

CHAPTER 9: CITIES AND URBAN LAND USE

IF YOU LEARN ONLY SEVEN THINGS IN THIS CHAPTER . . .

1. All cities fit within Christaller's central place theory. Some cities have greater ranges and need bigger thresholds. Range is the maximum distance people are willing to travel to get a product or service. Threshold is the minimum number of people needed for a business to operate.
2. There are three basic models of urban structure in the United States. The concentric zone theory, developed by Burgess, describes expansion in concentric rings around the central business district. The sector model, developed by Hoyt, suggests that growth extends along transportation routes. The multiple nuclei model, developed by Ullman and Harris, suggests that growth is independent of the central business district.
3. Different continents have cities with different characteristics. European cities are older and more historic. Asian cities are usually built on ports for trade. Latin American cities possess a spine of high-quality housing extending from the central business district. African cities have three separate central business districts, including a colonial central business district, contemporary central business district, and a market zone. Islamic cities are focused on the principles of the religion.
4. Cities have problems such as race relations, traffic, water delivery, pollution, and urban sprawl that can negatively affect their inhabitants unless handled appropriately by local government.
5. The three world cities are New York City, London, and Tokyo. Other cities are rated and ranked based on their economic, cultural, and political importance to the areas they serve.
6. The hierarchy of cities from smallest to largest is hamlet, village, town, city, metropolis, and megalopolis. The largest metropolis in the United States is New York City with over 18 million people in its metropolitan area.
7. Primate cities have at least twice the population of the next-largest city in the same country. London, Paris, and Buenos Aires are examples of primate cities.

People travel for different reasons. Many people travel for vacation, in search of rest and relaxation. They might go to a beach to bask in the rays of the sun. Others travel for excitement, to see something new and unexpected. Some go to cities, the epicenter of culture and the arts. Cities like New York, London, and Rio de Janeiro have a distinctive vibrancy. Major urban areas are a magnet for excitement and life itself.

People are moving to urban areas every day. In the United States, almost 98 percent of the population lives in an urban environment. Today, the world's **urbanized population**, the number of people living in cities, is higher than ever in human history. Cities serve and entertain. They harbor culture and keep history. Cities mold people as much as people mold them. Cities define their inhabitants. Urban areas can be as small as two families or huge megalopolises. For example, Tokyo, Japan, has close to 35 million people within its metropolitan area. The larger the city, the more purposes it fulfills and the more needs it serves. Large urban areas provide employment to millions, and their influence extends far beyond their borders.

This chapter discusses the definition of urbanization as well as the reasons for urbanization. Why do some cities grow more than others? What are the characteristics of different world cities, and are these characteristics beneficial or not? How do world cities change over time? What effect do transportation systems have on cities? How do American cities reflect their regions?

DEFINING URBANIZATION

Urbanization is the process by which people live and are employed in a city. People are drawn to urban areas for a variety of reasons. Cities provide products and services for their populations. Also, employment is usually very accessible, with more jobs available in larger cities than in smaller towns or rural areas; this attracts job seekers. The increased labor force then creates a larger consumer base that purchases goods and services. Thus, industries in cities have a ready market for their products and a ready labor force to produce them.

Urban areas have a **nucleated form of settlement**, which means that they have a center area of development, known as a **core area**. This is different from a **dispersed form of settlement**, which is usually found in rural areas where houses are far apart.

Cities offer many amenities, which may include professional sports teams, professional dance companies, and art museums. Large sports franchises, such as the National Football League (NFL), Major League Baseball (MLB), National Basketball Association (NBA), and National Hockey League (NHL), have teams in major metropolitan areas. These teams have high thresholds. A **threshold** is the minimum number of people needed to meet the needs of the industry. Some cities, such as Chicago and New York City, are large enough for two professional teams playing the same sport.

URBAN ECONOMIES

Cities serve an economic function, which depends on what type of economy the country possesses. Chapter 7, "Industry and Economic Development," discussed the different types of economies, ranging from primary services (agriculture, forestry, etc.) to secondary (manufacturing) to tertiary (selling goods and services). **Commercialization** is the selling of goods and services for profit. Cities begin as bartering or market centers, but they can grow to have global economic impact.

When one large industry moves into a city, it is known as a basic industry. A **basic industry** is a city-forming industry. Basic industries in the United States include steel in Pittsburgh, automobiles in Detroit, and computer chips in San Jose, California. After the establishment of a basic industry, **nonbasic industries** are established. These are the city-serving industries and may include anything from construction to industrial equipment. Together, basic and nonbasic industries form the economic base of cities, generating tax revenue and employment and spurring the development of infrastructure.

Cities move in their **employment structure** from industrial to tertiary to quaternary activities. First, most workers are employed in producing goods, then most become employed in selling and servicing goods manufactured elsewhere. Eventually, a city may become a **post-industrial city**, specializing in information-based work. This shift toward more specialized economic activities is called the **deindustrialization** of a city. When a city goes through deindustrialization, factories are shut down, but new jobs appear in customer service, professional services, and management.

Occasionally, a city will go through an underemployment situation. **Underemployment** occurs when too many employees are hired and there is not enough work for all of them to do. When this occurs, layoffs usually ensue. Cities with good educational systems can assist workers in developing new skills to meet an ever-changing job market.

URBAN HIERARCHIES

HIERARCHY BY SIZE

Urban areas are classified in a hierarchy depending on their population. **Unincorporated areas** were once considered urban areas, even though only two or three families live there today. Unincorporated areas are often found in the western United States. They once might have been a town or hamlet but have lost people over the years. Unincorporated areas also exist on the fringes of suburbs. They are rural areas that may someday incorporate once their population rises.

Hamlets may only include a few dozen people and offer very limited services. The people in the hamlet are clustered around an urban center, which may consist only of a gas station or a general store.

Villages are larger than hamlets and offer more services. Instead of just a general store, there may be stores specializing in the sale of food, clothing, furniture, etc.

Towns may consist of 50 to a few thousand people. Towns are considered an urban area with a defined boundary but are smaller than a city in terms of population and area. Many towns dot the landscape of the Great Plains. The surrounding farms are the **hinterland** of the towns. The towns may serve area farmers, providing stores such as a supermarket. Towns typically have schools and libraries.

Cities are large, densely populated areas that may include tens of thousands of people.

Metropolises have large populations, incorporate large areas, and are usually focused around one large city. According to the U.S. government, a metropolitan area must have over 50,000 people. Metropolitan areas usually include suburbs from which people commute to their jobs in the urban core or in other suburbs. The central city and its suburbs usually border each other, and the suburbs are usually socially and economically dependent upon the urban core. Many of the larger cities around the world are centers of metropolitan areas.

