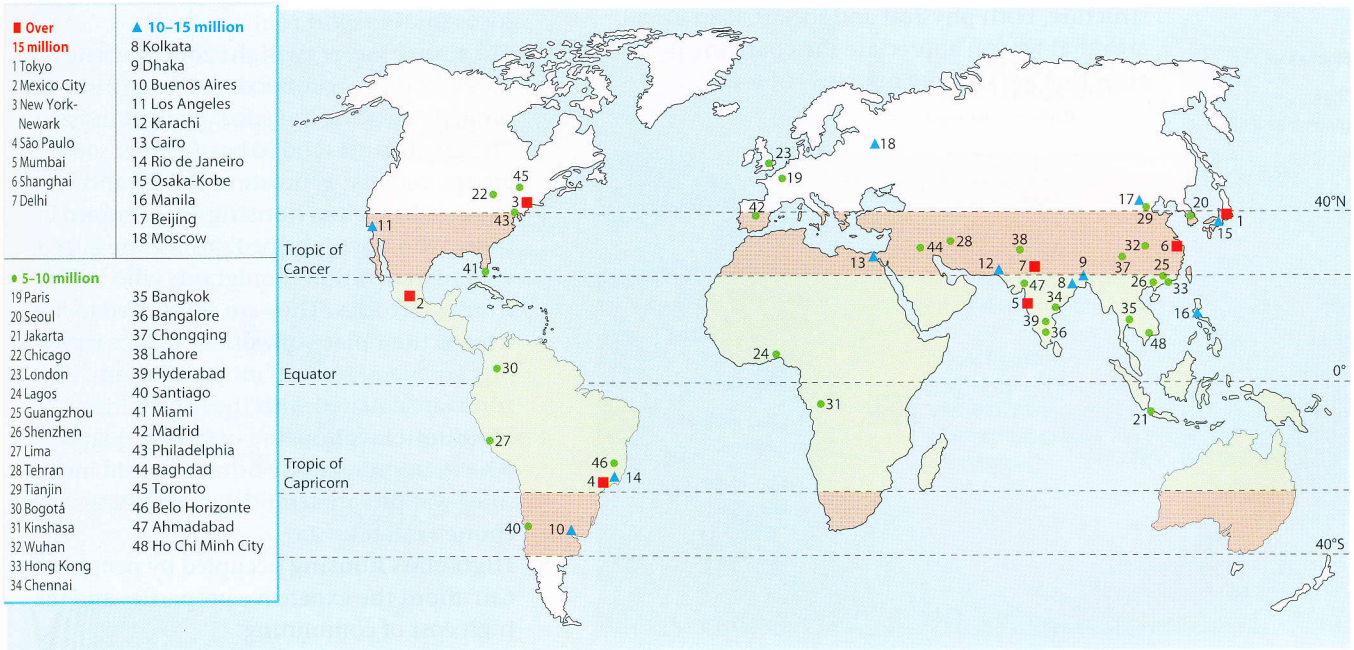
Figure 15.2
National levels of urbanisation

There have been several noticeable trends in the growth of the so-called 'million cities' since the mid-1980s.

- Most of the largest cities are in South-east Asia and Latin America. Of 410 global cities with a population in excess of 1 million in 2005, 117 were in China, 40 in India and 17 in Brazil (the USA had 39).
- Most of the fastest-growing cities are in South-east Asia although in-migration is usually more significant than natural increase.
- Although the rate of growth slowed in many developed countries in the second half of the 20th century, it has increased again, mainly due to immigration, in this century.
- In China, with the most large cities, it is those nearest the coast that have grown most rapidly due to rural–urban migration (Places 41, page 363 and Places 98, page 618).

What affects most people who live in large urban areas is not the actual population size of the city but rather its density. Of the world's 100 largest cities, the 10 with the lowest population density are in developed countries (mainly North America) and the 15 with the highest density are in developing countries.

Figure 15.3
Distribution of world cities with populations over 5 million, with rank order 2005



Models of urban structure

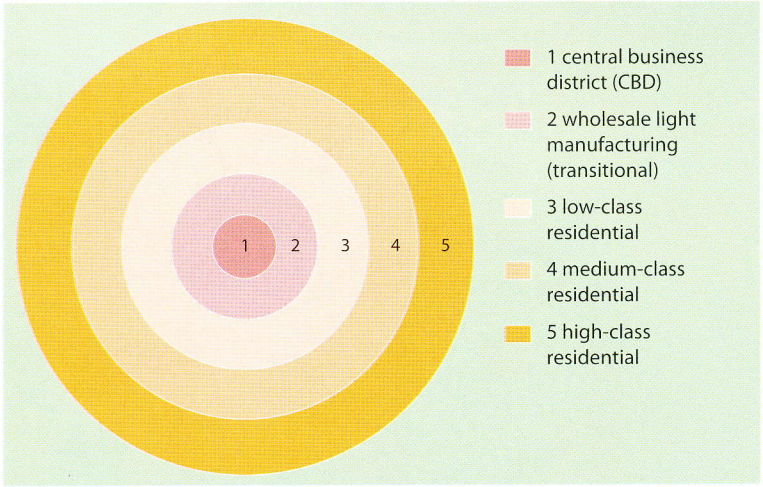
20th century

As cities grew in area and population in the 20th century, geographers and sociologists tried to identify and to explain variations in spatial patterns. These patterns, which may show differences and similarities in land use and/or social groupings within a city, reflect how various urban areas evolved economically and socially (culturally) in response to changing conditions over a period of time. While each city had its own distinctive pattern, or patterns, studies of other urban areas showed that they too often exhibited similar patterns. As a result several models which tried to describe and explain the then urban structure were put forward.

21st century

Before looking at the basic assumptions of four such models, together with the theory behind them, their value at the time and their limitations, it should be pointed out that, to many present-day geographers, urban models belong to the realm of 'historic geography'. Urban models, like all models (Framework 12, page 352), have limitations and have always been open to criticism. It is, therefore, understandable why models put forward at a particular time (early to mid-20th century and before the advent of the post-industrial city), for a particular place (Western Europe and North America), and using criteria and referring to processes that may have changed (increased mobility and migration) should be, to some, ready for the 'recycling bin'. Yet perhaps it is only by understanding the early structure, both physical and social, of an urban area that we can appreciate the changing processes that are shaping our cities of today.

Figure 15.4
The Burgess concentric model



1 Burgess, 1924

Burgess attempted to identify areas within Chicago based on the outward expansion of the city and the socio-economic groupings of its inhabitants (Places 52).

Basic assumptions

Although his main aim was to describe residential structures and to show processes at work in a city, geographers subsequently made further assumptions:

- The city was built on flat land which therefore gave equal advantages in all directions, i.e. morphological features such as river valleys were removed.
- Transport systems were of limited significance being equally easy, rapid and cheap in every direction.
- Land values were highest in the centre of the city and declined rapidly outwards to give a zoning of urban functions and land use.
- The oldest buildings were in, or close to, the city centre. Buildings became progressively newer towards the city boundary.
- Cities contained a variety of well-defined socio-economic and ethnic areas.
- The poorer classes had to live near to the city centre and places of work as they could not afford transport or expensive housing.
- There were no concentrations of heavy industry.

Burgess's concentric zones

The resultant model (Figure 15.4) shows five concentric zones:

1 The **central business district** (CBD) contains the major shops and offices; it is the centre for commerce and entertainment, and the focus for transport routes.

2 The **transition** or **twilight zone** is where the oldest housing is either deteriorating into slum property or being 'invaded' by light industry. The inhabitants tend to be of poorer social groups and first-generation immigrants.

3 Areas of **low-class housing** are occupied by those who have 'escaped' from zone 2, or by second-generation immigrants who work in nearby factories. They are compelled to live near to their place of work to reduce travelling costs and rent. In modern Britain, these zones are equated with the inner cities.

4 **Medium-class housing** of higher quality which, in present-day Britain, would include inter-war private semi-detached houses and council estates.

5 **High-class housing** occupied by people who can afford the expensive properties and the high cost of commuting.

The model's limitations are listed in Figure 15.15.

Places 52 Chicago: a concentric urban structure

Burgess, in producing his model, was influenced by the emerging science of plant ecology at the University of Chicago. He made analogies with such ecological processes as the **invasion** of an area by competing groups, **competition** between the invaders and the natural groups, and the eventual **dominance** of the area by the invaders which allowed them to **succeed** the natural groups.

Relating this to urban geography, Burgess suggested that people living in the inner zone were **invaded** by newcomers and, in face of this **competition** by immigrants who became **dominant** there, **succeeded** to the next outer zone – a process also referred to as **centrifugal movement**. The energy to maintain this dynamic system came from a continual supply of immigrants to the centre, and existing groups being forced (or choosing) to move towards the periphery.

Chicago lies on the shores of Lake Michigan, with its CBD, known as the 'Loop', facing the lake. Surrounding the CBD, the city's housing developed a distinctive pattern (Figure 15.5). The initial migrants, from north-western Europe, settled around the CBD. In time, they were replaced by newer immigrants from southern Europe (especially Italy) and by Jews who were, in turn, replaced by blacks from the American south (Figure 15.6). This led to the creation of a series of income, social and ethnic zones radiating outwards from the centre. These zones showed:

1 That wealth, as seen by the quality of housing, increased towards the outskirts of the city. People with the highest incomes lived in the newest property (on the north-west fringe) while those with the lowest incomes occupied the poorest housing next to the CBD.

2 That people in their early twenties or over 60 tended to live close to the CBD, while middle-aged people and families with young children tended to live nearer to the city boundary.

3 That areas of ethnic segregation existed, with the early white immigrants – whose wealth had tended to increase in relation to the length of time they had lived in the city – living towards the outskirts, and non-white groups living nearer to the city centre, e.g. in China Town and the black belt.

Figure 15.5
Urban areas of Chicago (*after* Burgess)

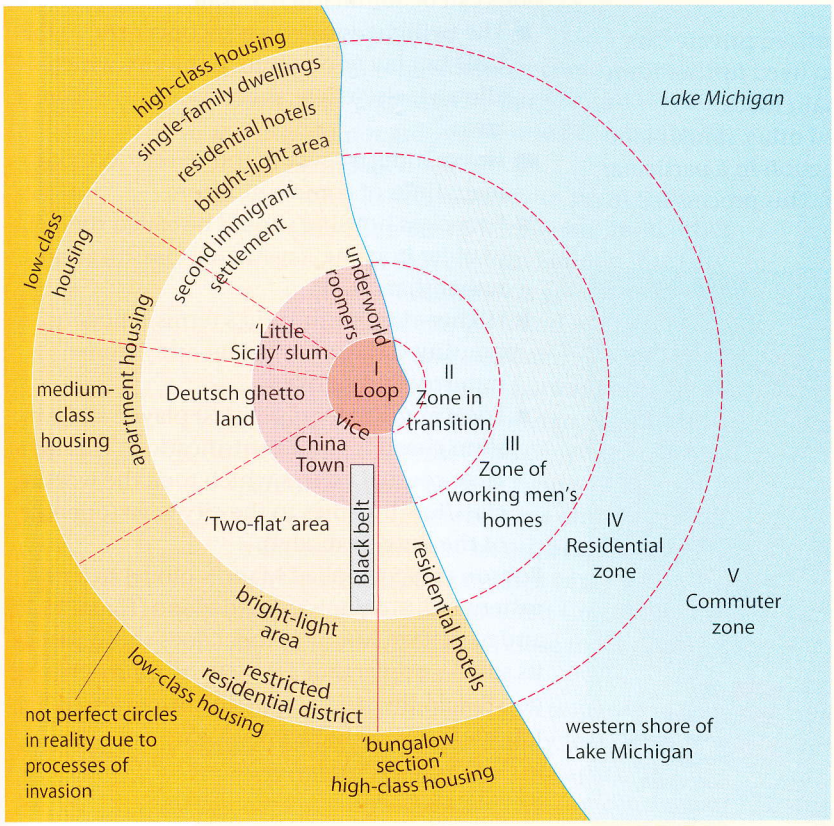
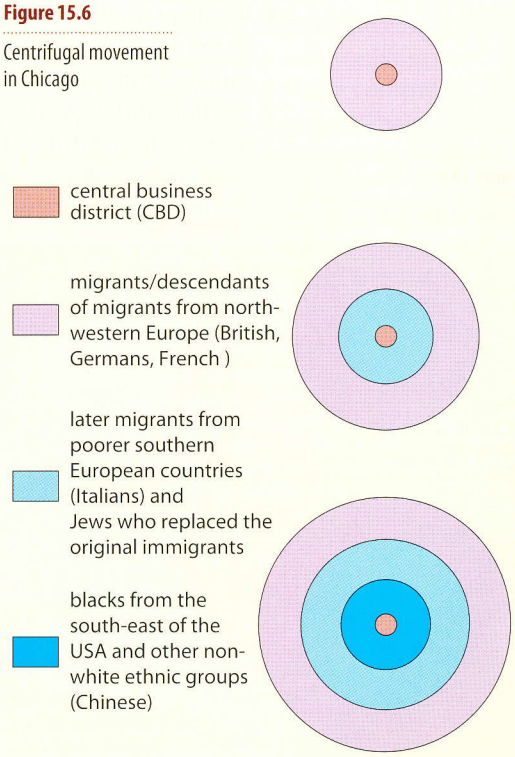


Figure 15.6
Centrifugal movement in Chicago



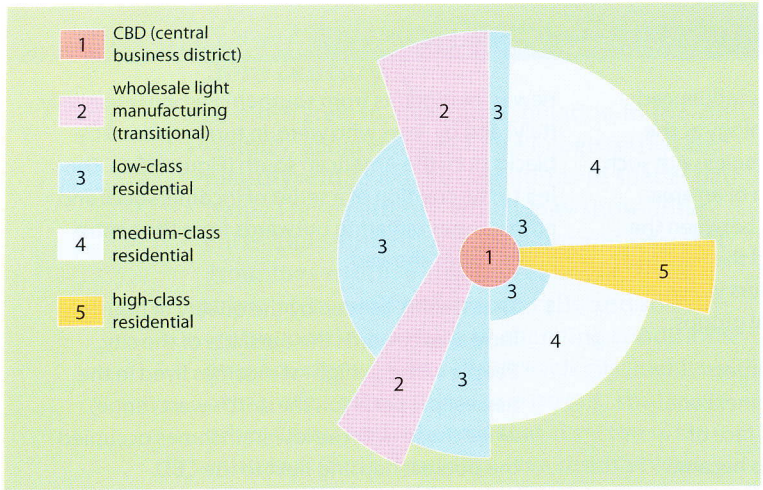


Figure 15.7
The Hoyt sector model

2 Hoyt, 1939

Hoyt's model was based on the mapping of eight housing variables for 142 cities in the USA. He tried to account for changes in, and the distribution of, residential patterns.

Basic assumptions

Hoyt made the same implicit assumptions as had Burgess, with the addition of three new factors:

- Wealthy people, who could afford the highest rates, chose the best sites, i.e. competition based on 'ability to pay' resolved land use conflicts.
- Wealthy residents could afford private cars or public transport and so lived further from industry and nearer to main roads.
- Similar land uses attracted other similar land uses, concentrating a function in a particular area and repelling others. This process led to a 'sector' development.

Hoyt's sector model

Hoyt suggested that areas of highest rent tended to be alongside main lines of communication and that the city grew in a series of wedges (Figure 15.7). He also claimed that once an area had developed a distinctive land use, or function, it tended to retain that land use as the city extended outwards, e.g. if an area north of the CBD was one of low-class housing in the 19th century, then the northern suburbs of the late 20th century would also be likely to consist of low-class estates. Calgary, in Canada, is the standard example of this model. The model's limitations are listed in Figure 15.15.

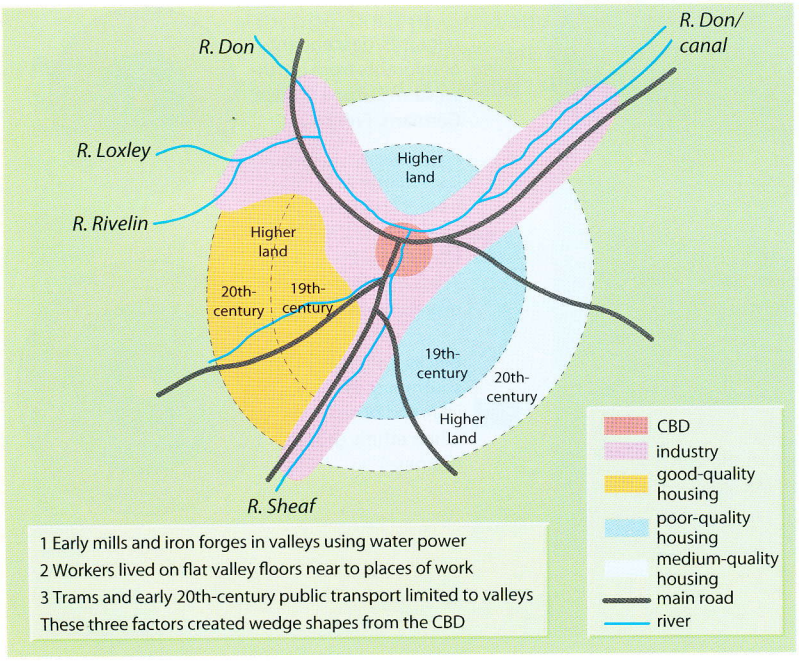
3 Mann, 1965

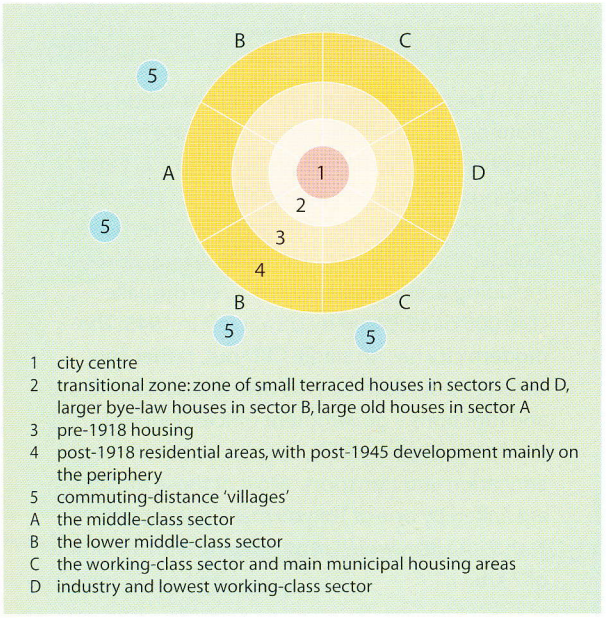
Mann tried to apply the Burgess and Hoyt models to three industrial towns in England: Huddersfield, Nottingham and Sheffield (Figure 15.8). His compromise model (Figure 15.8) combined the ideas of Burgess's concentric zones and Hoyt's sectors. Mann assumed that because the prevailing winds blow from the south-west, the high-class housing would be in the south-western part of the city and industry, with its smoke (this was before Clean Air Acts), would be located to the north-east of the CBD. His conclusions can be summarised as follows.

- The twilight zone was not concentric to the CBD but lay to one side of the city which allowed, elsewhere, more wealthy residential areas.
- Heavy industry was found in sectors along main lines of communication.
- Low-class housing should be called the 'zone of older housing' (age-based classification, rather than social).
- Higher-class or, in Hoyt's terms, 'modern' housing was usually found away from industry and smoke.
- Local government (politics) played a role in slum clearance and gentrification. This led to large council estates which took the working class/low incomes to the city edge (opposite of the Burgess model).

Robson (1975) applied Mann's model to a north-eastern industrial town, Sunderland (Figure 15.10), and to Belfast. Mann's model does show, despite its small sample, that a variety of approaches are possible to the study of urban structures. Its limitations are listed in Figure 15.15.

Figure 15.8
Growth of Sheffield





1 city centre
2 transitional zone: zone of small terraced houses in sectors C and D, larger bye-law houses in sector B, large old houses in sector A
3 pre-1918 housing
4 post-1918 residential areas, with post-1945 development mainly on the periphery
5 commuting-distance 'villages'
A the middle-class sector
B the lower middle-class sector
C the working-class sector and main municipal housing areas
D industry and lowest working-class sector

Figure 15.9
Mann's model of urban structure

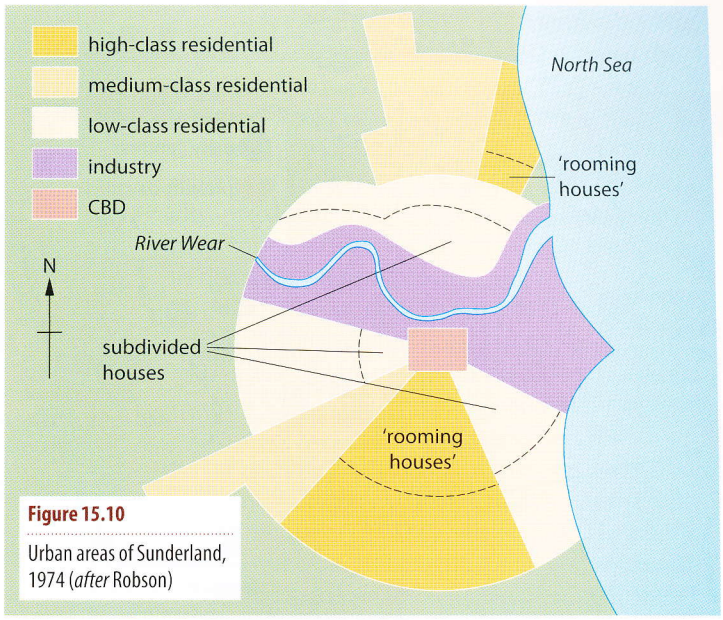


Figure 15.10
Urban areas of Sunderland, 1974 (*after* Robson)

4 Ullman and Harris, 1945

Ullman and Harris set out to produce a more realistic model than those of Burgess and Hoyt but consequently ended with one that was more complex (Figure 15.11) – and more complex models may become descriptive rather than predictive if they match reality too closely in a specific example (Framework 12, page 352).

Basic assumptions

- Modern cities have a more complex structure than that suggested by Burgess and Hoyt.
- Cities do not grow from one CBD, but from several independent nuclei.
- Each nucleus acts as a growth point, and probably has a function different from other nuclei within that city. (In London, the City is financial; Westminster is government and administration; the West End is retailing and entertainment; and Dockland was industrial.)
- In time, there will be an outward growth from each nucleus until they merge as one large urban centre (Barnet and Croydon now form part of Greater London; Figure 13.7).
- If the city becomes too large and congested, some functions may be dispersed to new nuclei. (In Greater London, edge-of-city retailing takes place at Brent Cross and new industry has developed close to Heathrow Airport/M25/M4.)

Multiple nuclei developed as a response to the need for maximum accessibility to a centre, to keep certain types of land use apart, for differences in land values and, more recently, to decentralise (Places 53). The model's limitations are listed in Figure 15.15.

Urban structure models: conclusions

The four models described were put forward to try to explain differences in structure within cities in the developed world. It must be remembered that:

- each model will have its limitations (Figure 15.15)
- if you make a study of your local town or city, you must avoid the temptation of saying that it *fits* one of the models – at best it will show characteristics of one or possibly two; each city is unique and will have its own structure – a pattern not necessarily derived according to any existing model (Framework 12, page 352).

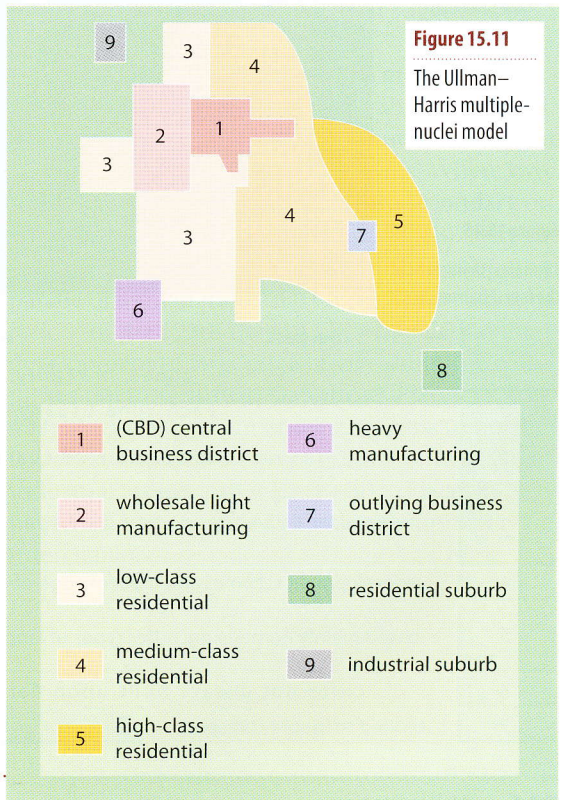


Figure 15.11
The Ullman–Harris multiple-nuclei model

Places 53 Tokyo: a multiple-nuclei urban structure

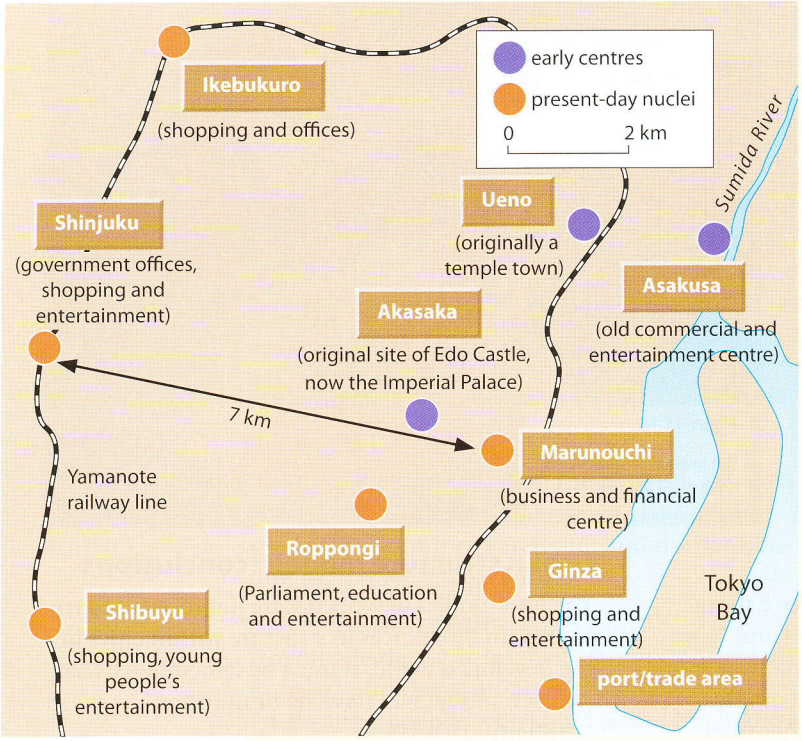


Figure 15.12
Multiple nuclei in Tokyo, 1994

Tokyo began to grow in the late 16th century around the castle of the Edo Shogunate (near the present Imperial Palace, Figure 15.12). Later religious, cultural and financial districts developed to the north-east. Over the centuries, the mainly wooden-built city was destroyed several times, including during the 1923 Kanto earthquake (140 000 deaths) and by US aircraft in 1945. The modern city has no single CBD but, rather, has several nuclei each with its own specialist land use and functions – government offices (Figure 15.13), shopping (Figure 15.14), finance, entertainment, education and transport. Most of these nuclei are linked by one of Tokyo's many railways, the Yamanote line, which forms a circle with a diameter of 7 km.

Figure 15.13
The Shinjuko business district

Figure 15.14
The Ginza shopping district

Figure 15.15
Limitations/criticisms of the four urban models

	Burgess	Hoyt	Mann	Ullman–Harris
1	zones, in reality, are never as clear-cut as shown on each model			
2	each zone usually contains more than one type of land use/housing			
3	no consideration of characteristics of cities outside USA and north-west Europe ↓ based on 1 USA city	↓ based on 142 USA cities	↓ based on 3 English cities (in north and Midlands)	↓ based on cities in economically more developed world
4	redevelopment schemes and modern edge-of-city developments are not included (most of the models pre-date these developments)			
5	based mainly on housing: other types of land use neglected		industry not always to north-east of British cities	
6	cities not always built upon flat plains			
7	tended to ignore transport			

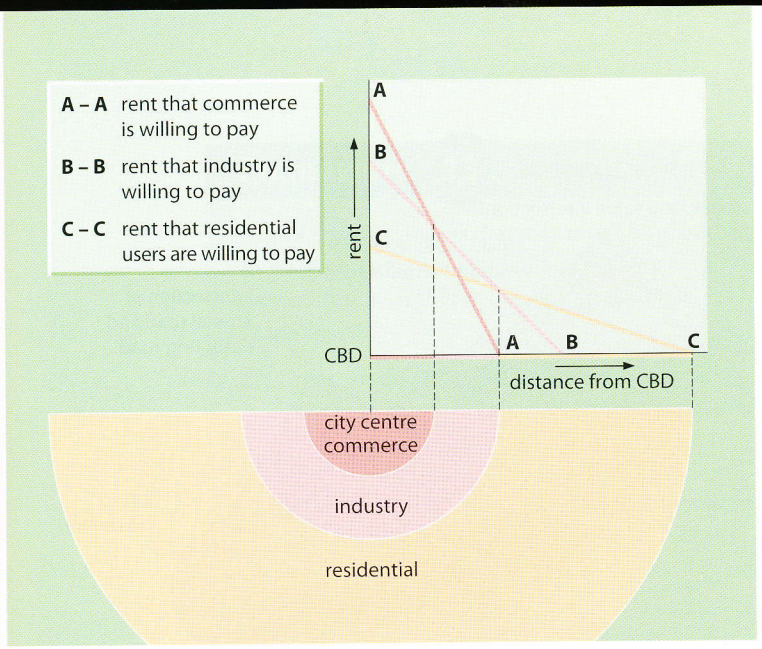


Figure 15.16
Bid–rent curves

The land value model or bid–rent theory

This model is the urban equivalent of von Thünen's rural land use model (page 471) in that both are based upon locational rent. The main assumption is that in a free market the highest bidder will obtain the use of the land. The highest bidder is likely to be the one who can obtain the maximum profit from that site and so can pay the highest rent. Competition for land is keenest in the city centre. Figure 15.16 shows the locational rent that three different land users are prepared to pay for land at various distances from the city centre.

The most expensive or 'prime' sites in most cities are in the CBD, mainly because of its accessibility and the shortage of space there. Shops, especially department stores, conduct their business using a relatively small amount of ground-space, and due to their high rate of sales and turnover they can bid a high price for the land (for which they try to compensate by building upwards and by using the land intensively). The most valuable site within the CBD is called the **peak land value intersection** or PLVI – a site often occupied by a Marks and Spencer store! Competing with retailers are offices which also rely upon good transport systems and, traditionally, proximity to other commercial buildings (this concept does not have the same relevance in centrally planned economies).

Away from the CBD, land rapidly becomes less attractive for commercial activities – as indicated by the steep angle of the bid–rent curve (A–A) in Figure 15.16. Industry, partly because it takes up more space and uses it less intensively, bids for land that is less valuable than that prized by shops and offices. Residential land, which has the flattest of the three bid–rent curves (C–C), is found further out from the city centre where the land values have decreased due to less competition. Individual householders cannot afford to pay the same rents as shopkeepers and industrialists.

The model helps to explain housing (and population) density. People who cannot afford to commute have to live near to the CBD where, due to higher land values, they can only obtain small plots which results in high housing densities. People who can afford to commute are able to live nearer the city boundary where, due to lower land values, they can buy much larger plots of land, which creates areas of low housing density. Figure 15.17 shows the predicted land use pattern when land values decrease rapidly and at a constant rate from the city centre. The resultant pattern is similar to that suggested by Burgess (Figure 15.4).

One basis of this model is 'the more accessible the site, the higher its land value'. Rents will therefore be greater along main routes leading out of the city and along outer ring roads. Where two of these routes cross, there may be a secondary or subsidiary land value peak (Figure 15.18). Here the land use is likely to be a small suburban shopping parade or a small industrial estate. The 'retail revolution' of the 1980s (page 432), which led to the development of large edge-of-city shopping complexes (MetroCentre in Gateshead, Places 55, page 433, Bluewater in Kent and Brent Cross in north London), has altered this pattern. Similarly, large industrial estates and science parks (Places 86, page 566) have been located near to motorway interchanges.

Figure 15.17
Urban land use patterns based on land values

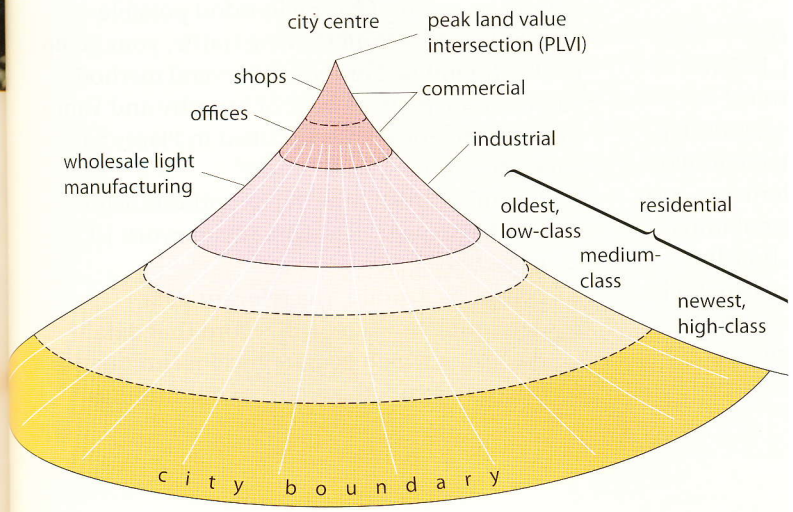
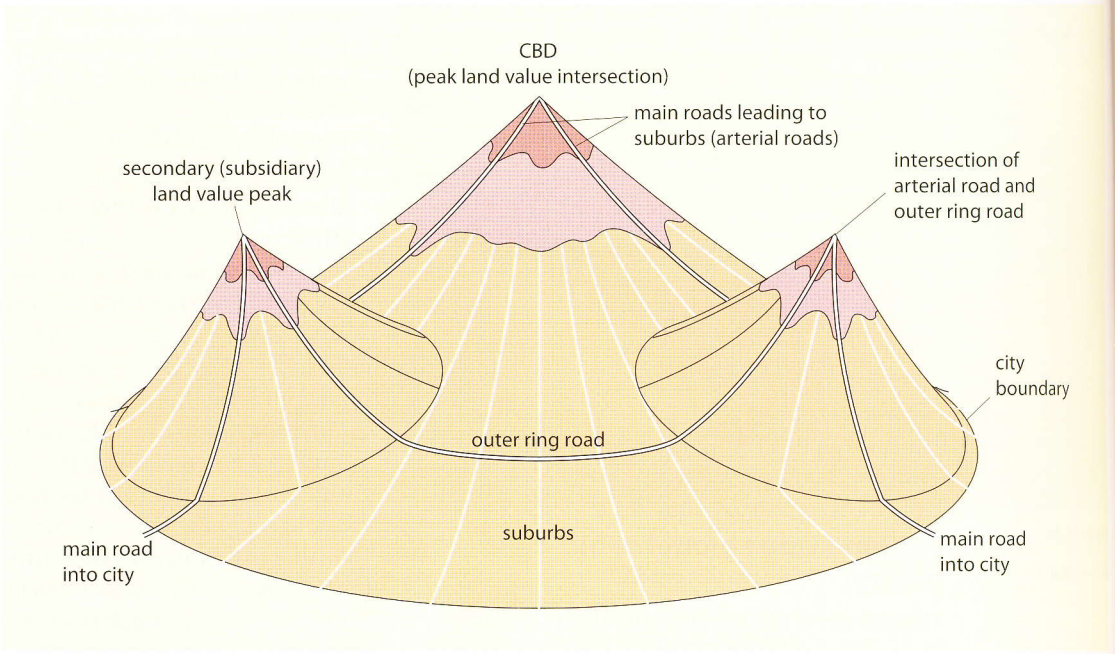


Figure 15.18
Secondary land value peaks



Functional zones within a city

Different parts of a city usually have their own specific functions (Figure 15.12). These functions may depend upon:

- the age of the area: buildings usually get older towards the city centre except that most CBDs and many old inner-city areas have been redeveloped and modernised
- land values: these increase rapidly from the city boundary in towards the CBD (Figure 15.16)
- accessibility: some functions are more dependent on transport than others.

While each urban area will have its own unique pattern of functional zones and land use, most British cities exhibit similar characteristics. These characteristics have been summarised and simplified in Figure 15.19 where:

Zone A = the CBD (shops and offices)
Zone B = old inner city (including, before redevelopment, 19th-century/low-cost/low-class housing, industry and warehousing and, after redevelopment/regeneration, modern low-cost housing and small industrial units
Zone C = inter-war (medium-class housing)
Zone D = suburbs (modern/high-cost/high-class housing, open space, new industrial estates/science and business parks, shopping complexes and office blocks).

The central business district (CBD)

The CBD is regarded as the centre for retailing, office location and service activities (banking and finance). It contains the principal commercial streets and main public buildings and forms the **core** of a city's business and commercial activities. Some large cities, such as London and Tokyo (Figure 15.12) may have more than one CBD. Other types of city-centre land use, such as government and public buildings, churches and educational establishments, are classed as non-CBD functional elements.

The delimitation of the CBD

Most of you are likely to have relatively easy access to a town or city centre. If so, your geography group may be able to make one or more visits to that CBD with the aim of trying to delimit its extent. Bearing in mind possible dangers, such as from moving traffic, your group could attempt one or more of several methods, based on the pioneer work of Murphy and Vance in North America, and described in Places 54, page 430. Ideally you should:

1 formulate one (or more) hypothesis before you begin your fieldwork (Framework 10, page 299)
2 collect, as a group, the relevant data
3 determine how you will record that data (i.e. using which geographical techniques)
4 discuss – again as a group – your findings.

Framework 13 Stereotypes

One of several dangers that may result from putting forward geographical models and from making generalisations is that of creating stereotypes. For example:

a Urban models have the tendency to suggest that some areas are 'better' than others, e.g. that all housing in inner city areas is low-class/low-income and that only the elderly and single-parent families live here in a zone lacking open space, whereas wealthy families only reside in the 'tree-lined' suburbs.

b Different groups of people tend to develop their own customs and ways of life. By putting such characteristics together, we make mental pictures and develop preconceptions of different groups of people, i.e. we create stereotypes.

The following unsupported, emotive statements may not only be grossly inaccurate, they may also be considered, by many, to be offensive.

- The Germans, on holiday, are always first to the swimming pool and dining room.
- All Italians drive cars dangerously.
- All Chinese and Japanese are small.
- *Favelas* are shanty settlements whose residents have no chance of improving their living conditions and who can only survive by a life of crime (see below).
- The Amazon Amerindian way of life remains undeveloped as the people are lazy and unintelligent (see below).

The following accounts are based on the author's experiences in Brazil.

Example One

'According to books which I had read in Britain and advice given to me by guides in São Paulo, *favelas* were to be avoided at all costs (Places 57, page 443). Any stranger entering one was sure to lose his watch, jewellery and money and was likely to be a victim of physical violence.

With this in mind, I set off in a taxi to take photographs of several *favelas*. On reaching the first *favela*, to my horror the driver turned into the settlement and we bumped along an unmade track. He kept stopping and indicating that I should take photographs. Expecting at each stop that the car would be attacked and my camera stolen, I hastily took pictures – which turned out to be over-exposed because, not daring to open windows, I took them through the windscreen and looking into the sun!

Suddenly the taxi spluttered and stopped. In one movement, I had hidden my camera and was outside trying to push the car. I raised my eyes to find three well-built males helping me to push the car. Which one would hit me first? I smiled and they smiled. I pointed to each one in turn and called him after one of Brazil's football players and then referred to myself as Lineker. Huge smiles, big pats on the back and comments like *Ingleesh amigo* were only halted by the car re-starting. As we drove away, I began to question my original stereotyped view of a *favela* inhabitant.'

Example Two

'I was surprised to find, on landing at Manaus airport in the middle of the Amazon rainforest, that our courier was an Amerindian. He dashed around quickly getting our party organised and our luggage collected. (He certainly did not seem to be slow or lazy.) He later admitted, and proved, that he could speak in seven languages (hardly the sign of someone unintelligent – how many can *you* speak?). I asked him why so few Amerindians appeared to have good jobs and why he kept talking about returning to the jungle. His reply was simple: "to avoid hassle". He considered that the Indian lifestyle was preferable to the Western one with its quest for material possessions. Had he returned to the jungle, he would have rejoined his family and become a shifting cultivator living in harmony with the environment (Places 66, page 480). Is that traditional way of life really less demanding of intelligence than that imposed by invading timber and beefburger transnationals engaged in the destruction of large tracts of rainforest?'

From these examples, we can see how easy it is to accept stereotypes without realising we are doing so, and also how seeing a situation for ourselves may lead us to question our original picture. Should geographers take a role in overcoming the problems of stereotyped images (on the basis of which planning decisions, for example, may be made) by helping to provide relatively unbiased information to improve knowledge and understanding?

Figure 15.19

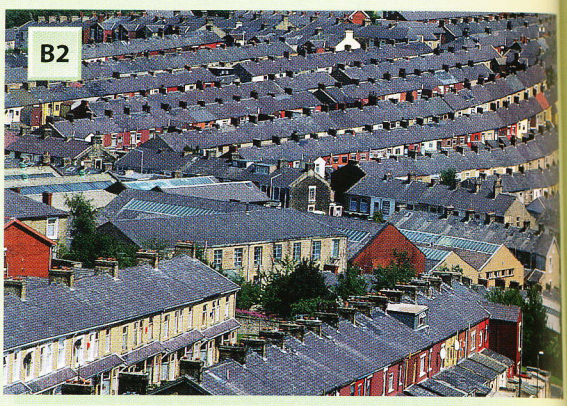
Functional zones in a British city

A1 Indoor shopping mall (St Enoch's Centre, Glasgow)
A2 High-rise office development (the City of London)

B1 An inner-city corner shop (Leeds)
B2 19th-century terraced housing (Lancashire)
B3 Inner-city redevelopment (London)
B4 19th-century industry and transport (Manchester)

A CBD

B Inner city



C Inter-war areas

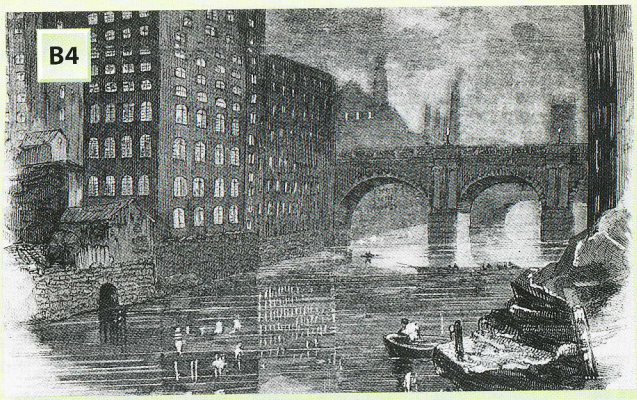
D Edge of city

1 **Shopping types**

2 **Residential styles**

C1 A suburban shopping parade
C2 Inter-war semi-detached private housing (Enfield)
C3 Inter-war council housing estate (Carlisle)
C4 Public open space (Brockwell Park, London)

D1 Edge-of-city shopping complex (Lakeside shopping centre, Dartford)
D2 A modern private housing estate (Wirral)
D3 Post-war edge-of-city council housing estate (Kenton, Newcastle upon Tyne)
D4 Business/science park (Guildford)



2 **Residential styles**

3 **Other land uses**

The main characteristics of the CBD

1 The CBD contains the major retailing outlets. The principal department stores and specialist shops with the highest turnover and requiring largest threshold populations compete for the prime sites (Figure 15.19 A1).