The biggest urban area is called a **megalopolis** or **conurbation**, where several metropolitan areas are linked together to form one huge urban area. A good example of a megalopolis is the East Coast of the United States. The area that extends from Boston, Massachusetts, to Washington, D.C., along the Interstate 95 corridor is one large urban area. Besides Boston and Washington, it includes Providence, Rhode Island; Hartford, Connecticut; New York City; Newark, New Jersey; Philadelphia, Pennsylvania; Dover, Delaware; and Baltimore, Maryland. This area contains the largest concentration of population within the United States.

Another megalopolis is the southeastern region of Canada. The area extending from Hamilton through Toronto up to Ottawa in Ontario, and east to Montréal and Québec City in Québec is also considered a megalopolis. Even though these cities have far fewer people than the East Coast megalopolis of the United States, together they form the heart of Canada's population as well as its industrial core.

WORLD CITIES

Saskia Sassen wrote that certain cities possess more authority in terms of cultural outreach and political influence than others. These cities define not only their own countries but other countries in the region as well. Sassen gave New York City, London, and Tokyo each the title of "world city." (See Figure 9.1.) These three cities are the financial capitals of their regions, because they are the location of the major stock markets for their respective continents. Large financial institutions as well as large publishing companies and transnational corporations are located in these cities.

Also, these cities are characterized by their familiarity; they often appear on the news and as settings for films and literature. These cities have world-class international airports. Their infrastructure includes some form of mass transportation in addition to well-maintained freeways. New York and London have vibrant ethnic communities, and all three world cities have large expatriate communities—that is, many people from other countries live there for business or personal reasons. They have hosted global events, such as the Olympics or the World's Fair.

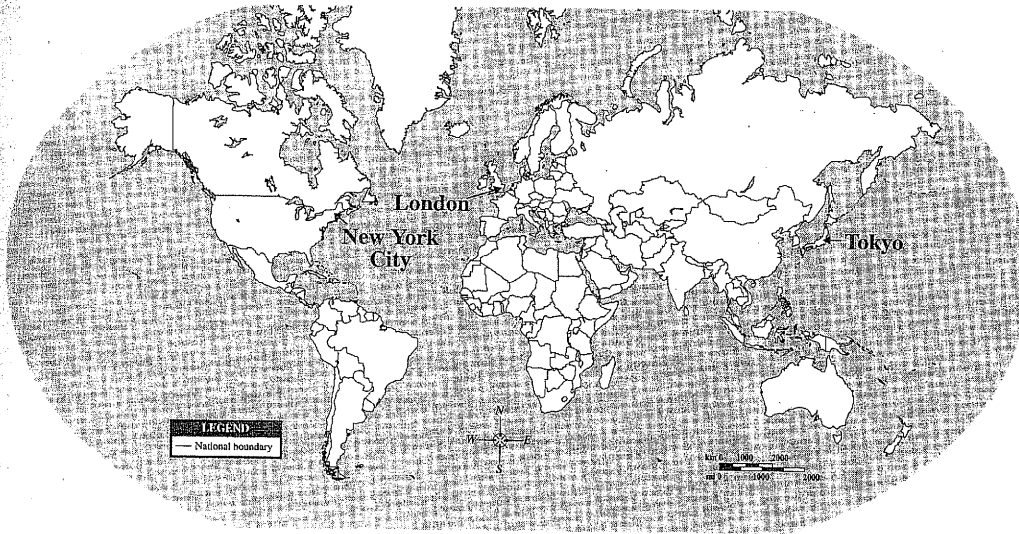


Figure 9.1: Three Key World Cities.

Sometimes, world cities have been called **great cities**, based on their economic importance. Whatever the term used, these world or great cities dominate their counterparts in terms of population and economic influence over an extended area.

HIERARCHY BY INFLUENCE

Cities are given rankings based on their amenities as well as their importance in global commerce. This **urban hierarchy** puts cities in ranks from small first-order cities upward to fourth-order cities, which are large, world-class cities. The higher the order of the city, the greater the sphere of influence that city possesses on a global scale. Fourth-order cities have a larger hinterland than first-order cities. On a regional scale, the terms for urban development are (in ascending order from smallest to largest): hamlet, village, town, city, metropolis, and megalopolis hierarchy.

One can also use the urban hierarchy on a smaller scale, such as at the individual U.S. state level. The state of New York would have New York City as its most important city owing to its financial and cultural importance. Albany would be in the next order along with Buffalo, Rochester, and possibly Syracuse. In 2004, Ithaca, New York, was voted the top emerging city in the United States according to *USA Today*. Smaller urban areas in the state would be ranked as category 1, those being the smallest, least influential urban areas.

Another way that geographers organize cities is by ranking them. Using the Greek alphabet, cities are sorted into alpha, beta, and gamma cities. The most important cities are the three **World Cities**, which are New York City, London, and Tokyo. Some geographers also consider Paris part of this order. Other geographers insist that Shanghai should be included in this first tier of alpha cities because of the economic importance of China in the world market. Cities in the second tier of

the **alpha world cities** are still impressive in their economic and political clout. These alpha cities include Los Angeles, Chicago, and Washington, D.C., in the United States; Frankfurt and Milan, in Germany and Italy respectively; Hong Kong in China; and Singapore (a city-state).

The next order of cities, sometimes called the **beta world cities**, includes San Francisco, United States; Sydney, Australia; Toronto, Canada; Zurich, Switzerland; Brussels, Belgium; Madrid, Spain; Mexico City, Mexico; and São Paulo, Brazil. Some geographers also include Moscow, Russia, and Seoul, South Korea, with this group. Each of the beta cities has a unique feature (e.g., it is a financial, fashion, or governmental center) that makes it important within its region.

The next order, called **gamma world cities**, includes Amsterdam, the Netherlands; Dallas, Houston, and Boston of the United States; Melbourne, Australia; Düsseldorf, Germany; Jakarta, Indonesia; Osaka, Japan; Caracas, Venezuela; Geneva, Switzerland; Johannesburg, South Africa; and Prague, the Czech Republic.

CITY TYPES

Emerging cities are experiencing population growth as well as increasing economic and political clout throughout their region. Shanghai, China, is quickly becoming one of the world's emerging cities. Shanghai is trying to compete for financial dominance in not only Asia but also around the world. Its exports of commodities along with its attraction of foreign investment has led to growth that could not have been imagined 30 years ago.

Other cities are gaining importance in the world economy. Many of these emerging cities are located in Asia. Hanoi in Vietnam, Bangkok in Thailand, and Dubai in the United Arab Emirates are all trying to establish their place as world cities. Dubai is considered the playground for the wealthy in the Middle East. Many flights from the United States and Europe to anywhere in the Middle East stop over in the Dubai airport. Its influence in the region is growing yearly.

Many emerging cities are in less developed countries. Not only are many of these cities gaining more importance politically and economically, but they are also becoming extremely populated. In 1950 only seven of the world's twenty largest cities were in the developing world compared to sixteen by the year 2000.

Another type of city is a gateway city. **Gateway cities** connect two areas and serve as a gateway between them. Often, gateway cities connect two cultures and serve as a cultural point of entry. For example, Boston and New York City were the two primary entry points for European immigrants to the United States. Ellis Island, in New York Harbor, is a national park today, symbolizing its role as an entry point.

Likewise, San Francisco is considered a gateway city. Millions of Chinese have entered the United States through San Francisco since the mid-19th century. San Francisco's Chinatown is not only

a tourist destination but also an important cultural center for thousands of Chinese and Chinese Americans.

Another gateway city in the United States is St. Louis, Missouri. St. Louis is so proud of its gateway heritage that it built a monument known as the Gateway Arch. The Gateway Arch symbolizes migration to the western United States, especially the important psychological step of crossing of the Mississippi River. To many pioneers, this river symbolized entry into the vast expanses of the plains.

Gateway cities are located around the world. In Australia, Sydney is considered a gateway city because it is where immigrants often enter Australia. One of the world's great gateway cities is Istanbul. Istanbul is the only city in the world located on two continents, with Europe on the west side of the Bosphorus Strait and Asia on the east side. Istanbul, known formerly as Constantinople, has always been considered the gateway between West and East.

Many cities have what is known as a festival landscape. A **festival landscape** is a space within an urban environment that can accommodate a large number of people. It may be decorated and used for celebrations. One of the most famous festival landscapes is Central Park in New York City. Central Park was built specifically for the citizens of New York City to have a place to play within densely populated Manhattan. Central Park today holds concerts for tens of thousands of people on summer evenings. In Central Park, citizens can enjoy some semblance of nature within one of the most densely populated cities in the world.

Hyde Park in London is similar to Central Park. Hyde Park has a small lake where people can rent boats and ride trails on horseback. Shanghai has the People's Park, which can hold thousands of people. Flying kites is a popular activity in this park.

CHARACTERISTICS OF CITIES

U.S. CITIES

The **central business district** (CBD) is the commercial center of an urban area. It is the downtown region of a city. In the United States, many buildings in the CBDs are skyscrapers, which, because they are tall, maximize the occupancy on very expensive land. The **bid-rent theory** suggests that only commercial landlords can afford the land within the central business district. As a person moves farther from the central business district, the value of the land decreases. Therefore, the suburbs have more land per residence on average, because the land is cheaper than in the inner city. Homes in the inner city usually have smaller lots, because the land is more expensive. Residential properties in the central business district are usually apartment buildings.

U.S. shopping malls exemplify the principle of agglomeration. A **shopping mall** is a group of retail outlets that either share a roof or are connected by a set of walkways. Shopping malls attract

more customers than a single store would. People shopping for one item may find themselves purchasing several items from several stores. Agglomeration is advantageous for every store in the mall. Sometimes shopping centers are located along a major transportation route, such as the Magnificent Mile on Michigan Avenue in Chicago. The agglomeration of retail outlets in this highly visible area, where thousands of tourists and customers walk by daily, presents an attractive business opportunity.

EASTERN U.S. CITIES

Eastern cities in the United States were built before the invention of the automobile, so their streets tend to be narrow and parking is usually done in the alleys. The residential areas are tightly packed, making for a dense population. Homes usually face the street with little or no yard in front; yards are in the back of the house.

Many eastern cities have some type of mass transportation, such as trains or subways. The density of the population on Manhattan Island would make travel by car difficult, if not impossible, without some form of train service. Subways run fairly regularly and are relatively easy to use. They provide a good way to get around the city without dealing with traffic-congested streets.

Traffic in eastern cities is heavy at most times of day but especially during rush hours. Rush hours are when people travel to work in the morning, usually between 6:00 am and 9:00 am and then home again between 3:30 pm and 6:30 pm. Commutes to work can often be measured in hours. Many suburban residents drive as far as the outskirts of the city and then take mass transportation into the core downtown where they work.

Washington, D.C., was built so that invading armies would have difficulty finding and taking over the city. This complex pattern has also made it a nightmare for people trying to drive in the city. Washington's subway system allows people to travel without dealing with its roads and traffic.

WESTERN U.S. CITIES

Cities in the western United States share some characteristics with eastern cities but are also profoundly different. As in East Coast cities, the central business districts contain skyscrapers. However, cities in the western United States are much more spread out, and the homes are often more widely spaced as well. Also, both front yards and backyards are common in western cities. These cities rely on the automobile, rather than mass transit, as the primary means of transportation.

Because these cities were built for the automobile and because many are built on relatively flat land, many use the **grid street system**. Streets run east/west and north/south, creating a grid pattern on the landscape. In many cases, these streets are named first, second, third, and so forth. North/south streets may be called avenues and may be numbered or given names that proceed alphabetically. This logical progression of street names is common in western cities because their grid layout allows it. Such street naming conventions allow for ease of navigation.

Many of these cities depend upon the interstate highway system for transportation, and interstates with eight lanes in each direction are not uncommon in the larger West Coast cities, such as Los Angeles and San Diego. In an effort to curb congestion of the interstates, some highway lanes are reserved for "multiple-occupancy vehicles" (MOVs) to encourage people to carpool. Others are being converted into toll roads, and people must pay to use them. Also, sometimes lanes will be open only one way, into the city, during the morning rush hour and again one way, out of the city, during the afternoon rush hour.

Another characteristic of western cities is the private residential garage. Garages, either attached to the houses or unattached, are common, because space is so plentiful. On the East Coast, cars are generally parked in the alley in back or in multilevel commercial parking garages for a monthly fee.

Suburbs are key to any western city. **Suburbs**, located on the outskirts of a central city, are usually residential but can possess numerous commercial and even industrial enterprises. Hundreds of thousands of people work in the suburbs in the western United States. The suburbs combined often have more people than the central city. The Minneapolis-Saint Paul metropolitan area is a good example of this. Minneapolis and Saint Paul combined have approximately 700,000 people, but the entire metropolitan area has close to 3 million people. Only one out of every four people in the metropolis live within the Minneapolis or Saint Paul city limits. In many eastern cities, the primary city still contains more people than the suburbs.

Seattle, Washington, is one of the few major cities in the northern United States with a high growth rate. Its port plays a vital role in the economy, making it one of the major ports of entry for Asian goods.