2 It contains a high proportion of the city's main offices (Figure 15.19 A2).

3 It contains the tallest buildings in the city (more typical in North America), mainly due to the high rents which result from the competition for land (Figure 15.16).

4 It has the greatest number and concentration of pedestrians.

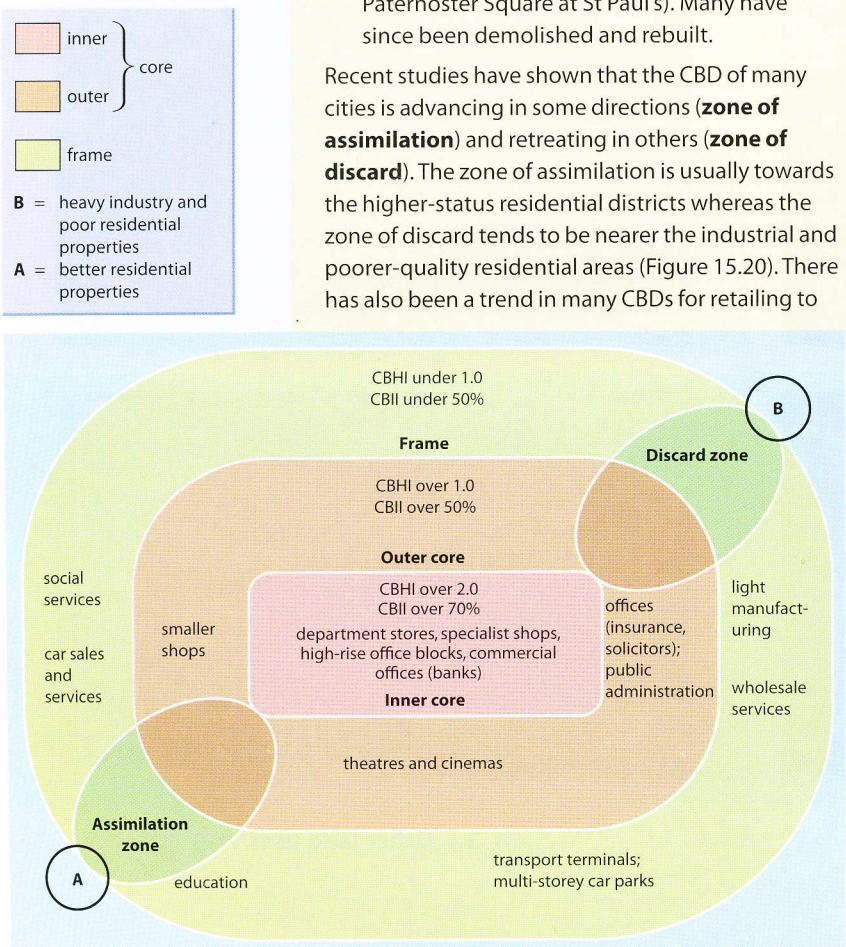
5 It has the greatest volume and concentration of traffic. The city centre grew at the meeting point of the major lines of communication into the city and therefore had the greatest accessibility.

6 It has the highest land values in the city (Figure 15.17).

7 It is constantly undergoing change, with new shopping centres, taller office blocks and traffic schemes. Some of the grandiose schemes of the early 1960s are now viewed as out of date and unattractive (Birmingham's Bull Ring; London's Paternoster Square at St Paul's). Many have since been demolished and rebuilt.

Recent studies have shown that the CBD of many cities is advancing in some directions (**zone of assimilation**) and retreating in others (**zone of discard**). The zone of assimilation is usually towards the higher-status residential districts whereas the zone of discard tends to be nearer the industrial and poorer-quality residential areas (Figure 15.20). There has also been a trend in many CBDs for retailing to be static, or even declining (due to competition from out-of-town developments), while offices, banks and insurance companies are increasing in terms of space taken and income generated.

Figure 15.20
The core and frame concept for the CBD



Mapping the characteristics of the CBD

The following fieldwork methods may be used to evaluate the seven characteristics described above.

1 **Land use mapping of shops**

a Plot the location of all the shops. Where the ratio of shops to other properties is more than 1:3, count that area as being within the CBD (based on evidence that over 33 per cent of buildings in the CBD are connected with retailing).

b An alternative method is to include within the CBD all shops that are within 100 m (or any agreed distance) of adjacent shops. This may produce a central 'core' and several smaller groupings.

c A third possibility is to take the mean frontage (in metres) of, for example, the middle five buildings or shop units in a block. Shop frontages are likely to be greatest near to the PLVI where most department stores are located.

2 **Land use mapping of offices** Method **1a** above could be repeated using offices instead of shops, and a ratio of 1:10. This recognises that, at ground-floor level, offices are less numerous than shops. Include banks and building societies in your count.

3 **Height of buildings** Plot the height (i.e. the number of storeys) of individual buildings, or the mean of a group of buildings in the centre of a block. Most cities tend to have a sharp decline in building height at the edge of the CBD.

4 **Number of pedestrians** This is a group activity – the more groups the better! Each group counts the number of pedestrians passing a given point at a given time (e.g. 1100–1115 hours). The greater the number of sites (ideally chosen by using random numbers, Framework 6, page 159), the greater the accuracy of the survey. Define a pedestrian as someone of school age and over, walking into, out of or past a shop on your side of the street. These criteria may be altered as long as they are applied by all the groups.

5 **Accessibility to traffic** This is similar to the previous survey except that here vehicles are counted. Make sure all groups have the same definition of a vehicle, e.g. do you include a bicycle and/or pram?

6 **Land values** These might be expected to decline outwards at a fairly uniform rate. Providing rateable values can be obtained (try the rates office) and there is the time to process them (or a sample of the total), this is often a good indicator of the CBD. It may be useful to take the PLVI point and call this 100 per cent, and then convert the rateable index for all other properties as a percentage of the PLVI. It has been suggested that a figure of 20 per cent delimits the CBD for a British city.

7 **Changing land use and functions** This is a mapwork exercise using old maps of the central area (shopping maps are produced by GOAD plans) and superimposing onto them present-day land uses. Look for evidence of zones of assimilation and discard (Figure 15.20).

- **Central business index** This is probably the best method as it involves a combination of land use characteristics, building height and land values. The problem is in obtaining the necessary data, i.e.

  a the total floor area of all central or CBD functions

  b the total ground floor area (central and non-central functions)

  c the total floor area (upstairs floor area as well as the ground floor).

You may laboriously work this out from a large-scale plan, or choose to compromise by taking the mean of a sample of buildings in each block. From these data, two indices can be derived:

- The **central business height index**, or **CBHI**, which is expressed as:

$$\text{CBHI} = \frac{\text{total floor area of all CBD functions}}{\text{total ground floor area}}$$

- The **central business intensity index**, or **CBII**, which is expressed as:

$$\text{CBHI} = \frac{\text{total floor area of all CBD functions}}{\text{total ground floor area}} \times \frac{100}{1}$$

To be considered part of the CBD, the CBHI of a plot should be over 1.0 and the CBII over 50 per cent (Figure 15.21).

Plotting the data

Careful consideration should be given as to which cartographic technique is best applied to each set of collected data. You may wish to use one or several of the following: land use maps, isolines, choropleths, flow graphs, histograms, bar graphs, scattergraphs and transects. Alternatively, you may be able to devise a technique of your own. You may save time and produce results that are easier to compare by using tracing overlays and/or a computer.

Delimiting the CBD: conclusions

If you have carried out your own survey, your report might include comments on the following questions:

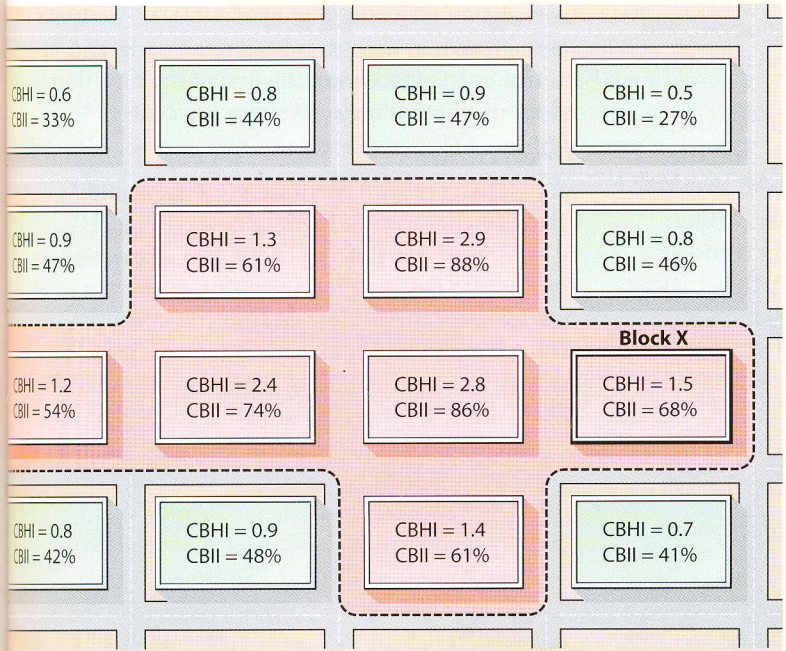
1 What problems did you encounter in collecting and refining the data?

2 Which of the methods used in collecting the data appeared to give the most, and the least, accurate delimitation of the CBD?

3 In your town, was there an obvious CBD; did you find an inner and an outer core (Figure 15.20)? Was there evidence of zones of assimilation and discard? Were there any specific functional zones other than shops and offices? Was the area of the CBD similar to your mental map (your preconceived picture) of its limits?

4 What refinements would you make to the techniques used if you had to repeat this task in a different urban area?

Figure 15.21
The central business index (CBI)



Figures for Block X
Total floor area of all CBD functions = 75 000 m^2
Total ground floor area = 50 000 m^2
Total floor area (all storeys) = 110 000 m^2

Therefore CBHI $= \frac{75\,000}{50\,000} = 1.5$

and CBII $= \frac{75\,000}{110\,000} = 68\%$

CBHI = 0.6
CBII = 33%
Blocks inside CBD

CBHI = central business height index
CBII = central business intensity index

(The shape of each block is more typical of a North American city than one in Britain.)

Retailing

Traditional shopping patterns

Traditionally, as neatly summarised by Prosser, 'Retailing in British cities has been based upon a well-established hierarchy, from the CBD or "High Street" at the top, through major district centres, local suburban centres, to neighbourhood parades and the local corner shop. Using numbers of outlets, floor space, type and range of goods, for example, as measures of size or "mass", Christaller's central place (page 407) and gravity models (page 410) have been applied to the hierarchical structure, relating mass to spatial distribution of shopping centres and their spheres of influence.'

Within this hierarchy were two main types of shop:

1 Those selling **convenience** or **low-order goods** which are bought frequently, usually daily, and are not sufficiently high in value to attract customers from further than the immediate catchment area, e.g. newsagents and small chain stores.
2 Those selling **comparison** or **high-order goods** which are purchased less frequently but which need a much higher threshold population, e.g. goods found in department stores and specialist shops.

The preferred location of these two types of shop was usually determined by the frequency of visit, their accessibility and the cost of land and, therefore, rent (page 425).

Convenience shops are commonly located in housing estates, both in the inner city and the suburbs, and in neighbourhood units so as to be within easy reach of their customers – often within walking distance. With a lower turnover of goods than retail units in the CBD, they may have to charge higher prices but their rent and rates are lower. Ideally, they are located along suburban arterial roads or at a crossroads for easier access and, possibly, to encourage impulse buying by motorists driving into the CBD (Figure 15.18).

Figure 15.22

An environmentally improved city centre shopping area in Sheffield

Convenience shops are also located in inner cities where the corner shop (Figure 15.19 B1) caters for a population that cannot afford high transport costs; in suburban shopping parades (Figure 15.19 C1) where the inhabitants live a long way from the central shopping area; and along side-streets in the CBD where they take advantage of lower rents to provide daily essentials for those who work in the city centre.

Comparison shops need a large threshold population (page 407) and therefore have to attract people from the whole urban area and beyond. As they bid for a central location, they must have a high turnover in order to pay the high rents. This central area has traditionally afforded the greatest accessibility for shoppers, with public transport competing with the private motorist. Large department stores and specialist shops usually locate within the CBD (Figure 15.19 A1), although comparison shops may also locate in the more affluent suburbs.

The retailing revolution

Since the 1970s there has been such a revolution in retailing that, by 2007, it provided 8 per cent of the UK's GDP and employed 11 per cent of its total workforce. It began with the growth of superstores, often in then traditional city centre shopping areas, and hypermarkets, locating on new edge-of-city sites (Figure 15.19 D1). The 1980s saw a growth in both non-food retail parks and, at MetroCentre (Places 55), the first of the now dominant out-of-town regional shopping centres.

Town centres

Many city centres have undergone constant change either to try to attract new customers or, as is more usual, to restrict losses of existing shoppers to the regional shopping centres or to internet shopping. Most city centres contain covered malls, where shoppers can compare styles and prices while staying warm and dry, and which are either traffic free or have access limited to delivery vehicles and public transport. Many local councils have allowed an extension of land use to include places for eating, drinking and entertainment and have improved the quality of the shopping environment (Figure 15.22).

A report by the New Economics Foundation (August 2004) claimed that Britain was becoming a nation of 'clone towns with high streets having identical shops owned by a small number of powerful chains'. The only variation was how smart a town is perceived to be by the stores' market researchers – that this, there is a hierarchy in the quality of shop: usually the larger the town, the greater the degree of cloning. The report claimed that local businesses are suffocated by identikit

chain stores that have marketing budgets, political contacts and resources that give them an unfair economic advantage. The only real recent gainers have been coffee shops, pub chains, mobile phones and charity shops.

Despite attempts, both locally and nationally, to try to restrict further shopping developments on edge-of-city sites, an increasing number of the smaller city-centre retailers are still being forced to close. Initially these were mainly food, clothing and other specialist shops but, as 2008 has shown with the previously unforeseen closure of banks, nothing in the CBD is immune to an economic downturn. These recent events may well buck the trend by which city centres have responded, often successfully, to the challenges of the out-of town centres through considerable re-branding and updating.

Out-of-town shopping centres

An increasing number of shopping outlets began locating on the edge of towns and cities to take advantage of economies of scale, lower rents, and a more pleasant and planned environment. Superstores in particular were built on cheaper land at, or beyond, city margins (Figure 15.17), which allowed them space for immediate use, future expansion and essential large car parking areas. The ideal location is also near to a motorway interchange facilitating access for both customers and delivery drivers.

Developments have included the following:

- The present 'big four' supermarkets of Tesco, Sainsbury's, ASDA and Morrisons – there is much concern about these as they continue, between them, increasingly to dominate Britain's retailing industry:

2007	Stores in existence	Applications	
		New	Extensions
Tesco	1819	37	26
Sainsbury's	751	6	9
ASDA	302	21	6
Morrisons	370	10	2
Total	3242	74	43

- Retail parks, which have also been attracted to inner city brownfield sites, tend to concentrate on the sale of non-food items (e.g. B&Q, Comet and Homebase).
- Regional shopping centres not only sell 'everything' under one roof, but often include restaurants, children's play areas and cinemas. The earliest such centres, each covering over 100 000 m^2, were Gateshead MetroCentre (Places 55), Sheffield Meadowhall, Dudley Merry Hill, Lakeside and Dartford Bluewater. They were controversial in that they not only took a large amount of business from local city-centres, they also attracted literally coachloads of shoppers from places up to 150 km away. While the volume of trade in city centres has been increasing by less than 1 per cent annually in recent times, that of the regional shopping centres has seen a growth of over 20 per cent a year. New ones are still being developed as at Liverpool One (2007) and Cabot Circus in Bristol (2008). However, Westfield in west London (2008 – page 458) and Stratford City in east London (planned) are attempts to keep retail spending within the capital (at the expense of Bluewater). However, predictions are that, following any economic downturn, it will be the regional centres, not the city centres, that will be the first to recover.

Places 55 Gateshead: the MetroCentre

Figure 15.23
Aerial view of the MetroCentre site, Gateshead: to the left is the A1 (Western by-pass) and to the right the Newcastle–Carlisle railway, with station, and the River Tyne

Location

The MetroCentre, on the edge of Gateshead, opened in 1986, and was the prototype for a new concept in retailing in Britain: out-of-town shopping. After several upgrades and extensions, it still remains Europe's largest single shopping centre. Before development the site was marshland, which meant that a large amount of land was available and relatively cheap to buy.

Access

The site is adjacent to the western by-pass which now forms part of the main north–south trunk road, the A1, which avoids central Newcastle and Gateshead. It has 10 000 free car parking spaces

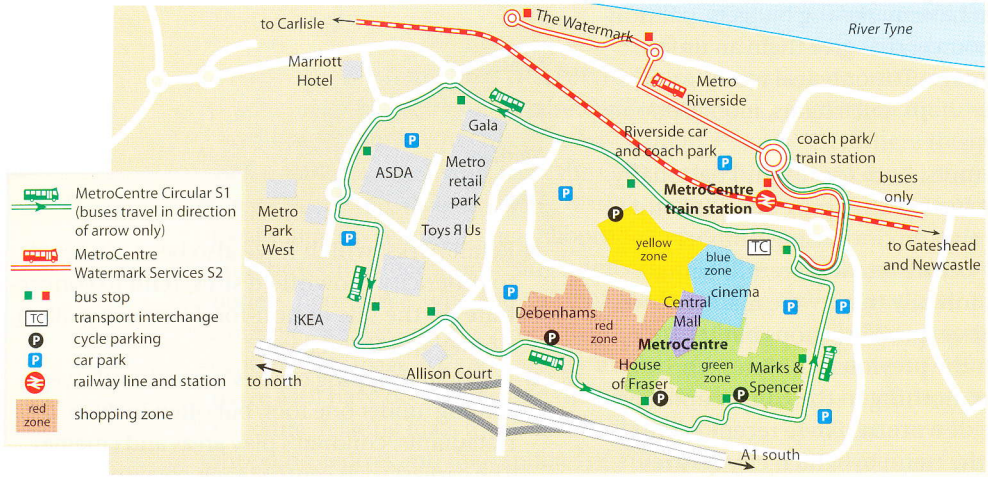


Figure 15.24
Layout of the MetroCentre

with special facilities for the disabled motorist, 100 buses per hour, and 69 trains daily. The centre, which has its own bus and railway stations, is less than 70 minutes' drive away for 2.6 million people (Figures 15.23 and 15.24).

Shopping environment

In 2008 there were 342 shops with Marks & Spencer, House of Fraser, Debenhams and BHS forming the anchor stores. The shops, grouped into four colour-coded zones (Figure 15.24), are set on two levels in a pleasant environment which includes tree-lined malls, air conditioning, 1 km^2 of glazed roof to let in natural light (supplemented by 'old world' lamps), numerous seats for relaxing, escalators and, for the disabled, lifts (Figure 15.25). A street atmosphere is created by traders selling from stalls and there are over 50 places for eating and drinking – many staying open long after the shops close.

Additional amenities

Leisure has always been a vital part of the scheme. Sir John Hall, whose idea the MetroCentre was, believed that shopping should be an enjoyable occasion for the whole family (Figure 15.24). There is a 'children's village', a crèche, a 10-screen cinema, a 'space city' for computer enthusiasts, and various theme areas such as The Forum, The Village and Garden Court. Opening in the Yellow Mall in 2009 will be bowling, pool, soft play and electronic games in a family entertainment centre, together with a new cinema and more restaurants. This could increase the present working population of 7000 by another 1000. The MetroCentre complex also includes a 150-bedroom hotel, an office block and a petrol station, while the adjacent Metro Retail Park contains IKEA, DFS, ASDA, Toys Я Us and Harry Ramsden's.

Visitors

MetroCentre's sphere of influence extends as far as York, Cumbria and Scotland. Over 24 million people, 70 per cent of whom are female, visit annually with 84 per cent arriving by car and 16 per cent by public transport (Figure 15.26).

Figure 15.25
Inside the MetroCentre

Significant changes have taken place in the top five ranking of the UK's leading shopping centres, according to the 2006 shopping centre analysis carried out by Trevor Wood Associates. The most notable is that Gateshead's MetroCentre has regained top spot from Bluewater by which it had been replaced six years earlier. MetroCentre gained maximum scores in many categories in the report in which every shopping centre was ranked by overall attractiveness to shoppers, retailers and investors. Categories included quality and mix of tenants, gross lettable retail area, whether it is open or closed to the elements and whether it has a food court and a crèche. The ranking was achieved by checking details, including tenants, for over 850 shopping centres, parks and factory outlets for schemes covering over 4600 m^2. However, it was the opening of the Red Mall in 2006, with Debenhams and 23 other retail units, which raised MetroCentre's floor area to 220 000 m^2, that made it, once again, Europe's largest shopping centre.