FOUR STAGES OF U.S. CITIES

In 1967, John Borchert suggested that American cities went through four distinct stages.

1. *Stage 1: The sail-wagon period.* This period extended from around 1790 to 1830. The only means of international trade was sailing ships. Once goods were on land, they were hauled by wagon to their final destinations.
2. *Stage 2: The iron-horse period.* The railroad transported goods and people in this period, which lasted from 1830 to 1870.
3. *Stage 3: The steel-rail period.* From 1870 to 1920, steel was the primary building material in the United States. Mining its raw materials and manufacturing and transporting it provided many jobs.
4. *Stage 4: The auto-air-amenity period.* From 1920 through 1960, the engine transformed the American landscape via the automobile. People could commute farther to work and live farther outside the central urban area. The airplane meant that goods could be exported and imported much more quickly.

EUROPEAN CITIES

European cities are much different from American cities. European cities are much older and, therefore, have a different structure. Rome and Athens date as far back as 3,000 years; London and Paris date back 2,000 years; and even the newer cities in Europe had their beginnings before the Americas were settled by Europeans.

Europeans zone their cities differently than Americans. **Zoning laws** determine how land and buildings can be used. There are three different types of zoning: residential, commercial, and industrial. **Residential zoning** is for housing, **commercial zoning** is for business or retail types of structures, and **industrial zoning** is for manufacturing plants. In Europe, zones are often intermixed, allowing, for example, commercial establishments on the ground floor of a building and apartments on the upper floors. Structures in the United States are often zoned only for commercial use, and the entire building is an office complex.

In the United States, if something is old, it is often torn down and replaced. Europeans have a philosophy that what is old should be preserved. The preservation of historic buildings means that some districts in European cities are hundreds or even thousands of years old.

Many of the streets are in a **dendritic** pattern. This pattern looks like the root system of trees, with streets that curve and meander through the city. Unlike with the grid system, which is relatively easy to navigate, people traversing European cities can easily get lost if they don't know their way.

European cities were built when the automobile was still hundreds of years in the future. Designed primarily for foot traffic, city streets tend to be narrow. Some streets in Copenhagen, Paris, and London are only a few meters wide.

Copenhagen, Denmark, has the largest outdoor shopping mall in Europe. It was not always a mall but rather was used for transportation until recently. Such rezoning for commercial land use has revitalized many urban districts.

Like Copenhagen, Neuss in Germany contains an outdoor shopping mall. However, the narrow city streets show that this part of the urban area was built before the invention of the automobile. Trains move people around the densely populated interior.

The Industrial Revolution spurred major changes in European cities. Agricultural products could be sent farther, and markets grew with the increase in urban populations. Fewer people were needed on farms, and more people migrated to cities searching for employment. Cities began to feel crowded. Subways were built in London in the late 19th century, and these tracks are still in use today by the Tube, London's subway system. Despite the impact of the Industrial Revolution, cities in Europe are usually smaller than cities in the United States. London, Paris, Berlin, and Moscow are obviously very large cities. However, cities such as Copenhagen, which consist of only 1 million people, are considered a moderate size in the United States.

Another difference between the United States and Europe is in the distribution of people by social class. In the United States, the lower classes live relatively close to the urban center in apartment complexes, while the upper classes live outside the city and commute to work. The opposite is true of European cities; the wealthy live in the central city and the lower classes live on the outskirts. Lower-income people can't afford to live in the inner neighborhoods of many European cities; housing costs are too prohibitive. Many of the wealthy escape to rural homes on weekends to enjoy fresh air and space not available in the core urban environment. City parks in European cities are very crowded on weekends, especially when the weather is nice.

Because European cities were built before the technology existed for skyscrapers, many of the structures within the central, older part of the city are only five or six stories tall. By the time skyscrapers could be built, many European cities had already established their downtown regions. Therefore, skyscrapers in European cities are built on the outskirts of town.

In London, the tallest buildings are located in the Canary Wharf area. The Docklands development is located just to the east of downtown London. What used to be desolate, low-income, industrial style housing has now become one of the most fashionable residential areas in all of Europe. The high-rises in the Canary Wharf area were built within the past decade. New development and investment in the area has meant more infrastructure and new buildings. In a neighborhood that used to be devoted to industrial activities around a port, expensive lofts and other apartment complexes are sprouting up.

In Europe, when the buildings of the central business districts were built, the wealthy lived in the bottom floors because elevators had not yet been invented. Less affluent people lived on upper floors and walked up and down stairs every time they left their apartments. Once elevators were invented, however, the upper classes wanted the views that the top floors provided, so upper-floor apartments became more valuable.

European cities may feel claustrophobic to people accustomed to the spaciousness of U.S. cities. The buildings in the inner city are all the same height and extend as far as the eye can see. There are no yards; instead, parks provide some open space. The density of these cities pose some problems for the residents, such as pollution. To prevent urban sprawl, urban planners established greenbelts. **Greenbelts** are rural areas that are set aside to prevent development from extending too far outwards. Greenbelts are prevalent in the United Kingdom. The metropolitan area of London has a greenbelt that is over 5,000 square kilometers. Another purpose of greenbelts is to prevent **in-filling**, the process of cities that are close to each other merging together. In-filling has occurred with U.S. cities such as Dallas-Fort Worth and Minneapolis-Saint Paul. The cities are politically separate and have distinctive cultures, but together, they form one giant metropolitan area.

When walking in European cities, one notices buildings that are hundreds of years old next to modern buildings erected within the past couple of decades. In World War II, urban areas in some countries were bombed. Bombs hit some buildings but spared others. The result is 500-year-old stone buildings next to 50-year-old glass-and-concrete buildings.

Eastern European cities are a little different from many of the cities in Western Europe owing to Soviet dominance during the Cold War. Communist planners built apartments of concrete. For example, in Bucharest, Romania, rows of rectangular concrete apartment buildings were constructed. They were designed to be useful, not interesting or attractive. Eastern European cities have no high-rises in their central business districts. The money simply was not available, and commercial enterprises did not thrive under communism. Also, environmental damage caused by decades of Soviet rule will take decades to clean up.

Since the fall of communism, the urban dwellers of Eastern Europe as well as tourists are beginning to experience a reinvigorated urban lifestyle. Prague, with its historic districts, rivals the beauty of Paris. Berlin is now a shopper's paradise. Cities in the former Baltic republics of Latvia, Lithuania, and Estonia are attracting tourism dollars because of their beauty as well as the distinctive cultural experiences they offer.