Figure 15.26
Adapted from the *Newcastle Journal*, November 2007

Financial institutions and offices

Financial institutions employ large numbers of people, especially in world centres such as New York, Tokyo, Hong Kong and London. These institutions, which include banking, insurance and accountancy, operate within offices. Traditionally offices have vied with shops for city centre locations regardless of the country's level of development (compare Tokyo, Figure 15.13; London, Figure 15.19 A2; Hong Kong, Figure 15.27; and Nairobi, Figure 15.36). However, whereas shops offer assistance to local individuals, offices form part of an agglomeration of businesses usually served by, and in close association with, a myriad consultants, media, hospitality and recreational establishments.

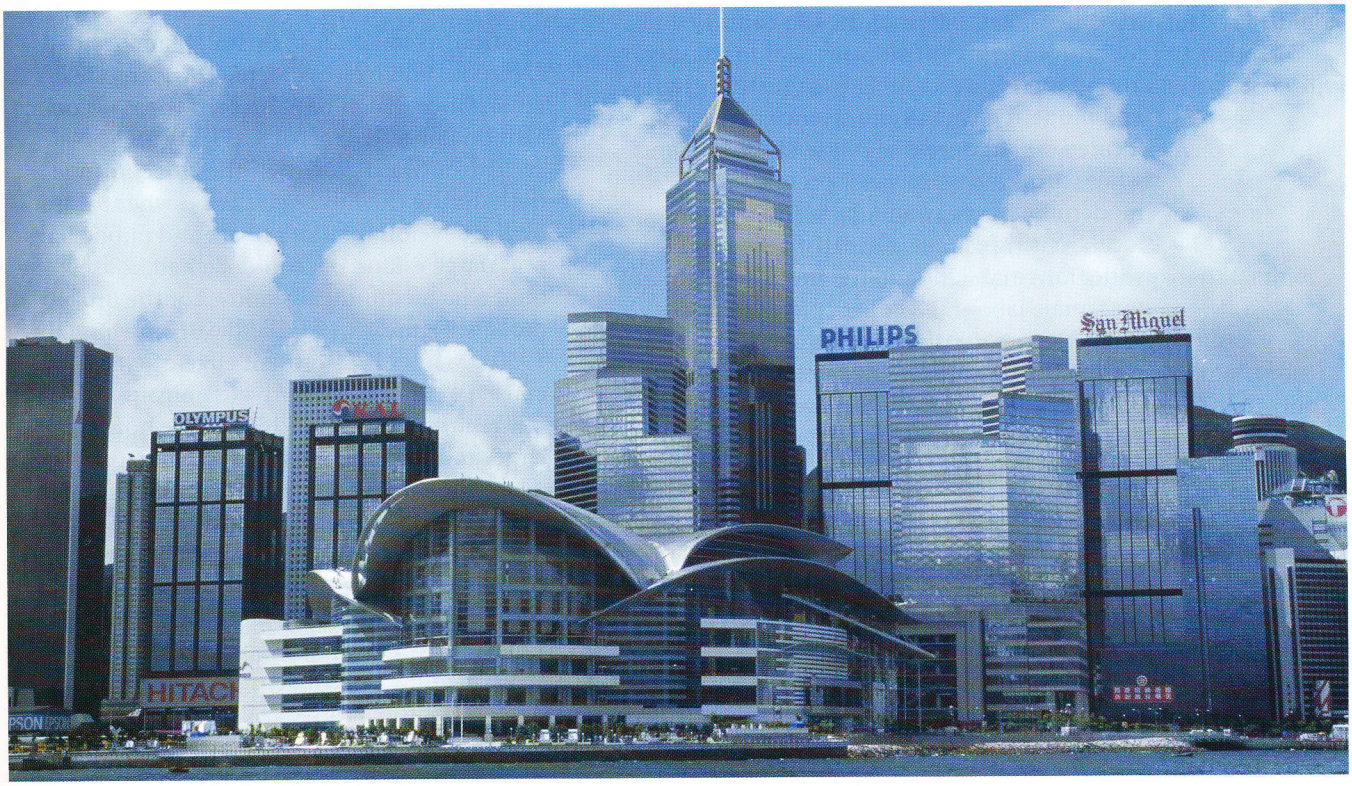
Company head offices and major institutions such as the stock exchange locate in the capital city. As offices use land intensively, they compete with shops for prime sites within city centres (Figure 15.17). Increasingly, due to high land values, they have had to locate in ever-taller office blocks. Elsewhere in city centres, offices may locate above shops in the main street or on ground-floor sites in side-streets running off the main shopping thoroughfares. Banks can afford prime corner sites, while building societies and estate agents vie for high-visibility locations. A city centre office location may have been desirable for prestige reasons, for ease of access for clients and staff, for proximity to other **functional links** (banks, insurance and entertainment) and sources of data and information, and for face-to-face contact.

Taking London as an example, it can be seen that demands for office space and location change over time. In the late 1940s, some firms re-located to the then New Towns. Later the decentralisation of government offices saw a movement often to areas where there was high unemployment (DHS to Newcastle, DVLA to Swansea and Giro to Bootle) and, until the early 1990s, to smaller towns where rents were lower, more space was available and the quality of life perceived to be higher. Since then there has been a remarkable reversal, with a huge demand for space within the capital itself resulting from London's increasing status as a global city. The Docklands can now be considered to be a CBD in it own right (Ullman and Harris, page 423), while media and advertising companies have put real pressure on commercial space in Soho and central London. It will be interesting to see how the global financial crisis of 2008 affects future growth and location.

New technology has allowed the easier transfer of data and has reduced the need for face-to-face contact, while increased computerisation has often led to a reduced workforce (banking) but one that is more highly skilled. Many new office locations are on purpose-built business, office or science parks (Figure 15.19 D4).

Figure 15.27

Office development on Hong Kong Island



Industrial zones

Industry within urban areas has changed its location over time. In the early 19th century, it was usually sited within city centres, e.g. textile firms, slaughter houses and food processing. However, as the Industrial Revolution saw the growth in size and number of factories, and later when shops began to compete for space in the city centre, industry moved centrifugally outwards into what today is the inner city (Places 52, page 421). Inner-city areas could provide the large quantity of unskilled labour needed for textile mills, steelworks and heavy engineering. The land was cheaper and had not yet been built upon. Factories were also located next to main lines of communication: originally, rivers and canals, then railways and finally roads (Figure 15.19 B4). Firms including bakeries, dairies, printing (newspapers) and furniture, which have strong links with the city centre, are still found here.

Between the 1950s and the 1980s this zone increasingly suffered from industrial decline as older, traditional industries closed down and others moved to edge-of-city sites. In Britain, recent changes in government policy have led to attempts to regenerate industry in these areas through initiatives such as Enterprise Zones, derelict land grants and Urban Development Corporations (page 439). Even so, the replacement industries are often on a small scale and compete for space with warehouses and DIY shops.

Most modern industry is 'light' and clean in comparison to that of the last century and has moved to greenfield sites near to the city boundary (Figure 15.19 D4). Industrial estates and modern business and science parks are located on large areas of relatively cheap land where firms have built new premises, use modern technology and, by being near to local housing estates, can satisfy the need for a wider range of skills and the increased demand for female labour (Places 86, page 566). Most industries are 'footloose' and include high-tech, electronics, IT software houses, media/news companies, food processing and distribution firms and those providing services such as waste recycling.

Residential zones

The Industrial Revolution also led to the rapid growth in urban population and the outward expansion of towns. Long, straight rows of terraced houses (Figure 15.19 B2) were constructed as close as possible to the nearby factories where most of the occupants worked. The closeness was essential as neither private nor public transport was yet available. Houses and factories competed for space. As a result, houses were small, sometimes with only one room upstairs and one downstairs or they were built 'back to back'. The absence of gardens and public open space added to the high housing density.

By the 1950s, many of these inner-city areas, the low-class/low-income houses of the urban models, had become slums. Wholesale clearances saw large areas flattened by bulldozers and redeveloped with high-rise blocks of flats (Figure 15.19 B3). Within 20 years, the previously unforeseen social problems of these flats led to a change in policy where, under urban renewal, older housing was improved, rather than replaced, by adding bathrooms, kitchens, hot water and indoor toilets. The tower blocks and estates, mainly due to the action of housing associations, are themselves being replaced on an ambitious scale.

Some inner-city areas have undergone a process known as **gentrification**. This is where old, substandard housing is bought, modernised and occupied by more wealthy families. In some Inner London districts, like Chelsea, Fulham and Islington, such properties are much sought-after and have become very expensive. The process is partly triggered by the proximity of employment and services in the city centre and partly through the availability of improvement grants. Once begun, it is often maintained by the perception of social prestige derived from living in such areas. More recently, inner-city areas with a waterfront location, as in London, Bristol, Manchester, Liverpool and Newcastle, have undergone a renaissance which has also seen them becoming fashionable and expensive (Figure 15.30).

The outward growth of the city continued both during the inter-war period when, aided by the development of private and public transport, large estates of semi-detached houses were built (the medium-class houses of the urban models, Figure 15.19 C2 and C3), and after the 1950s. Many of the present edge-of-city estates consist of low-density private housing. Due to low land values (Figure 15.17), the houses are large, and have gardens and access to open space (Figure 15.19 D2). Other estates were created by local councils in an attempt to rehouse those people forced to move during the inner-city clearances. These estates, a mixture of high-rise and low-rise buildings (Figure 15.19 D3), have a high density and, like some older inner-city areas, are now experiencing extreme social and economic problems (page 441).

Framework 14 Values and attitudes

Existing A2/AS syllabuses state as one of their aims: 'improve as critical and reflective learners, aware of the importance of attitudes and values, including their own'. This is not a new aim: since the early 1970s geography teachers have been trying to encourage their students to develop and clarify their own values and attitudes, a process by which geographers do not simply measure and quantify but confront some of the questions and concepts that arise from those measurements, e.g. inequalities and deprivation (page 438). It is not a case of teachers 'passing on' their own values but getting their students to enquire, for example, why there are inequalities and how they have developed.

The present author has tried, rightly or wrongly, to maintain a 'neutral' stance. Some would claim that what has been included in this book has been influenced by the author's own values and attitudes, e.g. a belief in the fundamental role of physical geography in an understanding of environmental problems; a preference for living in a semi-rural area rather than an inner city. Criticism could also be levelled for using personal experiences as exemplars in some **Places** and **Case Study** sections. What the author has tried to do is to present readers with information in the hope that they may become more aware of their own values in relation to the behaviour of others, and to enable them to discuss, with fewer prejudices and preconceptions, the foundations of their own values.

This may be illustrated with reference to the following section on inner cities which is structured as follows:

1 **The problem of inner cities** Will these issues be seen differently by the inhabitant of an inner-city area and a person living in a rural environment?

2 **The image of an inner-city area** Will a description of inner-city problems give a negative picture of the quality of life in those environments and in doing so perpetuate the problems, or could it help in the understanding and tackling of them?

3 **Possible solutions to the inner-city problem** Would solutions proposed by inner-city residents be similar to those suggested and implemented by the government or the local authority?

4 **What successes have government schemes had?** Your answer to this may depend upon your own political views. Before the 1997 general election, Conservatives pointed out the many achievements of the period 1980–97; Labour, the Liberal Democrats and other opposition parties claimed that little had been done. Who, if either, was correct? Presumably since that election, which led to a reversal of roles, the two main parties will be changing their attitudes!

Issues in Britain's inner cities

Tremendous changes have taken place in inner-city areas since the last edition of this book was published a decade ago. In many areas these changes, which include land use and social composition, have replaced the largely negative picture that was described in the late 1990s (the dangers of stereotyping, Framework 13, page 427) and, with an increasing mix in the types of building and in population structure (Hampstead and Brixton are both inner-city locations), it has become impossible to make broad, accurate generalisations such as those suggested by 20th-century urban models and textbooks.

1991

The widest definition of an inner city at that time was 'an area found in older cities, surrounding the CBD, where the prevailing economic, social and environmental conditions pose severe problems'. This definition was, intentionally or otherwise, reinforced by the 'Small-area Census' of that year which listed the characteristics of inner-city London, and of other inner-city areas, as:

- a lack of basic household amenities (1 million without a bathroom, WC or hot water)
- high densities in high-rise flats, overcrowding in houses
- lower life expectancies and a greater incidence of illness
- a predominance of lower-income, semi-skilled manual workers
- a higher incidence of single-parent families and the elderly
- a concentration of ethnic minorities.

Even if it was true at the time, these indicators only tended to reinforce the concept of the inner cities being areas of poverty and deprivation (Figures 15.28 and 15.29).

2008

Certain London boroughs have seen considerable regeneration and most areas have seen improvements, to a greater or lesser degree, in housing, transport, employment and the provision of amenities. The biggest transformation has occurred in the former Docklands where – as in similar locations in places like Liverpool, Bristol and Newcastle – derelict land

and unused buildings have been cleared, poor-quality housing has been upgraded and former warehouses converted into expensive accommodation. Transport links have been improved by the construction of a new light railway and the extension of the Jubilee line. Numerous new jobs, often office-based, have been created, as at Canary Wharf, together with improvements in leisure amenities, shopping and the environment (Figure 15.30).

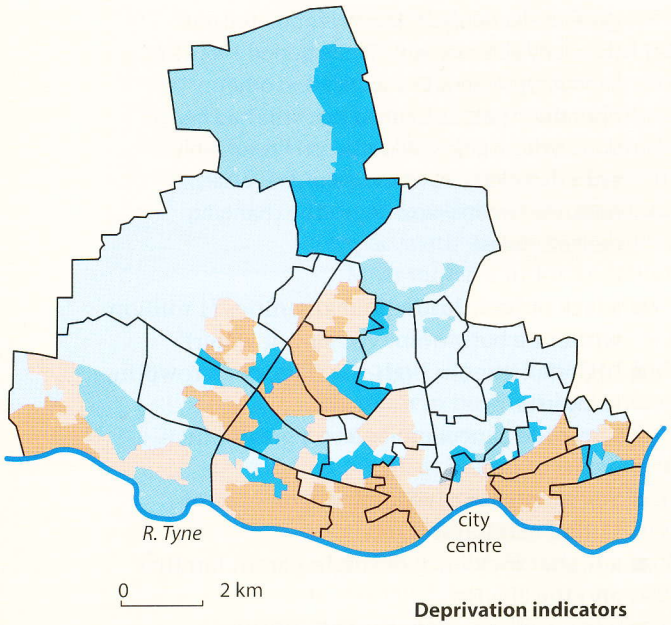
Elsewhere in London, Brixton Market and the Notting Hill Carnival are examples of events where local people and visitors from a wider area come together. In 1996, Tower Hamlets (Figure 13.7) recorded only 11 per cent of its students obtaining 5 GCSEs, but ten years later that figure was 44 per cent. New shopping centres are appearing and more are planned (Stratford City, page 433). The biggest change of all is beginning in east London with the regeneration in preparation for the 2012 Olympics (Places 56). Perhaps the best indicator of all of London's successful transformation is the large number of people, mainly in the 20s and 30s age groups and from overseas, moving here to be part of a multi-ethnic, global city.

Yet to many people living in parts of inner London, this now positive view of the city is either unrecognisable or remains beyond their reach. There are still too many pockets of poverty, especially in some of the boroughs towards east London. However, whereas 30 years ago it was the result of industrial decline, especially in the former docklands, now it often results from poor housing and social conditions. Canning Town, quoted as the poorest ward in the poorest borough (Newham), owes much of its poverty to (a) a housing policy that led to the selling of large tracts of public (council) housing and which resulted in an increasing accumulation of deprived families and individuals and (b) the low level of educational attainment compared with other London boroughs.

Indicators of welfare and deprivation

The Department of the Environment describes deprivation as: 'when an individual's well-being falls below a level generally regarded as a reasonable minimum for Britain today' and it is measured by several economic, social, housing and environmental indicators (Figure 15.28). In 2007, despite a determined government effort, over 7 million people were living in households which received less than the national annual income, and up to one-quarter of children born each year are born into poverty (Figure 15.29).

Figure 15.28
Deprivation index by wards, Newcastle upon Tyne, 2007



IMD 2007
National Deprivation
- in 10% most deprived
- 10–20%
- 20–30%
- 30–50%
- 50–100% least deprived
- ward boundary

IMD = indicators of multiple deprivation

Deprivation indicators
Economic stress
- unemployment
- low-income families

Social stress
- all dependants in house: no family earner
- lone-parent families
- families without a car
- crime/overt delinquency
- racial tension

Housing stress
- lacking one or more basic amenities (WC, running water, bathroom)
- overcrowding (more than 1 person per room)
- no central heating

Environmental stress
- noise pollution
- derelict land

Figure 15.29
Cycle of poverty or deprivation

Cycle of poverty, or deprivation

This is a concept that is largely, though not exclusively, linked to inner-city problems. It offers some explanation of how the problems have arisen. The cycle of poverty involves a continuous process which transmits relative poverty from one generation to another and which makes escape from deprivation very difficult. Certain occupational groups earn very low incomes, which makes for a low standard of living, including poor housing (since they cannot afford any better). The poor environment may produce stresses and strains in the household, and poor health amongst household members. In turn this affects the educational and other prospects of younger members in the family. The school and neighbourhood may lack the resources and skilled people needed to improve conditions for the young who are caught in this cycle of poverty. They tend to leave school early with insecure job prospects.

Poor conditions and poor prospects encourage criminal activity and lack of interest in the neighbourhood environment, discouraging outside investment and incentives to improve it. On the contrary, the neighbourhood becomes even more run-down and an adverse image of it is created, discouraging inward movement of all but the desperate households who have nowhere else to go.

The cycle of poverty is thus characteristic of the underclasses and is also increasingly concentrated in particular areas of the city and in certain housing estates on the edge of some cities.

Source: Material adapted from Department of the Environment

Government policies for the inner cities

Innumerable inner city initiatives have been introduced by various governments since 1945. These have sought to try to achieve one or more of the following:

- enhance job prospects and re-train local people to compete for them
- bring derelict land and buildings back into use
- improve housing conditions and local services
- encourage private sector investment
- encourage community co-operation and involvement to improve the social fabric
- improve the quality of the environment.

Since the 1980s many schemes have proved to be short-lived and to have had only limited effect, e.g. Urban Development Grants, Derelict Land Grants, Inner City Task Force, City Challenge, Urban Task Force and Neighbourhood Renewal Units. The two most successful and longest lasting initiatives operated throughout most of the 1980s and 1990s.

1 **Enterprise Zones (EZs)** tried to stimulate economic activity in areas of high unemployment by lifting certain tax burdens, e.g. exemption from paying rates for the first ten years; 100 per cent grants for machinery and new buildings; and the relaxing or speeding up of planning applications. Included in the 26 EZs that affected inner cities were Gateshead's MetroCentre (Places 55), the cleaning up of the Lower Swansea Valley, and the opening of the independent television studios at Limehouse in London's Isle of Dogs.

2 **Urban Development Corporations (UDCs)** were introduced to spearhead the then government's attempts to regenerate areas that contained large amounts of derelict, unused land or buildings. UDCs were given the power to acquire, reclaim and service land; to restore buildings to effective use; to promote new industrial activity and housing developments; and to support local community facilities. Financed by private-sector investment, the first two, the London Dockland Development Corporation (LDDC, Fig 15.30) and the Merseyside Development Corporation (MDC), were set up in 1981. By 1993 there were 13 – 12 in England and 1 in Wales. Most of these schemes changed the face of the areas in which they operated, for example the LDDC (which transformed London's former docklands and included the pulling down of the Limehouse television studios (see above) and replacing them with Canary Wharf); the MDC (which revitalised Liverpool's Albert Dock); Trafford Park DC in Manchester; Cardiff Bay DC; and Sheffield DC (which regenerated the Lower Don Valley). The UDCs in England were all wound up by 1998, and Cardiff Bay DC in 2000.

Figure 15.30
Canary Wharf and London Docklands, 2008

Present schemes

- **Urban Regeneration Companies (URCs)** are local partnerships with the task of achieving radical physical, economic and social transformation of towns and cities in declining urban areas. Launched in 1999, with three pilot companies in Liverpool, east Manchester and Sheffield, they now operate in 22 areas, including one in each of Wales and Northern Ireland.
- **New Deal for Communities (NDC)** operates in 39 of England's most deprived areas including in Lambeth and Hackney in London, as well as in Bradford, Manchester, Leicester, Oldham, Hull and Middlesbrough. Its aim was to deliver real improvements to people's lives and to narrow the gap between the most deprived areas and the rest of the country by, among other factors, reducing crime and improving education, health and a community spirit.