LATIN AMERICAN CITIES

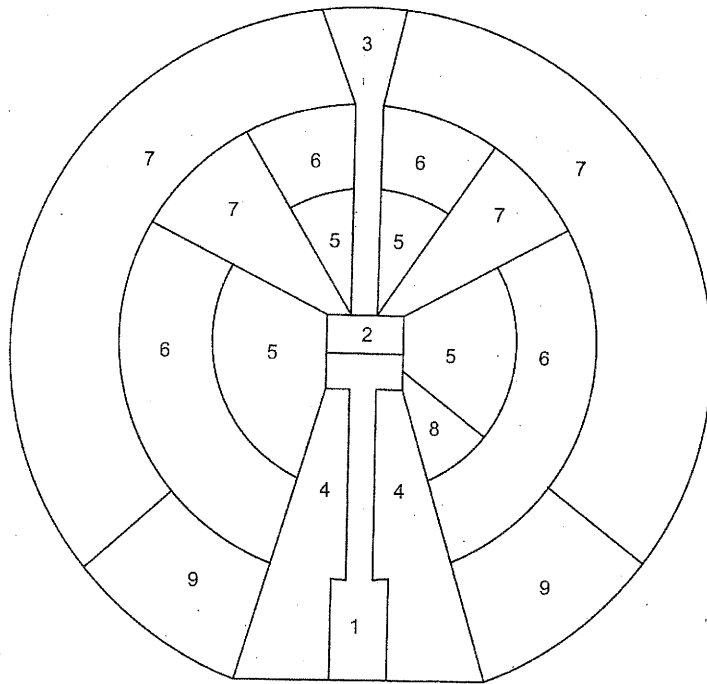
Cities in Latin American countries often integrate their native pasts into their design. The world's second-largest city, Mexico City, exemplifies the characteristics of Latin American cities.

This area is experiencing one of the world's fastest urban growth rates. **Urban growth rates** are the rate at which individual cities increase their populations. Cities are growing so rapidly owing to the poverty of the countryside. Many farmers are being forced off rented land for not producing enough profit, or they are leaving their own land because they cannot make a good enough living. The result is an influx of migrants looking for employment.

Latin American cities are distinctive in that their urban structure includes a "spine" of high-income residential areas. This spine extends outward from the central business district, while squatter settlements are located on the edges of the city. **Squatter settlements** are areas of squalor and extreme poverty.

The Latin American City Model (see Figure 9.2), developed by Dr. Larry Ford, a professor of geography at San Diego State University, shows the characteristics of many cities in Central and South America. Many of the high-income residences that extend out from the central business district are gated communities, designed to protect the residents from the crime bred by widespread urban poverty.

In Brazil, many of the squatter settlements are located in the large cities of Rio de Janeiro as well as São Paulo. Here, the squatter settlements are called *favelas*. In São Paulo, many of the *favelas* are located on the periphery of the city settlements. In Rio de Janeiro, the *favelas* are located throughout the city but are concentrated primarily in the northern sections. In many cases, anarchy rules within the *favelas*. Child gangs dominate the drug trade, and other crimes are rampant in these poverty-stricken areas. Police try to impose order, sometimes brutally, but the sheer number of people living in the *favelas* and their extreme poverty make control difficult.



- 1 – Commercial business district
- 2 – Market district
- 3 – Industrial district
- 4 – Elite residential sector
- 5 – Zone of maturity
- 6 – Zone of in situ accession
- 7 – Zone of peripheral squatter settlements
- 8 – Gentrification
- 9 – Middle-class residential

Figure 9.2: Latin American City Model.

In other Latin American cities, squatter settlements are called *barriadas*. Often, residences in *barriadas* do not even consist of four walls but merely of tin sheets propped up on posts. Like the *favelas* in Brazil, *barriadas* are crime-ridden. In many cases, crime is the only available activity that pays. Prison may actually be an upgrade from the slum conditions.

Another characteristic of Latin American cities is a focus on the central business district. Cities are laid out like the hub-and-spoke of a bicycle wheel. All roads lead to the center of the city, where commuters must hook up with another road or other transportation system to get to another section of town. Because of this hub-and-spoke pattern of transportation, the central business district is the focus of employment, entertainment, and economic activity. Roads, trains, and buses are fairly reliable in many of these cities.

Mexico City, formerly called Tenochtitlan, has seen tremendous population growth. Mexico City now has a population of over 20 million people. The constant influx of migrants is causing massive urban growth along with a high unemployment rate and an abundance of homeless, abandoned children. Much of the western section of the city is *barriadas*.

Mexico City was built on a former lake bed that has been filled in with dirt. As a result of urban structures resting on unstable soil, the city is sinking a few centimeters per year, posing a predicament that must be dealt with in the upcoming decades. Also, Mexico City is located on a fault line and suffers from many earthquakes. A 1985 earthquake had a magnitude of 7.4 on the Richter scale. Over 9,000 people lost their lives, over 30,000 people were injured, and over 100,000 people were left homeless. Another problem is that Mexico City is built in a mountain valley with mountains in all directions. Therefore, the city's pollution has little outlet. Warnings for air pollution are constantly being issued. To reduce emissions and improve public health, automobiles are color-coded so that certain colors may drive only on certain days.

ASIAN CITIES

Many Asian cities are some of the most prosperous cities on Earth. Their economic development of the past four decades has been extraordinary in terms of both infrastructure and economic importance. Asian cities for the most part are located on coasts and have been built for trade, with ports playing an important economic role. Much of their growth is due to trading goods to more developed countries, such as the United States and Japan. Investment of capital from more developed countries has also promoted growth.

Many of these cities have specific zones that have been established for Western companies to locate within their borders. These zones provide tens of thousands of jobs in cities such as Shanghai, China, and Mumbai (Bombay), India. The result is an infrastructure that is ultramodern in its appearance and financial capital measured in billions of U.S. dollars. Automobile companies, such as Volkswagen and Ford, have established production facilities in Shanghai, and Chinese demand for cars is increasing sharply as the middle class expands. Coca-Cola (the most recognized brand name in the world) and Pepsi have also seen opportunities in many Asian markets.

The model of the Southeast Asian city shown in Figure 9.3, developed by Terry McGee, shows the importance of the port zone; growth extends outwards from the port. The specific areas designated as Western commercial zones are usually located near the port to easily export their products. Suburbs and squatter developments as well as market-gardening zones still exist.

Seoul, South Korea; Singapore, a city-state; and Hong Kong, China, have seen tremendous growth rates due to their ports. These **entrepôts** reexport goods, sending them to all areas of the globe. Singapore and Hong Kong are magnets for foreign investment, which has generated much wealth in these cities. In Singapore, many foreign companies like its strict laws, which ensure low crime rates.

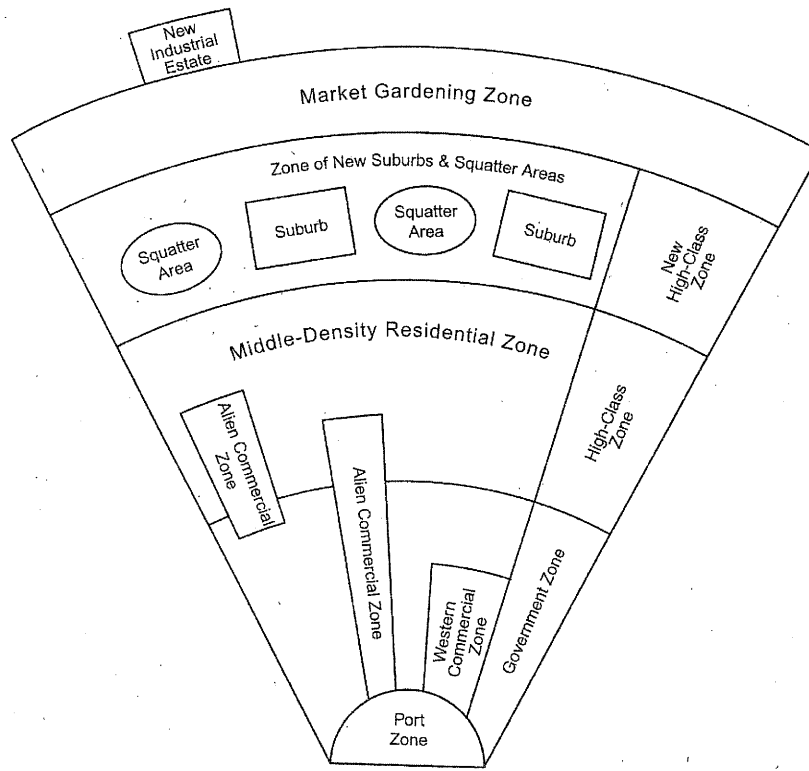


Figure 9.3: Southeast Asian City Model.

Shanghai has seen growth rates near 30 percent each year for the past decade, making it one of the world's largest ports. Huge industrial and office parks measure in the square miles. **Office parks** are agglomerations with shared phone and Internet services and transportation infrastructure. Office parks' **situation** advantages, such as freeway access and port facilities, allow companies to prosper. They also offer **site** advantages, such as low labor and infrastructure costs. One of these large office and industrial parks is located just outside of Shanghai in Suzhou. Suzhou was traditionally known for its imperial gardens and silk production. Today this area is becoming known as the "Silicon Valley" of China.

Asian cities have established many shopping malls of the kind that are familiar to Americans. For example, the Lotus Shopping Mall, located within Shanghai, has characteristics similar to those of the larger malls in the United States; it houses movie theaters, restaurants, and retail outlets. As Chinese consumers earn more expendable income, shopping malls will become more common across China and other Southeast Asian countries.

Because many Asian cities have grown within the past decade, their modernity is evident. Newly designed and architecturally creative skyscrapers grace many Asian cities. In Shanghai alone there are over 6,000 skyscrapers. The second tallest building in the world, the Taipei 101 building,

constructed in 2004, reaches a height of nearly 1,700 feet and has 101 floors. The Petronas Towers in Kuala Lumpur, Malaysia, rise nearly 1,500 feet and are 88 stories high. The Jin Mao Tower in Shanghai is just under 1,400 feet and 88 stories. The Grand Hyatt Shanghai, which claims to be the tallest hotel in the world, is located on the upper stories of the tower and provides views of the city's skyline.

Asian cities have no formalized central business districts. Instead, growth occurs throughout the city, in part owing to few zoning laws and almost laissez-faire economics. The result is an incredible number of megacities. **Megacities** are cities with over 10 million people within their metropolitan areas. Tokyo and Osaka in Japan; Beijing and Shanghai in China; Delhi, Mumbai, and Calcutta in India; Karachi in Pakistan; Jakarta in Indonesia; Dhaka in Bangladesh; and Manila in the Philippines are all megacities and exercise a strong sphere of influence over their surrounding areas.

Asian cities usually include a market-gardening zone because of a cultural preference for fresh food. In some Asian cities, farmers grow vegetables next to skyscrapers. Many of the farmers are poor peasants, while the urban dwellers are middle and upper class. This inequity in wealth leads many rural people to migrate to urban areas looking for employment and dreaming of joining the middle and upper classes.

The workforce in many Asian cities is in high demand from transnational corporations, which can make a substantial profit from employing low-cost labor. Some profits are reinvested in the infrastructure of these cities, which will continue to grow and build skyscrapers. This is a prime example of the new international division of labor.

In Asian cities, along with cities around the world, high-tech corridors are also popping up. Like office and industrial parks, **high-tech corridors** use the principle of agglomeration to their benefit. These high-tech corridors are instrumental in providing the world with the computer equipment needed to run its operations on a daily basis. Computer chips are key components of computers, and computers facilitate much of the world's business and personal activity. In high-tech corridors, microchips can be produced cheaply.

ISLAMIC CITIES

Islamic cities are found in the Middle East as well as in parts of Indonesia, the country with the most Muslims in the world. Islamic cities are also located in North Africa. The largest Islamic cities in the world include Cairo, Tehran, Dubai, Istanbul, and Karachi. Islamic cities located in hot, desert regions have twisted streets, because the more twisted the street, the greater the opportunity for shade. Also, personal privacy as well as space for common gatherings are valued in many of these cities. Like many other large cities, large Muslim cities have squatter settlements.

What distinguishes Islamic cities from other cities is the religion itself. Much of the city layout is based on Islamic principles found in the Koran. The most important physical feature of an Islamic

city is the mosque. The principle mosque, located in the center of the city, dominates the landscape and is usually the city's focal point. The primary mosque is often called a *jami*. The call to prayer is heard from mosques five times daily. Much of the traditional city is walled, just like many medieval European cities, for defense. The *jami* is often located within the walled portion of the city. The *jami* was to be protected above all else.

Because the purity of women is important in Muslim culture, structures are built to protect them. Windows are generally small, and doors or windows do not face each other on opposite sides of the street so that men cannot stare at women while they are unveiled in their homes. Although Islamic cities are densely compacted, they shelter the privacy of their citizens. Buildings are often connected, but homes are built so that it is impossible to view inside a neighbor's house. Cul-de-sacs are treasured in many Islamic cities because of the privacy they offer. While cul-de-sacs impede efficient travel across a city, they protect residents from quickly moving traffic.