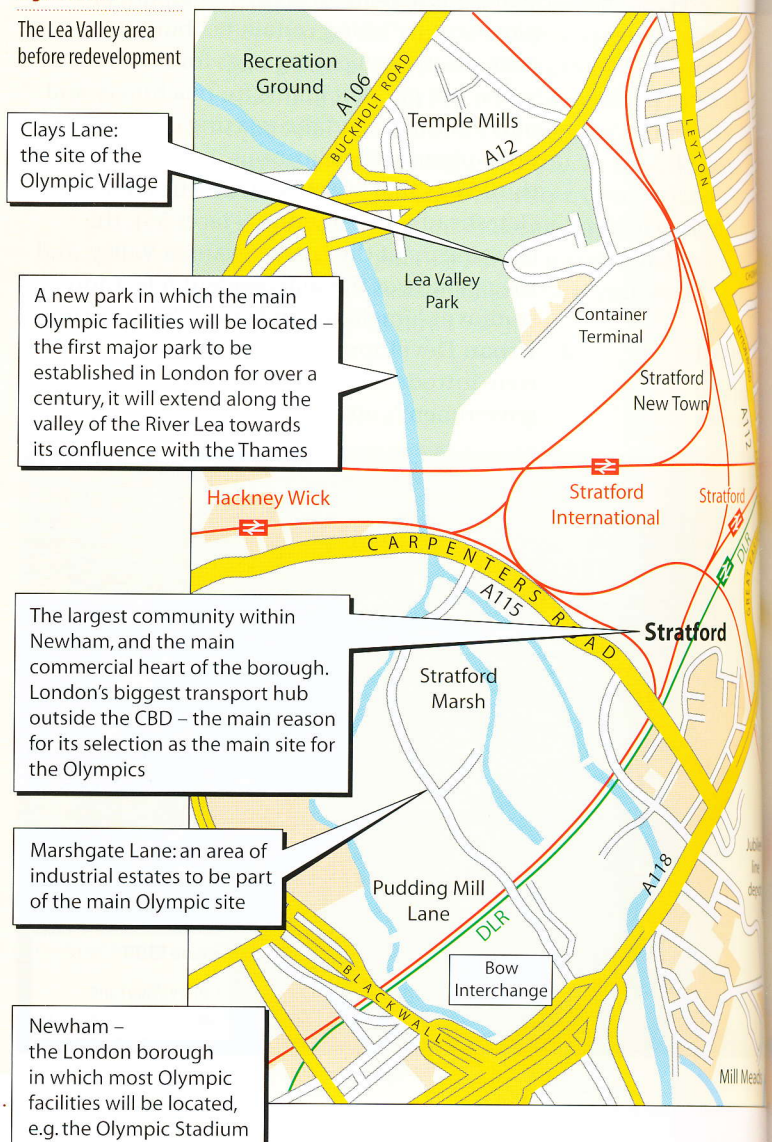
It is difficult to generalise on the overall success of so many wide-ranging schemes introduced over such a long period. There have been many positive improvements, especially to the environment, but social and economic problems still remain, with some former inner city areas experiencing above the national average in terms of unemployment, amounts of poor-quality housing and levels of crime, while standards in education and health care are often below it.

Places 56 London: regeneration and the 2012 Olympics

The East End of London would appear to have had its fair share of government inner city initiatives, with parts having been in the Isle of Dogs EZ and under the London Docklands DC (page 439). These schemes resulted in many improvements, especially in housing, job opportunities, transport links and the environment. Yet, as was noted on page 438, Canning Town, in the borough of Newham and just a short distance from the prestigious Canary Wharf development (Figure 15.30) was, according to statistics in the UK 2001 census, the poorest and most deprived area in the country not only for standards of housing but also for people employed, having a limiting illness or disability, and lacking educational qualifications or job skills. One meaningful comment comes from Bob Digby who wrote: 'a tube journey along the Jubilee line between Westminster and the Stratford terminus in east London links two areas with nine years' difference in life expectancy – one year for every station'.

A major reason for London being granted the 2012 Olympics Games was its plan to use the event as a way of regenerating deprived areas such as Canning Town and Stratford (Figure 15.31). London's bid was made on certain basic principles: that the long-term benefits of the Olympics would outweigh the total costs; that London is a global city with one of the world's most culturally and ethnically mixed populations; and that by portraying children as the ones who would be likely to benefit the most, this could help link, through sport, the nations of the world. The specific site, alongside the River Lea, is at present a mixture of industrial estates with many firms in the service sector, university halls of residence, low-cost housing and large tracts of waste land that create an eyesore. However, this area has the advantage of being near to Stratford which is a major transport 'hub' (page 637) with nine surface and underground rail links and, opening in 2009, an international station on the high-speed Channel Tunnel rail link, bringing the site within two hours of Paris and Brussels. The construction of the Olympic site, with its village and stadiums, will mean relocating existing factories, students and permanent residents, and cleaning up the environment. After the Olympics, the plan is to re-model the village, where 17 000 athletes and officials will have stayed, into 3500 mainly affordable homes; to construct up to a further 9000 new houses of which 50 per cent will be affordable; and to be left with an improved transport system, a new primary healthcare centre and an academy school. Also, once some of the sporting facilities have either been dismantled or re-located, such as the multi-sports arena at Hackney Wick, the area will have a large urban park extending alongside the River Lea, with protected wildlife and cleared river and canal channels. The reality, though, could be that the region, like Barcelona, Atlanta, Sydney and Athens after previous Olympics, will struggle to create permanent jobs, have sporting amenities unused and many of the houses (especially in 2008's financial climate), remaining unsold.

Figure 15.31
The Lea Valley area before redevelopment



Issues in Britain's council estates

Whereas most government policies and funding have been focused on the inner cities, there is increasing evidence that poverty, unemployment, crime and social stress may be even higher on council estates.

1 **Inter-war estates** have the most acute problems. One such estate, in Newcastle upon Tyne's West End, which was passed by the city council to private builders in the mid-1980s, was revitalised with government Urban Development Grants. The flats, over 170 in total, were modernised for aspiring home-owners, and the local parade of shops was regenerated. Despite this, many flats have proved difficult to sell, even at a very affordable price. For the people still living there, crime is a constant threat, and finding work is difficult. It has been suggested that the scheme failed because it was an 'oasis' and that, in future, the redevelopment of brownfield sites must neither be as isolated nor as small.

2 **Edge-of-city estates** (Figure 15.19 D3), built on greenfield sites during the 1950s and 1960s, were created to house people forced to move by inner-city redevelopment schemes. Today they exhibit several common features:
   - The physical fabric of the buildings, many originally built using cheap materials and methods, is deteriorating rapidly. Local councils, without the financial help given to the inner cities, are trying to upgrade selected estates as and when they can.
   - Many estates include high-rise buildings which, as in the inner cities, have created feelings of isolation and stress-related illnesses. Flats and maisonettes have not proved popular under the 'right-to-buy' schemes and have been too expensive for most of the occupants to consider buying.
   - The low level of car ownership and high bus fares have increased the feeling of isolation from jobs, shops and entertainment.
   - Levels of unemployment often exceed 30 per cent. There are also many low-income families; many elderly living on small pensions; and up to two-thirds of households may be receiving housing benefit.
   - The environmental quality of the estates is poor, often with a lack of open space.
   - The estates tend to have high levels of problems, drug-taking, petty crime and vandalism, and low levels of academic attainment and aspiration.

Brownfield and greenfield sites

In 2008, the government announced that 3 million new homes would have to be built by 2020 (Figure 14.22) to accommodate the predicted rise in households by that date (mainly due to an increase in both single person households, from 5.8 million to 8.7 million, and in immigrants). The intention is that 60 per cent of the new houses will be built on **brownfield** sites, i.e. on land within urban areas, and 40 per cent on **greenfield** sites, i.e. in the countryside.

- Why greenfield sites? Developers claim that most British people want their own home, complete with garden, set in a rural, or semi-rural, location. As evidence they quote that, at present, for every three people moving into cities, five move out. Greenfield sites are cheaper to build on than brownfield sites as they are likely to have lower land values and are less likely to be in need of clearing-up operations than former industrial locations.
- Why brownfield sites? Groups such as the Council for the Protection of Rural England and Friends of the Earth argue that there are already three-quarters of a million unoccupied houses in cities which could be upgraded, while a further one and a quarter million could be created by either subdividing large houses or using empty space above offices and shops. They quote the database which showed that one-third of a million homes could be built on vacant and derelict land and another one-third of a million by re-using old industrial and commercial buildings. They also argue that urban living reduces the use of the car and maintains services, especially retailing, within city centres. Arguably, of course, many of those people wanting to protect the green belt and build in cities are probably already living in rural areas themselves.

However, the National Data Base shows a mismatch between:

- the South East of England where brownfield sites are limited but where most homes are needed (1996–2021 has a projected increase in households in the South of 24.2 per cent)
- the Midlands and the North where more brownfield sites are available but where demand for new properties is likely to be less (Midlands a 16.1 per cent increase and the North an 11.4 per cent increase in households).

There are two considerations as to how sustainable urban development can take place in the South East:

1 Settlements should become self-contained for work, living and leisure (see Case Study 14A, page 412).

2 Public transport needs to be improved for the resulting longer journeys to work.

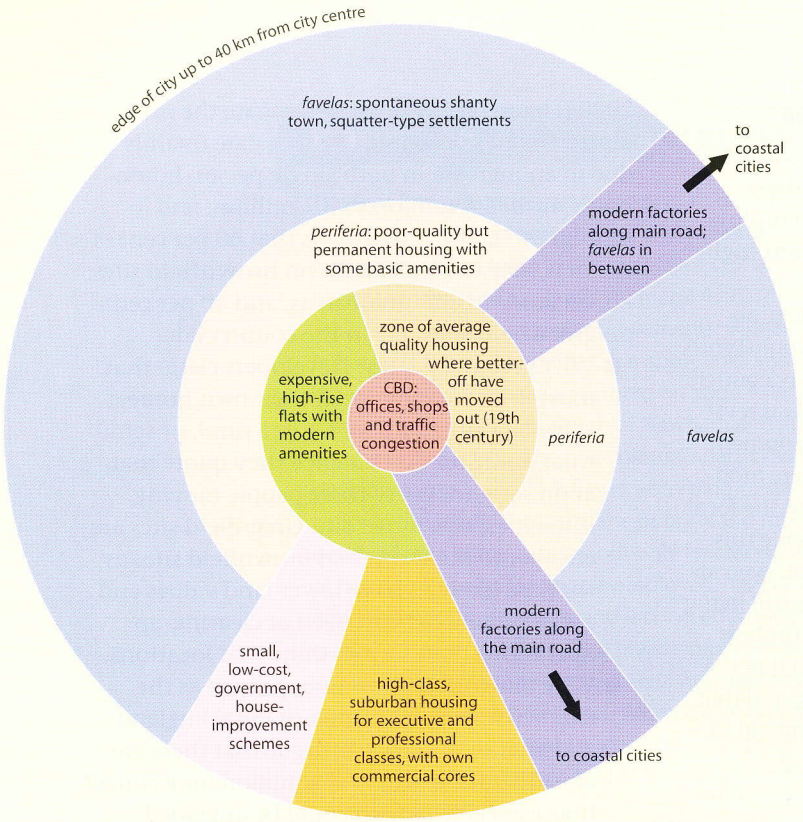
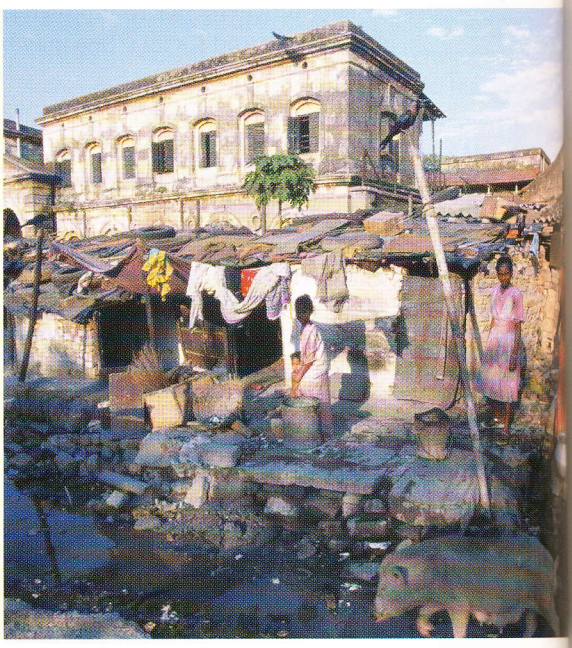


Figure 15.32

Model showing land use and residential areas in Brazilian cities (excluding Brasilia): the zoning of housing, with the more affluent living near to the CBD and the poorest further from the centre, is typical of cities in developing countries (*after* Waugh, 1983)

Figure 15.33

Living conditions in Howrah, Kolkata



Cities in developing countries

Cities in economically less developed countries, which have grown rapidly in the last few decades (page 419), have developed different structures from those of older settlements in developed countries. Despite some observed similarities between most developing cities, few attempts have been made to produce models to explain them. Clarke has proposed a model for West African cities, McGhee for South-east Asia, and the present author (based on two television programmes on São Paulo and Belo Horizonte together with some limited fieldwork) for Brazil (Figure 15.32).

Functional zones in developing cities

The CBD is similar to those of 'Western' cities except that congestion and competition for space are even greater (São Paulo, Cairo, and Nairobi, Places 58).

Inner zone In pre-industrial and/or colonial times, the wealthy landowners, merchants and administrators built large and luxurious homes around the CBD. While the condition of some of these houses may have deteriorated with time, the well-off have continued to live in this inner zone – often in high-security, modern, high-rise apartments, sometimes in well-guarded, detached houses.

Middle zone This is similar to that in a developed city in that it provides the 'in between' housing, except that here it is of much poorer quality. In many cases, it consists of self-constructed homes to which the authorities *may* have added some of the basic infrastructure amenities such as running water, sewerage and electricity (the *periferia* in Figure 15.32 and the 'site and service' schemes on page 449 and in Figure 15.41).

Outer zone Unlike that in the developed city, the location of the 'lower-class zone' is reversed as the quality of housing decreases rapidly with distance from the city centre. This is where migrants from the rural areas live, usually in shanty towns (the *favelas* of Brazil and *bustees* in Kolkata, Places 57 and Figure 15.33) which lack basic amenities. Where groups of better-off inhabitants have moved to the suburbs, possibly to avoid the congestion and pollution of central areas, they live together in well-guarded communities with their own commercial cores.

Industry This has either been planned within the inner zone or has grown spontaneously along main lines of communication leading out of the city.

Places 57 Kolkata and Rio de Janeiro: shanty settlements

Kolkata's *bustees*

Although over 100 000 people live and sleep on Kolkata's streets, one in three inhabitants of the city lives in a *bustee* (Figure 15.33). These dwellings are built from wattle, with tiled roofs and mud floors – materials that are not particularly effective in combating the heavy monsoon rains. The houses, packed closely together, are separated by narrow alleys. Inside, there is often only one room, no bigger than an average British bathroom. In this room the family, often up to eight in number, live, eat and sleep. Yet, despite this overcrowding, the interiors of the dwellings are clean and tidy. The houses are owned by landlords who readily evict those *bustee* families who cannot pay the rent.

Rio de Janeiro's *favelas*

A *favela* is a wildflower that grew on the steep *morros*, or hillsides, which surround and are found within Rio de Janeiro. Today, these same *morros* are covered in *favelas* or shanty settlements (Figure 15.34). A *favela* is officially defined as a residential area where 60 or more families live in accommodation that lacks basic amenities. The *favelados*, the inhabitants, are squatters who have no legal right to the land they live on. They live in houses constructed from any materials available – wood, corrugated iron, and even cardboard. Some houses may have two rooms, one for living in and the other for sleeping. There is no running water, sewerage or electricity, and very few local jobs, schools, health facilities or forms of public transport. The land upon which the *favelas* are built is too steep for normal houses. The most favoured sites are at the foot of the hills near to the main roads and water supply, although these may receive sewage running in open drains downhill from more recently built homes above them. Often there is only one water pump for hundreds of people and those living at the top of the hill (with fine views over the tourist beaches of Copacabana and Ipanema!) need to carry water in cans several times a day. When it rains, mudslides and flash floods occur on the unstable slopes (Places 8, page 49; page 55). These can carry away the flimsy houses (over 200 people were killed in this way in February 1988).

Almost 1.1 million people – nearly one-fifth of the total population – live in Rio's estimated 750 *favelas*. The two largest, Roçinha and Morro de Alemao, each have a population in excess of 100 000. Living conditions are improving and UN figures say that 95 per cent of *favela* residents now have access to clean water and 76 per cent to improved sanitation. The Brazilian government has pledged $1.7 billion on further improvements including dealing with the major problem which, in over half the *favelas*, is the influence of powerful drug gangs.

Figure 15.34
A *favela* in Rio de Janeiro

Places 58 Nairobi, Kenya: functional zones

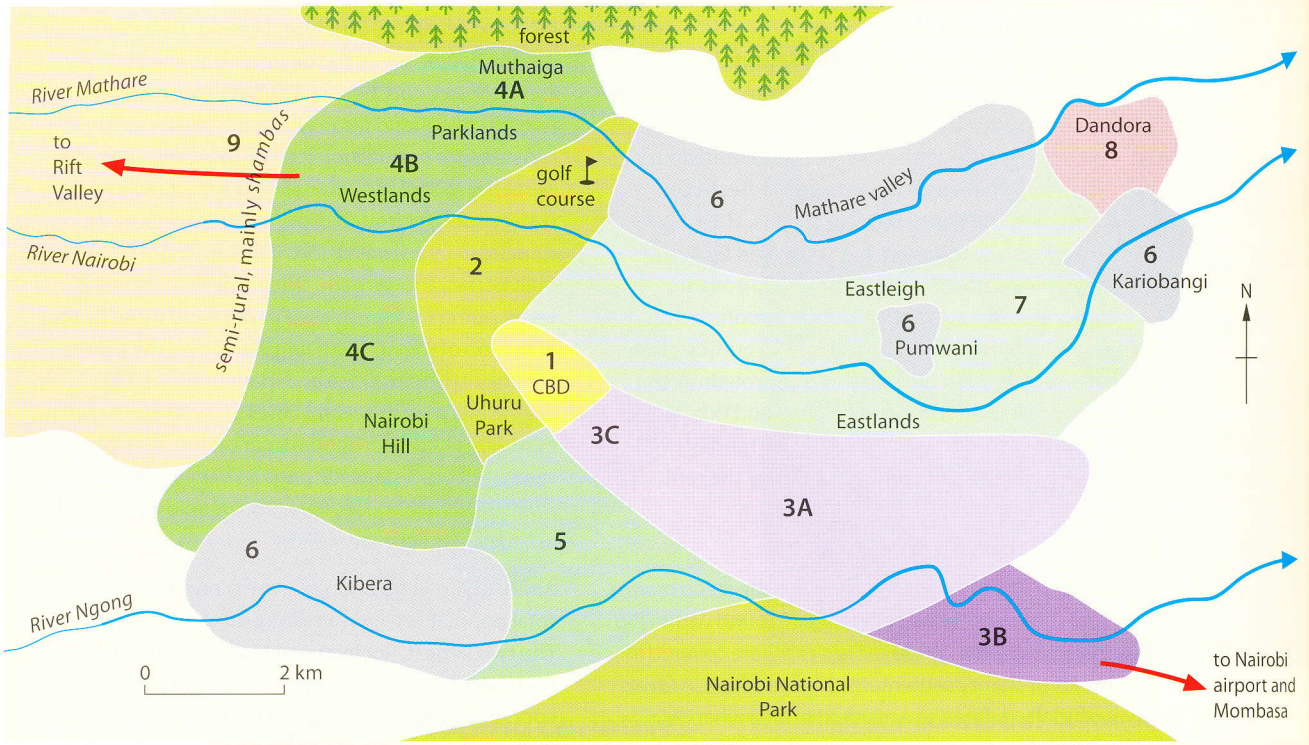


Figure 15.35
Functional zones and residential areas in Nairobi

In 1899 a railway, being built between Mombasa, on the coast, and Lake Victoria, reached a small river which the Maasai called *enairobi* (meaning 'cool'). The land that surrounded the river was swampy, malarial and uninhabited. Despite these seemingly unfavourable conditions, a railway station was built and, less than a century later, the settlement at Nairobi had grown to over 1.5 million people. The present-day functional zones (Figure 15.35) show the early legacy of Nairobi as a colonial settlement and the more recent characteristics associated with a rapidly growing city in an economically developing country.

1 **CBD** This is the centre for administration; it includes the Parliament Buildings, the prestigious Kenyatta International Conference Centre, commerce and shopping (Figure 15.36). Also located here are large hotels and, in the north, the University and the National Theatre.

2 **Open space** Immediately to the west and north of Nairobi's CBD (unlike in developed cities), are several large areas of open space. These include Uhuru (Freedom) Park and several other parks, sports grounds and a golf course. Other areas of open space, notably the Nairobi National Park to the south and the Karura Forest to the north, lie outside the city boundary.