Another commonality among many Islamic cities is the bazaar, particularly in North Africa. The **bazaar** is a street market sometimes called a *sug*. These *sugs* can be enormous, taking up several city blocks and selling anything from produce to carpets and clothing. Each alley is organized by what the market stalls are selling.

Modern Islamic cities, such as Dubai in the United Arab Emirates, are some of the most impressive cities on the planet. The tallest building in the world is in Dubai. The Burj Khalifa is over 2,700 feet tall. The building has 160 floors. The building is being promoted as the centerpiece of the Middle East's most prestigious development.

As the number of Muslims continues to grow, the importance of Islamic cities, such as Dubai, will grow as well.

AFRICAN CITIES

African cities are the fastest-growing urban areas in the world today. The economic conditions in most of Africa force people to migrate to urban areas to look for work. Unemployment rates in some countries are as high as 30 percent. Cities in Muslim-dominated northern Africa have high growth rates but not as high as cities south of the Sahara Desert (called the sub-Saharan region). Although urbanization is proceeding rapidly here, the region still has the lowest percentage in the world of urban population. More people are occupied by rural activities in Africa than on any other continent.

Because colonialism ended only as recently as four decades ago, a strong colonial imprint is still visible in the structures and functions of African cities. Many were trade centers for the exportation of resources to colonial powers. Because of colonialism, African cities have three distinct central business districts. The headquarters of the colonial government were found in the **colonial CBD**. The architecture in this area often resembles that of the colonizers' country. In much of West

Africa, the French style of architecture is evident in cities, such as Abidjan in Côte d'Ivoire. In other areas, such as in South Africa, Dutch architecture is prevalent.

The **traditional CBD** holds the distinction of being the current commercial center of these cities. Many of the financial institutions in the country are located in these sections of the city. They align closely in purpose with CBDs in U.S. cities.

The **market** or **bazaar CBD** plays a vital role in many African cities. The bazaar sells anything from rugs to vegetables to animals within a setting that can best be described as a farmers' market in the United States. Taxes are difficult to collect on transactions conducted in the bazaar because they are not easily monitored. Often these bazaars are huge, taking up city blocks, and people have been known to get lost in them. Thousands of people show up for the commerce and excitement that is associated with these CBDs. Cities such as Addis Ababa in Ethiopia and Mogadishu in Somalia possess large market areas.

The model of the African city in Figure 9.4 shows the three CBDs with ethnic neighborhoods extending outwards from them. Beyond the ethnic neighborhoods are the mining and manufacturing zones as well as informal towns (squatter settlements).

African cities, for the most part, lack the transportation systems that many cities in other parts of the world enjoy. Either the governments do not have the money to build transportation infrastructure, or the money has been misappropriated. Because of this, transportation is difficult in many sub-Saharan African cities. Many roads are unpaved. In addition, many African cities are afflicted by high rates of HIV infection and have large numbers of orphaned and homeless children.

There are exceptions to the picture of poor African urban areas. Most of the cities in South Africa, for example, are modern in their appearance and demonstrate characteristics common to many European, U.S., and Asian cities. Skyscrapers dominate the landscape, efficient transportation systems are in place, and suburbs are growing.

Cairo, Egypt, is quickly becoming a modern city. However, traffic is often at a standstill, and space is at such a premium that development is currently taking place on cemeteries. Cairo's long history on the banks of the Nile River has been important in determining its place in Egypt. The Nile is the life source of Egypt. The river provides the water for crops as well as for the urban population. The great pyramids were built in nearby Giza by ancient pharaohs. (Along with Kalyobia, the cities of Cairo and Giza compose the urban metropolitan area of Cairo.) The city is rich in history and contains one of the world's great museums, the Egyptian Museum, which has relics dating to the glory days of the Egyptian empire.

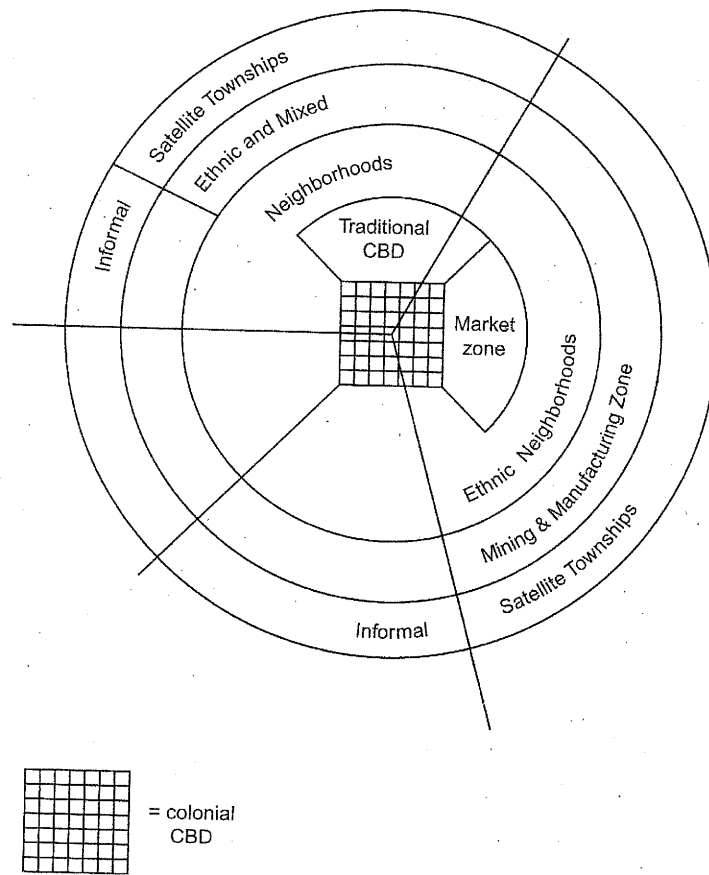


Figure 9.4: African City Model.

MODELS OF U.S. CITIES

Geographers have suggested three different models to describe growth in U.S. cities. No one model accurately predicts or portrays every city in the United States.

All of these models deal with **social structure**, or class structure. Lower class, middle class, and upper class are the three classes most often associated with these models. However, these classes can be broken up further. **Class** is the basic demographic outcome of an economy.