Figure 15.36
The CBD (zone 1)

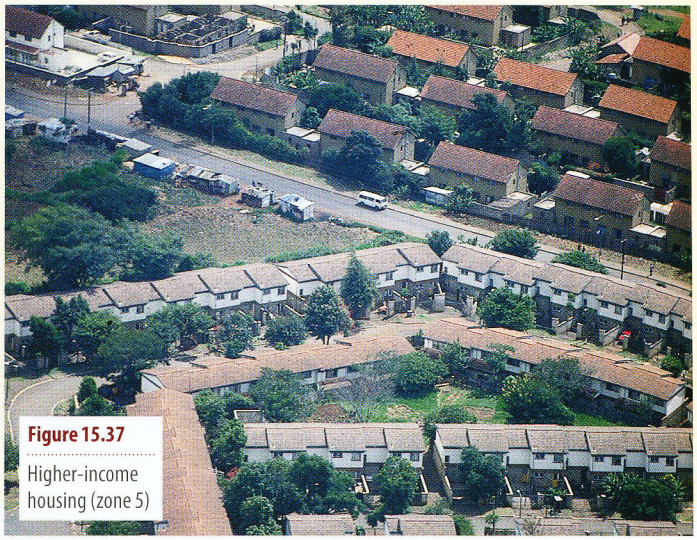


Figure 15.37
Higher-income housing (zone 5)

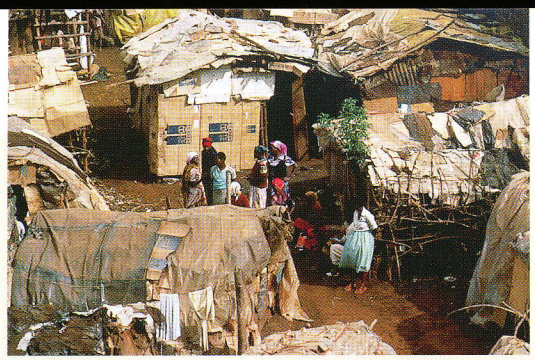


Figure 15.38
Shanty settlement, Mathare Valley (zone 6)

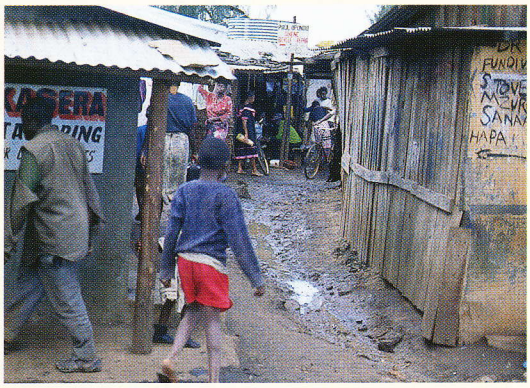


Figure 15.39
Inside a shanty settlement, Kibera (zone 6)

3 **Industrial zone** Early industry, much of which is formal, grew up in a sector that borders the railway linking Nairobi with the port of Mombasa (**3A** in Figure 15.35). The main industries, most of which are formal (Figure 19.34), include engineering, chemicals, clothing and food processing. A modern industrial area (**3B**) extends alongside the airport road and contains many well-known transnational firms. This zone includes (**3C**) the *Jua kali* workshops (Places 89, page 575).

4 **High-income residential** Wealthy European colonists and, later, immigrant Asians lived on ridges of highland to the north and west of the CBD where they built large houses above the malarial swamps (Figure 15.37). Today, Europeans tend to concentrate in Muthaiga (**4A**) and the Asians and more wealthy Africans in Parklands and Westlands (**4B**). Westlands, with its shops and restaurants, forms a small secondary core while several large hotels are located on Nairobi Hill (**4C**). Many of the largest private properties have their own security guards.

5 **Middle-income residential** The southern sector was originally built for Asians who worked in the adjacent industrial zone. The estates, which were planned, are now mainly occupied by those Africans who have found full-time employment.

6 **Shanty settlements** As in other developing cities, shanty settlements have grown up away from the CBD on land that had previously been considered unusable – in Nairobi, this was on the narrow, swampy floodplains of the Rivers Mathare and Ngong. The two largest settlements are those that extend for several kilometres along the Mathare valley (Figure 15.38) and in Kibera (Figure 15.39). Estimates suggest that over 100 000 people, almost exclusively African, live in each area. They find work in informal industries (page 574).

7 **Low-income residential** These areas include flats, 3–5 storeys in height and council-built (Figure 15.40), and former shanty settlements to which the council has added a water supply, sewerage and electricity.

8 **Self-help housing** Under this scheme (page 449), the council provided basic amenities and, at a cheap price, building materials. In Dandora (Figure 15.41), which has over 120 000 residents, relatively wealthy people bought plots of land and built up to six houses around a central courtyard. The council then installed a tap and a toilet in each courtyard and added electricity and roads to the estate. The 'owner' is able to sell or rent the houses that are not needed by his/her own family.

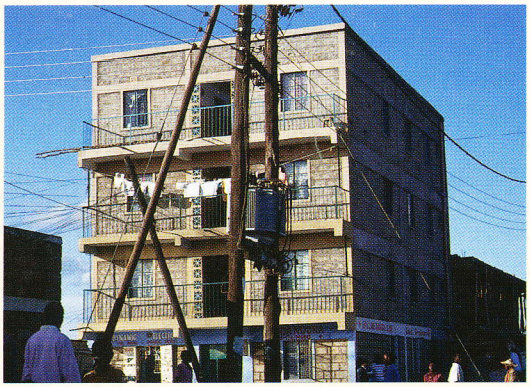


Figure 15.40
Low-income, council-built housing (zone 7)

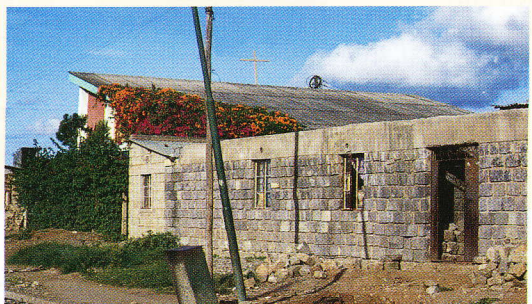


Figure 15.41
Dandora 'site and services scheme' (zone 8)

In 1993, an article in Nairobi's daily newspaper *The Nation* stated that 'Kenya has been hailed as Africa's leading example of multi-racial harmony, yet one has only to tour its residential districts to see a form of "apartheid". Despite a façade of racial harmony, people live according to colour and status and, unlike in the UK or USA, do not feel they have to mix with each other.' This example of global harmony was unexpectedly shattered in December 2007 by post-election violence, mainly between two powerful ethnic groups, the Kalenjin and the Kikuyu, which led to over 1000 deaths and the displacement of over 600 000 people.

Problems resulting from rapid growth

The 'pull' and rapid growth of cities in the developing world has led to serious problems in providing housing, basic services and jobs – problems accentuated by a much wider gulf between the minority rich and the majority poor than exists in the developed world. (Remember that developing cities do have positive as well as negative features.)

Housing

Despite some promising initiatives, most authorities have been unable to provide adequate shelter and services for the rapidly growing urban population and so the majority of the poor have to fend for themselves and to survive by their own efforts. Estimates suggest that one-third of the urban dwellers in developing countries either cannot afford or cannot find accommodation that meets basic health and safety standards. Consequently, they are faced with three alternatives: to sleep on pavements or in public places; to rent a single room if they have some resources; or to build themselves a shelter, possibly with the help of a local craftsman, on land which they do not own and on which they have no permission to build (Figure 15.38 and Places 57 and 58).

In time, some squatter settlements may develop into residential areas of 'adequate' standards (the *periferia* in Figure 15.32 and Dandora in Places 58). Rather than trying to build new housing, city councils find it cheaper and easier to add water supplies, sewerage systems, electricity and public services (refuse disposal, street lighting) to existing shanties, and to allow occupants to obtain legal tenure of the land (pages 448–49).

Services

Only small areas within many developing cities have running water and mains sewerage. Rubbish, dumped in the streets, is rarely collected. When heavy rains fall, especially in the monsoon countries, the drains are inadequate to carry the surplus water away. The lack of electricity hinders industrial growth and affects the material standard of living in homes. There is a shortage of schools and teachers, and of hospitals, doctors and nurses. Police, fire and ambulance services are unreliable. Shops may sell only essentials, and food may be exposed to heat and infection-carrying flies.

Pollution and health

Drinking water is often contaminated with sewage which may give rise to outbreaks of cholera, typhoid and dysentery. The uncollected rubbish is an ideal breeding-ground for disease. Many children have worms and suffer from malnutrition as their diet lacks fresh vegetables, protein, calories and vitamins. Local industry is rarely subjected to pollution controls and so discharges waste products into the air which may cause respiratory diseases, and/or into water supplies. The constant struggle for survival often causes stress-related illnesses. It is not surprising that in these rapidly growing urban areas infant mortality is high and life expectancy is low.

Unemployment and underemployment

New arrivals to a city far outnumber the jobs available and so high unemployment rates result. As manufacturing industry is limited, full-time occupations are concentrated in service industries such as the police, the army, cleaning, security guards and the civil service. The majority of people who do work are in the informal sector, i.e. they have to find their own form of employment (page 574). Informal jobs may include street trading (selling food or drinks), food processing, services (shoe-cleaning) and local crafts (making furniture and clothes, often out of waste products). Most of these people are underemployed and live at a subsistence level.

Transport

Relatively few developing cities can afford an elaborate public transport system. This means that the road network is likely to be unable to deal with the large volume of traffic. This traffic will, at the best, consist mainly of old cars, vans, trucks, overcrowded minibuses and buses and, at the worst and depending upon the individual city, an added complication of rickshaws, bullock carts, donkeys, matatus, tuc-tucs and bicycles (Figure 15.42). Apart from congestion, there is likely to be severe air pollution and a high accident rate. As countries develop, the main city may consider building a subway system, or metro, as a means of relieving pressure on the roads, e.g. Hong Kong (Places 106, page 640), São Paulo, Singapore and Seoul in the NICs (page 578) and, more recently in an emerging country, Shanghai (Case Study 15B).

Figure 15.42
Overcrowding in Chennai

Places 59 Cairo, Egypt: problems resulting from rapid urban growth

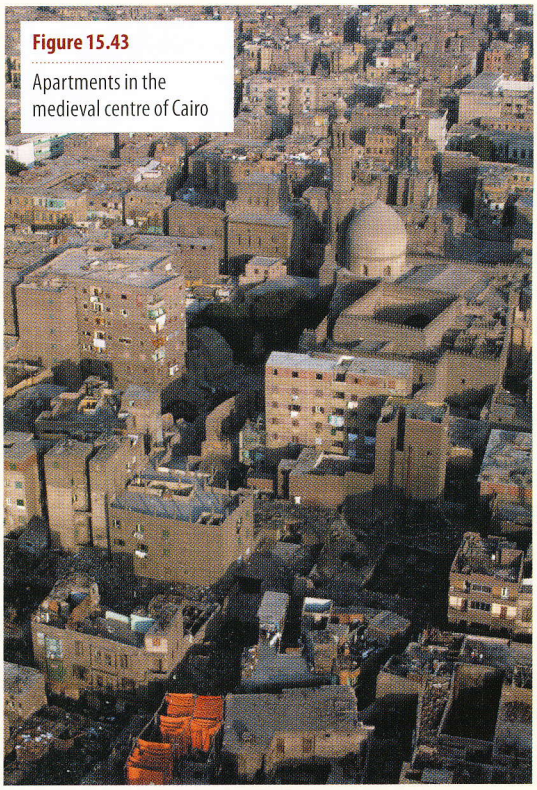


Figure 15.43
Apartments in the medieval centre of Cairo

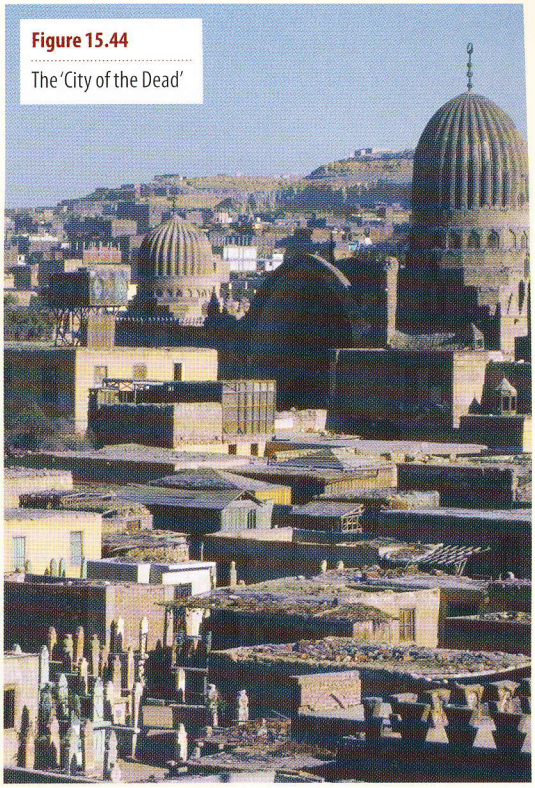


Figure 15.44
The 'City of the Dead'

In 1996, when the author was taken on an eye-opening journey through the back alleys and markets of old Cairo, the population of the city was given, according to the census of that year, as 6.801 million (see Framework 15). At the time, compared with other developing cities, Cairo had relatively few squatter settlements. Most newcomers to the city disappeared into the medieval centre of the old town to live either in:

- overcrowded two-roomed apartments within tall blocks of flats (Figure 15.43)
- roof-top slums (the flat roofs are suitable for the desert climate and allow the later addition, often illegally, of an extra storey
- the 'City of the Dead', a huge Muslim cemetery where, according to one estimate, up to 3 million people actually live in the tombs because they are cleaner and give more shelter than the city apartments, even though they are a kilometre from water (Figure 15.44).

Cairo's narrow streets were not built for the volume of its present noisy and air-polluting traffic. Pollution also comes from a dilapidated early 20th-century sewerage system and numerous small factories located in backyards, within houses and on rooftops, that emit their waste both into the air and onto the streets. Donkey carts take rubbish to waste dumps on the edge of the city where it is sorted by people looking for bottles, plastic and paper that can be recycled in local factories.

A return visit in 2009 showed how the city authorities have tried to overcome these problems by extending and improving the sewerage system in what became one of the world's largest public-health engineering schemes; widening roads and building a 10-lane ring road; opening an efficient underground 'metro' system with two lines operating and a third planned; organising refuse collection and converting one of the largest tips into a large urban park that overlooks the city; erecting numerous high-rise apartment buildings; and creating low-cost housing in several 'new towns' that have sprung up in the desert that surrounds the city (one of which, the Sixth of October, already has a population of 2.6 million). Even so, the Cairo authorities are struggling to keep pace with population growth, which results from a combination of high fertility rates (3.1 per family) and rural–urban migration, and which has all but doubled in the three decades since 1975. One consequence has been the rapid growth of informal settlements that now encircle the city, including that of Ezbet El Haggana, a shanty in the north-east of Cairo with over 1 million inhabitants.

Framework 15 How reliable are statistics?

2001 UK census

Accurate and reliable statistics are often difficult to obtain, even for developed countries. Some of the least reliable figures are for population, and those presented in this book, e.g. fertility rates and urban populations, should be used with some caution, even though the most reliable resources were used to acquire them. It is suggested that Britain's 2001 census could have had a margin of error of 1 per cent either way, even with the use of the latest available technology and with supposedly high levels of refinement. This was partly because many people failed to complete and return the relevant forms (over 20 per cent in 10 inner London boroughs), and partly due to a rise in illegal immigration which, by its very nature (page 367), means that people arriving in a country do not want to be recorded and so do not appear in official figures. Later, the (House of) Commons Public Accounts Committee questioned the accuracy of the census, after claims were made that the population of England and Wales was 900 000 lower than previously predicted (it was 1.92 million lower at the 1991 census). This may have been due to a failure to record people who leave the country permanently or who were away from their homes (e.g. on holiday) on census night.

2001 India census

India, the second most populous nation in the world, has begun its mammoth task of conducting its first census for a decade, a year after the population officially exceeded 1 billion. Several states, including Jammu and Kashmir, have already been surveyed, while recording in Gujarat, where the authorities are struggling to deal with the aftermath of the earthquake [Places 5, page 20], has been delayed. Elsewhere, the exercise will take to the end of the month and will involve around 2 million census workers who will visit 5000 towns and cities and more than 600 000 villages. One of India's most publicised revolutions, the greater use of computers, has enabled the authorities to promise 98 per cent accuracy.

Source: Adapted from BBC News Online, 9 February 2001

What is Cairo's population?

For 2005–06 the population of Cairo has variously been given as:

- Egypt State Information Service – Cairo: 6.8 million
- UN population division – Cairo governorate: 7.786 million
- Collin's Atlas: 9.462 million
- UN World Urbanisation – Cairo agglomeration (world's 13th largest): 11.487 million
- World Bank – Cairo region and its new towns: 15.2 million
- Rough Guide – Cairo region: about 18 million

These discrepancies may arise from organisations using different criteria, notably:

- the land area covered can vary, from the city itself to urban developments such as El Giza that have sprawled beyond the city's 'official' limits, or the Cairo region including the new town settlements
- except for the actual year of the census, the population has to be estimated from birth and death rates (assuming that these are always recorded) and migration – but there is no effective means of counting in-coming migrants from rural areas or from overseas countries.

In a city like Cairo, with its growing shanties and the 'City of the Dead', it is highly unlikely that every resident was consulted during the census, and even for those who were it is unlikely all were able to read, and then to complete, the census forms.

Government housing

Upgrading and self-help schemes

A policy of wholesale demolition of squatter settlements, as was attempted in Rio de Janeiro (Places 57) and South Africa (Places 45, page 372), is often a mistaken one. Squatters have shown that they are capable of constructing cheap accommodation for themselves, but that they cannot provide the essential basic services. In Latin America, and less successfully in Africa and South-east Asia, governments have, albeit reluctantly, at times accepted that shanties are permanent and that it is cheaper and easier to improve them by adding basic amenities than it is to build new houses.

The concept of '**site and services**', funded by the World Bank and several voluntary organisations, encourages local people to become involved in self-help projects. This approach seems to be most appropriate in the poorer countries whose governments cannot afford large rehousing schemes. One such scheme, in Dandora in Nairobi (Figure 15.41), was briefly described in Places 58.

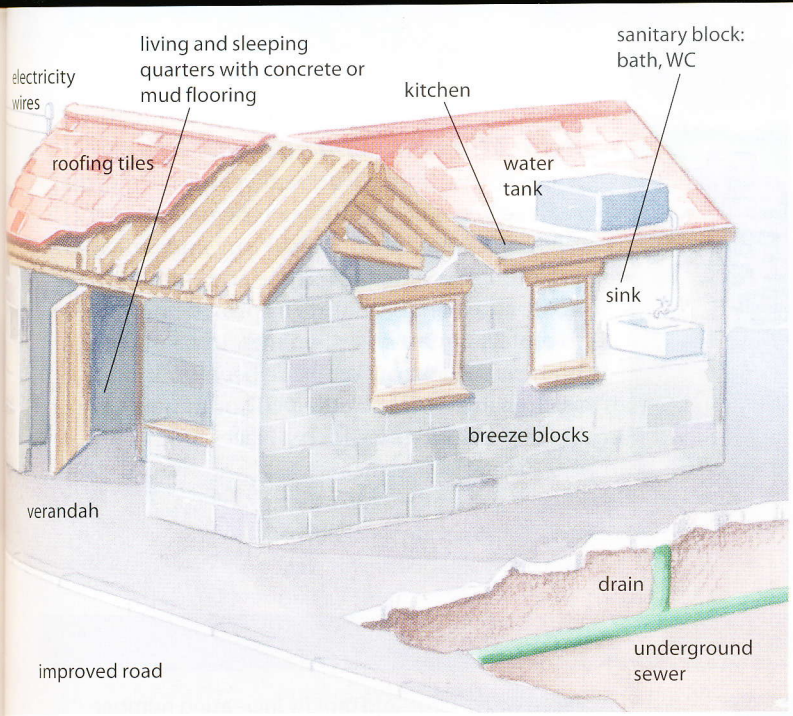


Figure 15.45
A 'site and services' scheme, São Paulo, Brazil

A similar scheme in Lusaka (Zambia) encourages about 25 individuals to group together. They are given a standpipe and 8 hectares of land. If the group digs ditches and foundations then, with the money saved, the authorities will lay water and drainage pipes and construct the houses. Moreover, if local craftsmen are prepared to build the shells of the houses, the group will be supplied with low-priced building materials and the extra money saved by the authorities may be used to add electricity and to tarmac the roads. In some cases, a small clinic and school may be added.

Several schemes in São Paulo's *periferia* (Figure 15.45) have enabled running water, main drains and electricity to be added to houses, with street lighting and improved roads if there was any surplus money. The result over a lengthy period of time has been an upgrading of living conditions, and the introduction of some shops and small-scale industry, although the people are still poor.

Elsewhere in Brazil, an estimated 62 per cent of Recife's population (Figure 13.5) live in *favelas*. Here, following over a decade of popular organisation and collective negotiation, the city's Plan for the Regularisation and Urbanisation of Special Zones of Social Interest (PREZEIS) became law. It meant that urban services such as sewers and paved streets would be forthcoming and that *favela* residents would be protected from eviction (or from being ignored as if they did not exist). Each *favela* elected two representatives who met weekly with officials to develop and carry out urbanisation schemes. By 2008, living conditions in many *favelas* had improved dramatically (Places 57), mainly due to the enthusiasm of local people, whereas in others, where less interest has been shown, limited progress had been made.

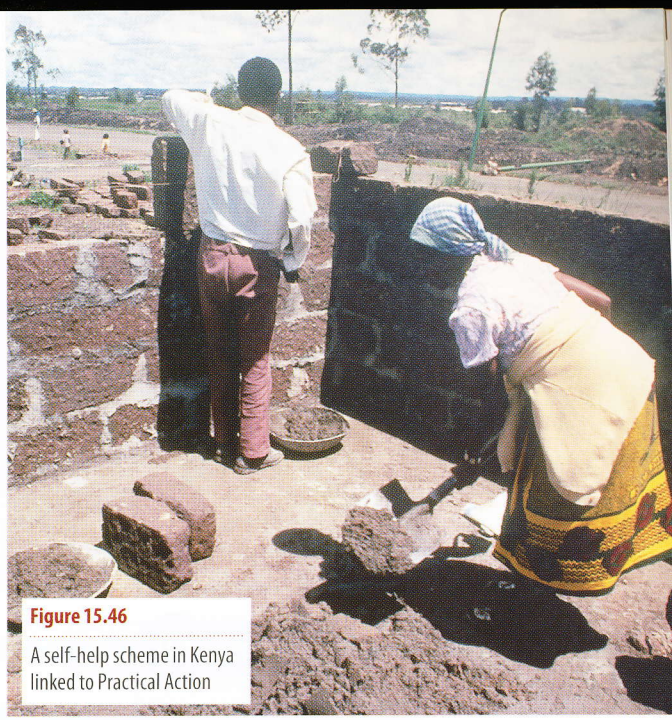


Figure 15.46
A self-help scheme in Kenya linked to Practical Action

Self-help schemes can create a community spirit, can improve the skills of local people and can result in cheap-to-erect accommodation. Yet their success often depends upon the motivation and skills of the local people and the use of appropriate and cheap building materials under expert guidance.

Practical Action and 'materials for shelter'

Practical Action (Places 90, page 577) helps people in Africa, Asia and South America to develop and use technologies and methods that give them more control over their lives and which contribute to the long-term development of their communities. Several of Practical Action's projects involve investigating, developing and promoting a range of building materials suitable and affordable for self-help schemes (Figures 15.46 and 15.47). A Practical Action-sponsored scheme in India prolongs the lives of thatch roofs by coating them with a waterproof compound of copper sulphate and cashew nut resin. In Kenya, the Maasai are under increasing internal pressure to give up their semi-nomadic way of life and settle in permanent houses. Practical Action has responded to this situation by working closely with the Maasai in helping to modify their traditional houses by adding a concrete mix to the cow-dung roof (which always seemed to leak), inserting a small chimney to remove smoke (all cooking is done inside the house), improving lighting (previously each house had only one minute opening as a 'window'), and using chicken wire as a framework for the walls. It also provides, in several parts of the world, technical assistance in the mining, quarrying and processing of local raw materials which can be used for building.

Figure 15.47
Production of low-cost roofing tiles in Kenya

Relocation housing and new towns

Some of the more wealthy developing countries such as Venezuela with its oil revenue and the NICs of South Korea, Hong Kong and Singapore with their income from trade and finance, have made considerable efforts to provide new homes to replace squatter settlements. In most cases, high-rise blocks of flats have been built on sites as close as possible to the CBD or in new towns beyond the city boundary (Places 60).

Places 60 Singapore: a housing success story

Figure 15.48
Early high-rise flats on the edge of China Town, Singapore

Faced with a large and rapidly increasing number of slum dwellers, and an overcrowded, unplanned, central area, the Singapore government set up, in 1960, the Housing and Development Board (HDB). The HDB cleared old property near to the CBD, especially in the Chinese, Arab and Indian ethnic areas (Figure 15.48), and created purpose-built estates (with 10 000–30 000 people) within a series of 23 new towns, each with up to 250 000 people and all within 25 km of the CBD.

In both cases, the HDB constructed housing units of 1–3 rooms in closely packed high-rise flats (Figure 15.49). The flats were initially for low-income families and rents were kept to a minimum. However, one-quarter of every wage-earner's salary is automatically deducted and individually credited by the government into a central pension fund (CPF). Western-style welfare benefits are regarded as an anti-work ethic, but Singaporeans can use their CPF capital to buy their own apartment or flat. Since 1974 the HDB have built many 4-room and 5-room units for the average and higher-income groups who have then been expected to buy their own property. In 2008, 81 per cent of Singaporeans lived in government-built housing, with 79 per cent of them having managed to buy their own home.

Figure 15.49
Blocks of 1960s high-rise flats

The large estates are functional in design and were developed on the neighbourhood concept of British new towns. Each estate contains much greenery and is well provided with amenities such as shops, schools, banks, medical and community centres. Where several estates are in close proximity, better services are provided such as department stores and entertainment facilities. All the new towns have been linked to, and are within half an hour of, the city centre by the MRT (mass rapid transport railway). Each estate has its own light industries producing, usually, clothing, food

products and high-tech goods. As everywhere else in Singapore, the estates are models of cleanliness with the buildings constantly being painted, grass areas cut and where there is an absence of litter and graffiti (the state has always imposed heavy fines for litter). By 1999, when over 825 000 flats had been built, the HDB had set out to provide every householder with a minimum of three rooms. This was achieved by pulling down and replacing some of the earliest apartment blocks, merging adjacent flats to make them larger, and building more architect-designed estates in specially designated 'new towns' (Figures 15.50 and 15.51). To ensure that all Singaporeans had a home, the HDB bought three-bedroomed flats on the open market and then sold them at a discount price to low-income families as well as introducing their 'Rent and Purchase Scheme'. This scheme allowed families who had a minimum of four members and who had previously only been eligible for a one-room or two-room flat, initially to rent a three-roomed flat from the HDB and then, subsequently, to buy it.

The government also continued its Selective Enbloc Redevelopment Scheme under which all estates were extensively modernised once they were 17 years old (providing that 75 per cent of the occupants agreed). This included allowing owners to apply for a larger flat and/or to relocate to a newer estate as well as refurbishing the interior and decorating the exterior of existing flats. A corresponding improvement in public utilities and services included the addition, or upgrading, of communal facilities, improving roads and planting more trees and shrubs. This has meant that these estates, unlike those elsewhere in the world, show little or no sign of decay.

By the end of 2007, the HDB had built 99 320 flats in which 81 per cent of Singaporeans lived (3 million out of Singapore's total population of 3.6 million). Under the Home Ownership for the People Scheme, whereby most residents had bought their own home, special help had always been being given to assist low-income families. The HDB, under their Build-to-Order system, now offer new two-room and three-room flats to families, initially after 2004 with a monthly household income of under $3000 and, since 2006, to those with an income of under $2000. Also by the end of 2006, various renewal schemes had seen the continual improvement and upgrading of all estates, especially the earlier ones.

Visitors from the West unjustly and incorrectly compare living in one of these 'boxes in the sky' with the often poor-quality high-rise projects found in places like the UK and the USA. However, set in a self-sufficient 'new town' with its own commercial, shopping and leisure facilities and in a clean and increasingly green environment, HDB flats have become very much part of the Singapore way of life and the country's estates are studied by planners from around the world, who consider them a model of success. In 2008 the HDB won a UN public service award for its home ownership programme.

Figure 15.50
An early 1990s estate in Bishan

Figure 15.51
A late 1990s estate

15 Case Study

Living in developed cities

A Los Angeles

Physical hazards

For several generations, southern California was seen as America's promised land. Now it seems that this part of the 'sunshine state' is cursed by natural disasters such as earthquake, fire, fog, drought and flood – disasters which, in part, are created or exacerbated by the lifestyle and economic activities of its inhabitants. The Los Angeles agglomeration, with a population in excess of 12 million people, has become known as 'hazard city'.

Earthquakes

Not only does the San Andreas Fault, marking the conservative boundary between the Pacific and North American Plates, cross southern California (Places 6, page 21), but Los Angeles itself has been built over a myriad transform faults (Figure 15.52). Although the most violent earthquakes are predicted to occur at any point along the San Andreas Fault between Los Angeles and San Francisco, earth movements frequently occur along most of the lesser-known faults. The most recent of 11 earthquakes to affect Los Angeles since 1970 occurred in January 1994. It registered 6.7 on the Richter scale, lasted for 30 seconds, and was followed by aftershocks lasting several days. The quake killed 60 people, injured several thousand, caused buildings and sections of freeways to collapse, ignited fires following a gas explosion, and left 500 000 homes without power and 200 000 without water.

Tsunamis

Tsunamis are large tidal waves triggered by submarine earthquakes which can travel across oceans at great speed. The 1964 Alaskan earthquake caused considerable damage in several Californian coastal regions. Although Los Angeles has escaped so far, it is considered to be a tsunami hazard-prone area.

Sinking coastline

The threat of coastal flooding has increased due to crustal subsidence. Although this may, in part, be due to tectonic processes, the main cause has been the extraction of oil and, to a much lesser extent, subterranean water. Parts of Long Beach have sunk by up to 10 m since 1926. Although this sinking has now been checked, parts of the harbour area lie below sea-level and are protected from flooding by a large sea wall.

Landslides and mudflows

Landslides and mudflows occur almost annually during the winter rainfall season within the city boundary of Los Angeles. They have increased in number and frequency due to effects of urbanisation such as the removal of vegetation from, and the cutting of roads through, steep hillsides and by channelling rivers (Figure 3.8). In 1994, winter storms buried parts of the Pacific Coast Highway to a depth of over a metre in mud, trapped hundreds of people in their cars and houses, and threatened the Malibu homes of film and TV stars. Landslides are frequent along coastal cliffs, and the 1994 earthquake caused several thousand of them in the hills surrounding the city.

Heavy rain

Winter storms bring rain and strong winds. These are especially severe during an El Niño event (Figure 15.53 and Case Study 9A). Although most rivers in the Los Angeles basin are short in length and seasonal, they can transport large volumes of water during times of flood. Deforestation

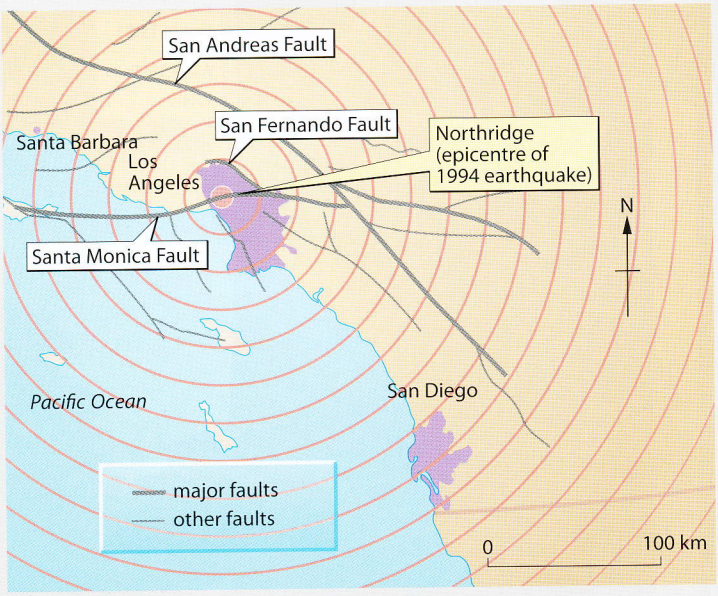
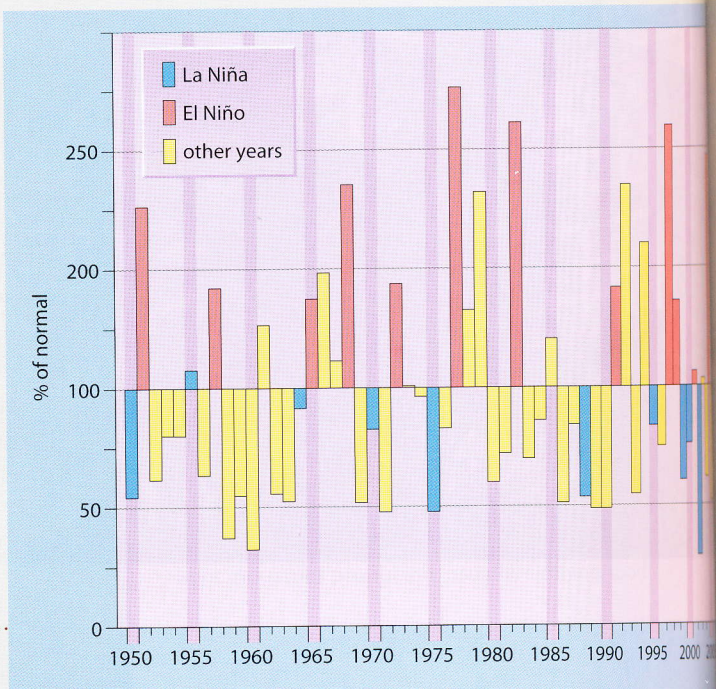


Figure 15.52
Major faults in the Los Angeles basin

Figure 15.53
Los Angeles rainfall, 1950–2006



and brush fires on the steep surrounding hillsides, and rapid urbanisation (page 63), have increased surface runoff. Large dams have been built to try to hold back floodwater but even so the flood risk remains. In February 1992 (during an El Niño event) eight people died and dozens of cars and caravans were swept out to sea when, following two days of torrential rain, floodwaters poured through a caravan park to the south of Malibu. Heavy rain also triggers landslides and mudflows.

El Niño and La Niña events

El Niño events seem to coincide with years of above-average rainfall, and La Niña events with periods of drought, though to a lesser extent (Figure 15.53). In February 1998, parts of southern California were declared a disaster area. El Niño was blamed for the serious floods, mudflows, landslides, storms and, in the mountains, heavy snowfalls.

Drought

The long, dry summers associated with the Mediterranean climate may be ideal for tourists but, as the population of Los Angeles continues to grow, they put tremendous pressure on the limited water resources. Much of the city's water comes, via the Colorado aqueduct, from the River Colorado 400 km to the east. So much water is now extracted from the river that, in very dry years, it almost dries up before reaching the sea. Droughts are expected to increase with global warming.

Brush fires

Much of the Los Angeles basin is covered in drought-resistant (xerophytic) chaparal, or brush vegetation (page 324). By the autumn, after six months without rain, this vegetation becomes tinder-dry. The Santa Ana is a hot, dry wind that owes its high temperature to adiabatic heating as it descends from the mountains. The heat and extreme low humidity of Santa Ana winds cause discomfort to humans and increase the dryness in vegetation. A careless spark or an electrical storm can prove sufficient to set off serious fires.

In October 2007, over 500 000 Californians were forced to flee from brush fires that extended from north of Los Angeles down to the Mexican border. Worst-hit was San Diego county, south of Los Angeles, and the 'celebrity' enclave of Malibu, to the north of the city (Figure 15.54). The fires caused the deaths of seven people, destroyed over 2000 homes and thousands of hectares of vegetation. Fire-fighters, fifty of whom were injured while on duty, worked around the clock for several days trying to control flames that were fuelled by a Santa Ana wind gusting up to 160 km/hr over parched vegetation in temperatures of 38°C.

Fog and smog

Advection fog (page 222) occurs when cool air from the cold offshore Californian current drifts inland where it meets warm air. Fog can form most afternoons between May and October as the strength of the sea-breeze increases (page 240). This event can cause a temperature inversion (page 217), where warm air becomes trapped under cold air. When many pollutants from Los Angeles' traffic, power stations and industry are released into the air, the result is smog (Figure 9.25) and, when they return to Earth, acid rain. Smog in Los Angeles can be a major health problem (Figure 15.55). It has been confirmed that there is a correlation between fog and hospital admissions. For each 10 microgram increase in airborne particulate concentrations, admissions jumped 7 per cent for chronic respiratory patients and 3.5 per cent for cardiovascular disease patients. According to another recent study reported in the *Los Angeles Times*, local residents show lung damage that might be expected of someone who smoked half a pack of cigarettes every day.

Latest figures suggest that 9000 Californians die annually from diseases caused or aggravated by air pollution, more than half from the south of the state, and that one in every 15 000 are at risk of contracting cancer from breathing chemicals in the air.

Figure 15.54 Brush fire near Malibu

Figure 15.55 Smog over Los Angeles

Social contrasts

Living in Los Angeles presents great contrasts in lifestyle and opportunity. The census data for Compton (Figures 15.56 and 15.58), an area between downtown Los Angeles and the docks, contrasts with the idealised picture given by films and TV of expensive Beverly Hills located to the north-west and life in the more distant southern district of Mission Viejo in Orange County (Figure 15.57).

Population

In 2006, the population of Los Angeles city was given as 3.834 million; Los Angeles county as 9.948 million; and the Los Angeles-Long Beach-Santa Ana urban agglomeration as 12.307 million (the 11th largest in the world – Figure 15.3).

Immigration

Over 36 per cent of people living in Los Angeles county were born outside the USA, and 58 per cent do not speak English at home. Classified by race (the term used by the US Census Bureau), 45 per cent are Hispanics (mainly from Mexico and Latin America), 31 per cent are white, 9 per cent are black and most of the remaining 15 per cent are Asian (mainly from China, Japan and Korea).

Most of the Hispanics are men of working age, which includes a high proportion who entered the country as illegal immigrants. Most are young, have little money and limited qualifications or skills. They are attracted to California's wealthy image (Stereotypes – Framework 13), but the reality they face on arrival is often very different. Until they can obtain a Green Card from the Department of Immigration, they may not work legally nor can they receive welfare. They are therefore forced to take very low-paid jobs, often in the informal (page 574) or hidden sectors (page 367). Low educational standards, a lack of qualifications and poor health and housing characterise some of the black American-African communities such as Compton, although this relatively small ethnic group is likely to have migrated here from elsewhere in the USA rather than from overseas. The city authorities, as well as the state and federal government, are making attempts to improve housing, health and education for both the Hispanic and black communities.

	Beverly Hills	Mission Viejo	Compton
Average household income	$70 945	$78 248	$31 819
Households below poverty level	7.9%	2.3%	25.5%
Households earning over $150 000 a year	25.2%	3.8%	1.9%
Unemployment rate	3.2%	2.4%	7.1%

Figure 15.56 Contrasts in Los Angeles *Source:* US 2000 Census

Of the growing number of Asian immigrants who have settled in Los Angeles, those from Japan and Korea include highly educated professional and business people who are improving low- and medium-cost housing, creating many new jobs and helping to provide services for their own community and for the city. In districts where they have settled, such as Norwalk, neighbourhood schools have improved, house prices have risen and violence has decreased.

However, there does appear to be an increasing re-location within Los Angeles of earlier immigrants, on the basis of social class, as the more successful, especially those from Asia and South America, move to more affluent areas. In contrast many Mexicans, who still are often forced to take the poorer jobs, remain in the least desirable districts.

Figure 15.57 Los Angeles

Figure 15.58
Contrasting data for Beverly Hills (an affluent city in the western suburbs), Mission Viejo (a new city in south-east Orange County) and Compton (a deprived inner-city area)

Housing

Increased migration has led to a lack of affordable housing in districts near to downtown Los Angeles. Many immigrants earn less than $5 an hour and so can neither afford to buy their own home nor pay the high rents. Twenty-five per cent of Asians and over 60 per cent of Hispanics live in overcrowded conditions, yet still pay over one-third of their income on housing in areas that are disadvantaged socially, economically and environmentally. Should the newcomers establish themselves with a reliable job, then movement away from the poor housing conditions becomes a possibility, continuing the processes of centrifugal movement (Places 52, page 421) and urban sprawl. Migrants from the same country tend to group together, often maintaining the cultures of their place of origin as in Chinatown and Koreatown.

The Los Angeles agglomeration now extends eastwards for over 115 km inland from the Pacific coast and, as it continued to grow, a number of '**edge-cities**', such as Mission Viejo in Orange County, have sprung up. Edge-cities have large, modern houses, new schools and hospitals, and large shopping centres all set in a pleasant environment. However, they often lack both the types of work that the wealthy inhabitants seek and an adequate public transport system. This has resulted in over 80 per cent of Mission Viejo's working population becoming long-distance commuters.

B NIC cities

Shanghai

Shanghai is the industrial, commercial, financial and fashion centre of China and, with a population of 15.789 million, is the world's seventh largest urban agglomeration. Industrially, it has more than 400 000 firms in the private sector, and over 31 000 foreign-invested companies and is the regional headquarters for 130 transnational corporations. Despite China's huge domestic market, its rapid emergence as a major world economic power – perhaps *the* major world power – depends on its ability to trade and to increase its overseas links. One of the first major developments took place at Pudong directly across the River Huangpu which, in 1989, was an area of farmland reached only by ferry. Within ten years Pudong (Figure 19.43) was a city in its own right, with Shanghai's stock exchange, numerous industrial areas and a large resident population.

Shanghai's development during the 1980s was handicapped by congestion on its roads and a lack of port facilities. Drastic measures were taken. By 1999, the city had three bridges and three tunnels (two metro and one road) linking it with Pudong; a 47 km long outer ring road which only took three years to build; an east–west and a north–south three-lane elevated freeway, each of which cut straight through the existing city regardless of what lay in its path (Figure 15.60); two underground (metro) rail lines; and the beginnings of a new international airport (Figure 15.59).

By 2008, the international airport had two terminals and three runways in use with both a maglev railway and an eight-lane expressway linking it with Shanghai. The city also had eight metro lines and the first stage of a 1318 km rail track to Beijing with trains that will run at speeds of up to 350 km/hr. Deep-harbour facilities at the mouth of the Yangtze River make Shanghai the largest port in the world (according to 2008 figures based on the weight of goods) and the third largest for containers (50 new container berths are at present under construction).

Figure 15.59
Shanghai's transport development

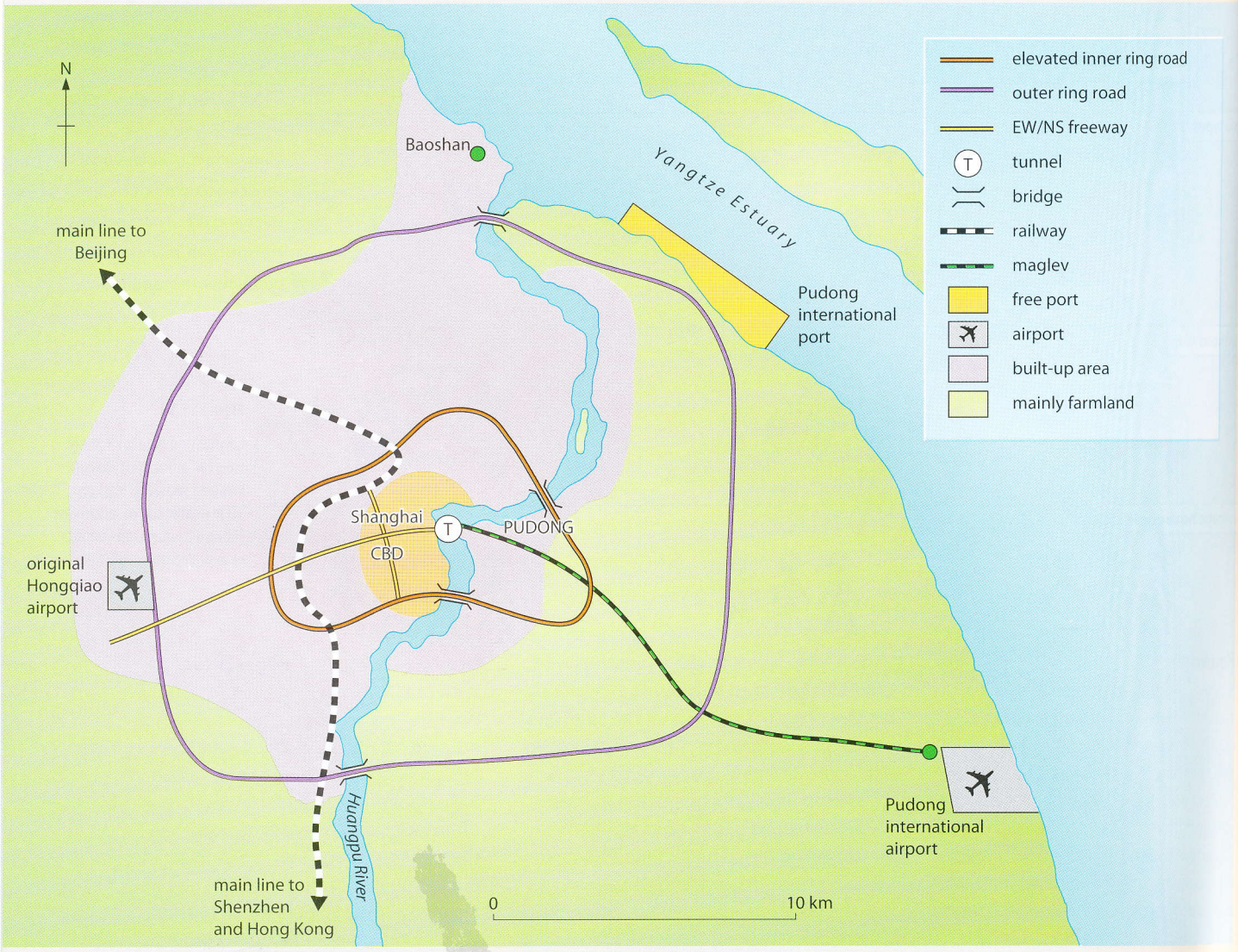


Figure 15.60
Elevated freeways, Shanghai

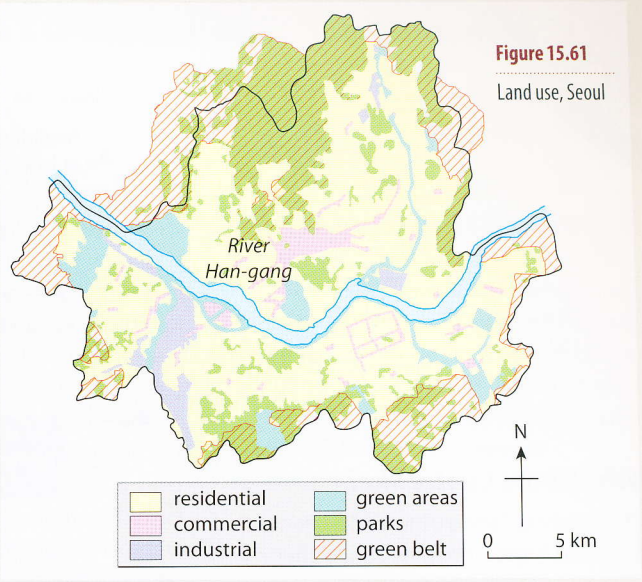


Figure 15.61
Land use, Seoul

Seoul

In the early 1950s Seoul, like most of the country and its economy, lay in ruins after the Korean War. It had a population of under 2 million and no industries capable of competing in the global market. Today the city has a population of over 10 million and its buildings, office blocks and transport system are as modern as those anywhere in the world.

Figure 15.61 shows the present land use in this very modern city. The commercial centre (Figure 15.62) lies east–west and in part has been re-created by opening up a previously concreted-over river. Alongside this 'buried' river used to be countless small family-run businesses, many of which have been re-located in a major redevelopment scheme. Along with numerous larger, newer industries, they are now grouped together along part of the south bank of the River Han-gang. Much of the city is covered in high-rise residential blocks (Figure 15.63), each with its identifying number visible from some distance. The seemingly endless blocks of flats mean that low-quality housing has all but been replaced. Just south of the CBD, and creating a large area of open space, is Namsan Park in which the Seoul Tower caps a hill 262 m high, while surrounding the city itself are vast areas of parkland and woods that form part of an extensive green belt.

Figure 15.62
Seoul CBD from Namsan Park

Figure 15.63
High-rise flats in Seoul

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Issues Analysis

The Westfield Centre, Shepherd's Bush

In October 2008, the Westfield shopping centre opened in Shepherd's Bush in west London. From the time that it was first planned it has been controversial. Why should this be? Retail centres and shopping malls have opened throughout the UK; what's different about this one?

What is the Centre like?

The Westfield Centre (Figure 15.64) is the UK's third largest shopping centre after Gateshead's MetroCentre and Bluewater in Kent. It covers a shopping area of 149 000 m^2 – the same as 30 football pitches. The Centre is owned by the Westfield Group, a multinational Australian company which owns shopping centres in Australia, the USA, New Zealand and the UK. It resembles American-style malls more than British high streets.

The core of the Centre is the shopping complex, but one with a difference. Eighty per cent of the stores are high-value, upmarket fashion outlets; of its 265 shops, the Centre has 40 luxury brands including Louis Vuitton, Mulberry and Prada. Mainstream chain stores include Marks & Spencer, Debenhams, Next, and one supermarket, Waitrose.

What makes the Centre different is that it brings luxury, high street and supermarket functions together on one site. That is unusual for such centres, which normally try to attract mass shopping.

Figure 15.64
The Westfield Centre from the air, looking north

It is also unusual for London, with its upmarket stores in Chelsea and Knightsbridge, and mass-market stores in Oxford Street.

However, the Centre is not simply about shopping. It aims to attract customers to stay longer and spend more. Its facilities include 50 restaurants and a 14-screen multiplex cinema. In its bid to be upmarket, it has barred KFC, McDonald's and plastic cutlery, offering instead upmarket choices such as the Square Pie Company. With this range of businesses on site, Westfield estimates that 21 million people will visit annually. What Westfield really wants is high spending per customer.

Where is it located?

The Centre is located 4 km west of London's main shopping areas in Oxford Street, Knightsbridge and Chelsea (Figure 15.65). Access is good: close by is the Westway, the branch of the main A40 heading west to Oxford, and it is a short distance from the start of the M4 to Heathrow and the west.

The Centre is a regeneration project designed to 're-brand' the area, just as the Olympics are expected to re-brand east London. On Westfield's doorstep is the White City estate, one of London's most deprived areas. The Centre is actually built on land formerly owned by London Underground, before which it was the site of the 1908 Franco-British Exhibition. Close by is the BBC's Television Centre, itself a regeneration project from the mid-1980s, on the site of the former White City Stadium, where London's 1908 Olympics were held (Figure 15.66).

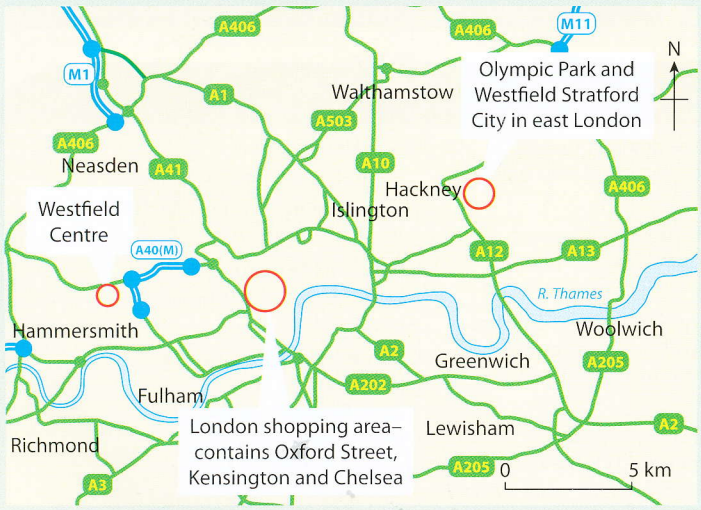
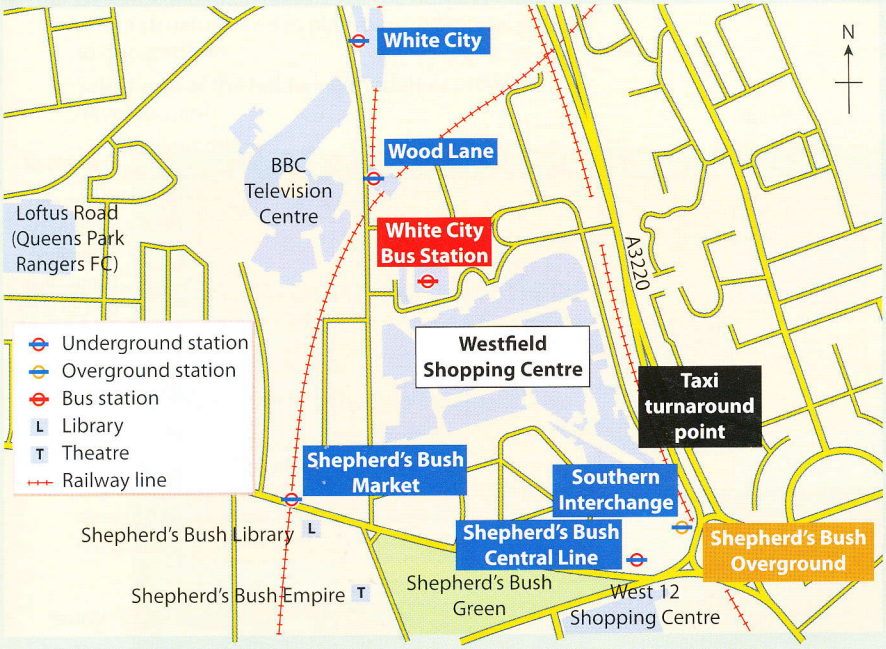


Figure 15.65
The location of the Westfield Centre in west London, in relation to central London and Westfield's next development on the edge of the new Olympic Park at Stratford City

The demand for retail space in London

Until the 2008 credit crunch, demand for retail space in London was considerable. Incomes in London are higher than anywhere in the UK; the average weekly income per worker was £619 in 2008, 40 per cent above the UK average. In addition, some of London's wealthiest suburbs are on the Centre's doorstep, such as Holland Park and Notting Hill. In the London Borough of Hammersmith and Fulham, in which the Centre is located, 33 per cent of the population work in managerial or professional jobs, compared with 26 per cent for London as a whole. Not far away are the riverside suburbs of Chiswick (52 per cent of the population in such occupations), Kew and Richmond (56 per cent).

Figure 15.66
The layout and transport links close to the Westfield Centre



However, London's problem is that so much money earned within the city is spent outside it. Commuters are as likely to do their spending in Essex (at Lakeside) or Kent (at Bluewater). Westfield Centre is an attempt to get Londoners to spend more of their cash in London.

What are the issues?

1 Diverting trade from local shops

One of the problems with any new shopping centres is to what extent it diverts trade from other shops. Close to Westfield is Shepherd's Bush Green, where there is a small shopping centre and supermarket, cinema and gym, and several small, mostly independent shops, many of which cater for local ethnic minority communities. Most shop owners believe that the Westfield Centre will bring increased trade for them. However, others in the area are less certain, especially in Oxford Street, a few kilometres away. Some feel that the two areas are not competing, and that the new Centre will actually bring new money into London. But in November 2008, the number of customers in Oxford Street and Regent Street fell by 25 per cent compared with figures for a year earlier. However, it is difficult to know whether this was due to the Centre, or a result of reduced consumer spending during the credit crunch.

2 Accessibility

Compared with shops in central London, Westfield is less accessible, and is badly affected by traffic congestion. Westfield has invested £170 million into local transport improvements (Figure 15.66). These include

- a new Underground station, Wood Lane, on the Hammersmith and City Line, linking to central and east London
- a new Shepherd's Bush overground station on the line between East Croydon and Milton Keynes, giving the Westfield Centre a potential sphere of influence up to 80 km north of London.

But road traffic is a concern; there are only 4500 parking spaces in the Centre. Local residents and businesses claim that traffic jams and parking shortages on local streets have become worse. Westfield estimate that 60 000 visitors per day will visit the Centre. They claim that public transport will bring 60 per cent of its visitors, i.e. 36 000. The shortage of parking can only worsen if the remaining 24 000 visitors are fighting for 4500 spaces.

3 Impact on the local area

Westfield estimates that the Centre will create 7000 new jobs, and claims that 1000 of these have gone to local residents. In the local area, Shepherd's Bush Green has had a £3 million revamp, with another £4 million spent on 24-hour policing, a new library and 78 affordable homes.

What local people have to say

'I think parking is an issue. If there isn't enough in the Westfield complex something has to be done so that those cars don't come to the local area. It's not about Westfield; it's about residents.'

Jamie Bishop, 35, shopowner

'Very few people are against the regeneration. The site hasn't been properly used since the 1908 Olympics. But the council has done nothing to look at parking or congestion.'

Andrew Slaughter, local Labour MP

'We might have to introduce residents-only parking with some kind of visitors' scheme. There's no doubt that something of this magnitude isn't going to come without pain but there is huge economic benefit and social regeneration for local people.'

Stephen Greenhalgh, Leader of Conservative-run Hammersmith and Fulham Council

'TfL's own research proves Hammersmith and Fulham already has the most clogged-up streets in London with 7.6 million hours lost in traffic every year.'

Spokesperson for Hammersmith and Fulham Council

Activities

1 Summarise the need for economic and social regeneration in this area.
2 Analyse the benefits and problems of locating a centre of this size in this part of west London.
3 Draw a table to show the economic, social and environmental benefits and problems brought by the Westfield Centre.
4 Justify whether you think that the Centre a represents or b does not represent a good example of sustainable development.

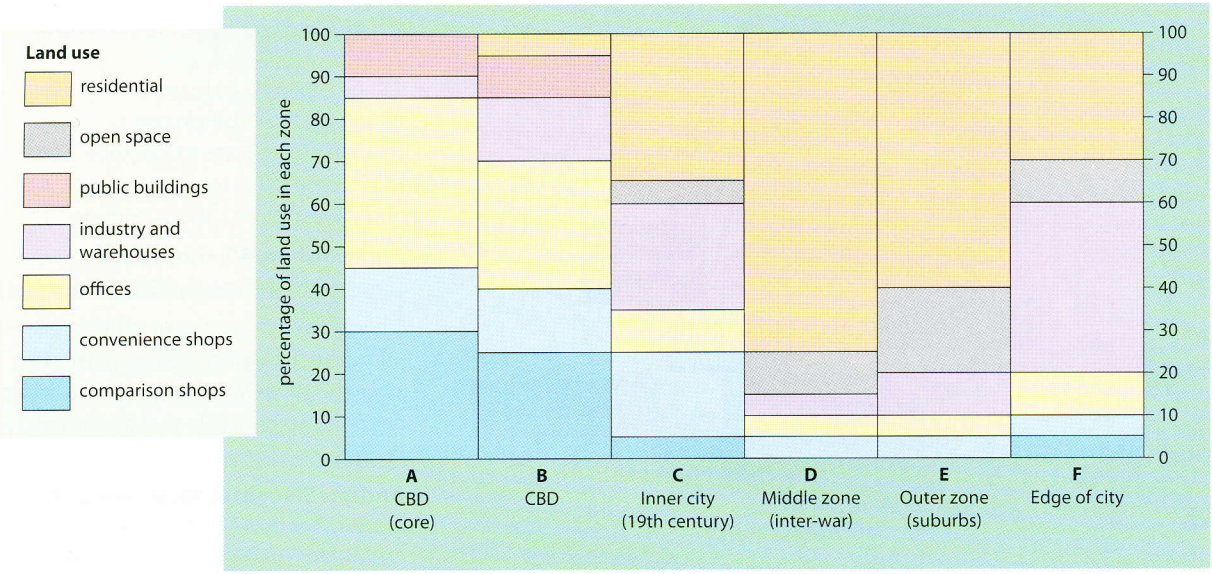


Figure 15.67 Land use in a British city: an idealised transect from the CBD to the city boundary

Activities

1 Study Figure 15.67.

a i Describe and account for the differences between Zone A and Zone B, which are both described as part of the CBD. *(5 marks)*

ii Which two types of land use occupy the most area in Zone C? Explain why this is so. *(4 marks)*

iii How would you expect the appearance of the housing areas in Zone D to be different from those in Zone E? *(4 marks)*

iv Explain why Zone F has more industry and warehouses, offices and comparison shops than Zones D and E. *(5 marks)*

b Name a city in the UK that you have studied. Assess how closely it matches the idealised city shown in the diagram. Make specific reference to named areas within your chosen city. *(7 marks)*

2 There are many factors that 'push' people away from rural areas in less economically developed countries and make them migrate to cities. These include poverty, shortage of land, famine and natural disasters, and the lack of opportunity.

a Explain what the main 'pull' factors are that attract people to move to the cities. *(4 marks)*

b Many of the newcomers in the cities find themselves living in 'squatter settlements' on the outskirts of the city.

i Why do many newcomers end up living in such settlements? *(2 marks)*

ii Why are such settlements often found on the edges of cities? *(2 marks)*

iii Describe the main features of a squatter settlement in a named city that you have studied. *(5 marks)*

c With reference to a named example, explain why traffic congestion can be a problem in cities in less economically developed countries. *(4 marks)*

d Name a city in a less economically developed country. Explain how that city is tackling the problem of housing its growing population, and show how successful it has been. *(8 marks)*

Exam practice: basic structured questions

3 a What is the meaning of:

i urbanisation *(2 marks)*

ii gentrification *(2 marks)*

iii brownfield development? *(2 marks)*

b With reference to one or more inner city areas in the UK, explain what is meant by the 'cycle of deprivation'. *(5 marks)*

c Choose **one** of the following policies for inner city redevelopment that have been tried in the UK:

- Urban Development Corporations (UDCs)
- Enterprise Zones (EZs)
- Urban Regeneration Companies (URCs)
- New Deal for Communities (NDCs)
- English Partnership (EP) agreements.

Describe how your chosen scheme has affected one area in which it has been tried, and assess its success. *(14 marks)*

4 **a** Describe the main features of the Burgess model of urban structure, and explain why the model is useful to geographers. *(5 marks)*

b Select **one** of the following models of urban development:

- the Hoyt model
- the Mann model
- the Ullman and Harris model.

i Describe your chosen model, and explain how it is different from the Burgess model of urban development. *(5 marks)*

ii Discuss the limitations of the model. *(5 marks)*

c With reference to a named city, describe the structure of the city and discuss the extent to which any of the models of urban structure fit that city. *(10 marks)*

Exam practice: structured questions

5 Study Figure 15.67.

a Describe and explain the changes in land use along the transect. *(15 marks)*

b Draw an idealised transect from the CBD to the city boundary for a typical city in a less economically developed country. Add notes below your transect to explain some of the key features of your diagram. *(10 marks)*

6 Study Figure 15.68.

a Describe and compare the rates of urbanisation shown in the table. *(7 marks)*

b Choose one of the less economically developed regions shown in the table. Explain why that region is experiencing rapid urbanisation. *(9 marks)*

c Choose one of the more economically developed regions shown in the table. Explain why the rate of urbanisation was comparatively slow in the last 30 years of the 20th century. *(9 marks)*

	Urban population (percentage)				
Area	**1950**	**1970**	**1990**	**2000**	**2030 (estimate)**
World	29.2	37.1	45.2	48.2	61.9
Europe and Russia	56.3	66.7	73.4	73.5	80.6
North America	63.9	73.8	74.3	77.4	84.6
Oceania	61.3	70.8	71.3	74.2	72.2
Latin America	41.0	57.4	75.1	75.3	84.1
Asia (excl. Russia)	16.4	24.1	28.2	37.5	54.1
Africa	15.7	22.5	33.9	48.2	52.9

Figure 15.68

The proportion of world population living in urban areas

Exam practice: essays

7 Study Figure 15.68 above. Compare and contrast the rates of urbanisation in a range of regions at different stages of economic development. Suggest reasons for the differences that you have observed. *(25 marks)*

8 Several different schemes have been developed by UK governments since 1979 to improve conditions in declining inner city areas.

Choose any **two** of these schemes. Describe the aims and methods of each of the schemes. Assess the successes and failures of each scheme, with reference to one or more cities where the schemes were put into practice. *(25 marks)*