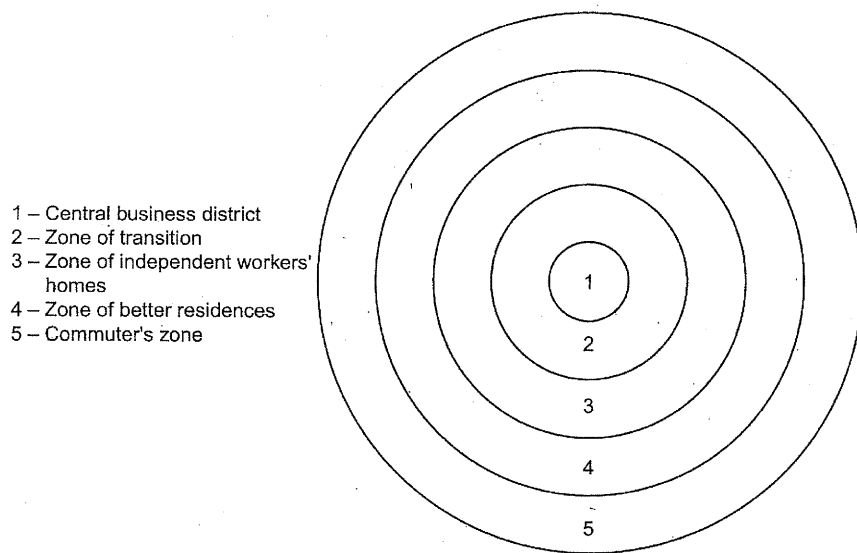


Figure 9.5: Diagram of Concentric Zone Theory.

CONCENTRIC ZONE MODEL

The **concentric zone model**, shown in Figure 9.5, was established by urban geographers Robert Park, Ernest Burgess, and Roderick McKenzie in the early 1920s. The model suggests that the lower classes live closest to the central business district while the upper classes live farther out because they can afford the commute into the city to work.

The central business district is the commercial center of the city and contains the **peak land value intersection**, the area with the greatest land value and commercial value.

Outside of the central business district is the **zone in transition**, which usually contains the slums. **Slums** are high-density areas of lower-class citizens who live in substandard housing. Many of the people living in this area are new immigrants to the city. Most residences are apartments; these are intermixed with industrial zones. Because very few people want to live next to industrial zones and their noise and pollution, the value of the housing is usually very low. Many of the apartments in these areas are tenements. **Tenements** are rundown apartment buildings that are minimally kept up by landlords because their value is so low. Landlords either barely comply with housing codes or don't comply at all.

Next out from the CBD is lower-class housing. Typically these are older well-established neighborhoods. Working-class families and singles alike tend to purchase homes in this region.

The fourth zone is an area of middle-class housing. Homes get larger as the income of their inhabitants rises. The fifth zone is an upper-class residential area. The houses here are the largest in this area. In some cases, this zone is called a **commuter zone** because of the number of people who commute either into the city or to other suburbs for work.

Burgess elaborated on the concentric zone model to include the ideas of “invasion and succession.” **Invasion and succession** refer to the continued expansion of the central business district and the continual push outwards of the zones. This pushing out process causes the zones to rebuild their infrastructures. Areas that were once low-income residences and older working-class neighborhoods are converted into apartment buildings. The upper class continually needs to commute farther and at a greater expense to maintain the lifestyle of the fifth zone. This is just the opposite of the situation in European cities, as mentioned earlier.

The concentric zone model was based on Chicago of the early 1900s. The problem with this model is that it reflects a perception about American cities but not the reality. The concentric zone model really does not exist in the United States today. Many upper- and upper-middle-class residents are moving back into the city, creating wealthy areas relatively close to the urban center. Stretches of upper-class residences usually follow transportation routes outwards from the central business district rather than occupying zones in concentric circles outwards from the city center.

SECTOR MODEL

The sector model, shown in Figure 9.6, was established by Homer Hoyt in 1939. It is also based on class but describes social structure based on the transportation systems rather than on distance from the central business district. Zones extend along transportation routes.

The sector model is similar to the concentric zone model in that it uses social structure to determine neighborhoods. It should be noted that many other characteristics could be used to define zones, including ethnicity and physical features.

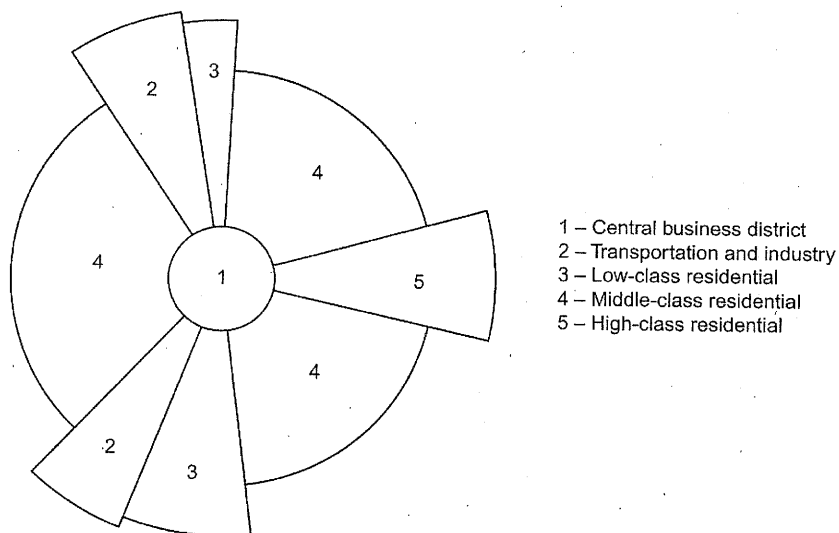


Figure 9.6: Diagram of Sector Model.

Interestingly enough, Hoyt based his model on Chicago as well. He argued that Chicago showed growth extending outwards, especially on the north side of the city where upper-income residences were being built. These residences were closer to the central business district than the concentric zone model would predict. Likewise, Hoyt argued that if the concentric zone model were true, high-income housing would be built on the outskirts of the south side of Chicago, as well as the north side, but it was not. Hoyt also showed that industrial zones in Chicago extended along the major transportation routes. At the time, trains were the primary means of industrial transportation, and industries extended outwards along the railroad tracks.

MULTIPLE NUCLEI MODEL

The multiple nuclei model, shown in Figure 9.7, was established by Chauncey Harris and Edward Ullman in 1945. It differed from the previous two models by suggesting that urban growth is independent of the central business district. Growth may begin in commercial, industrial, and even residential suburbs outside the central business district. Different industries spring up wherever there are opportunities for growth. According to the multiple nuclei model, growth may occur haphazardly and extend more in one direction than another. The different zones are still based on class, but more emphasis is placed on the extent and type of economic development.

One of the best examples of this model involves airports. Airports are usually located on the outskirts of the city for reasons of space and to limit noise and air pollution. However, around the airport is usually substantial development of hotels, restaurants, and entertainment facilities. This development does not arise from the central business district. Rather, an economic opportunity allows certain companies to prosper around the airport. Likewise, in this model, industrial development may occur around a port.

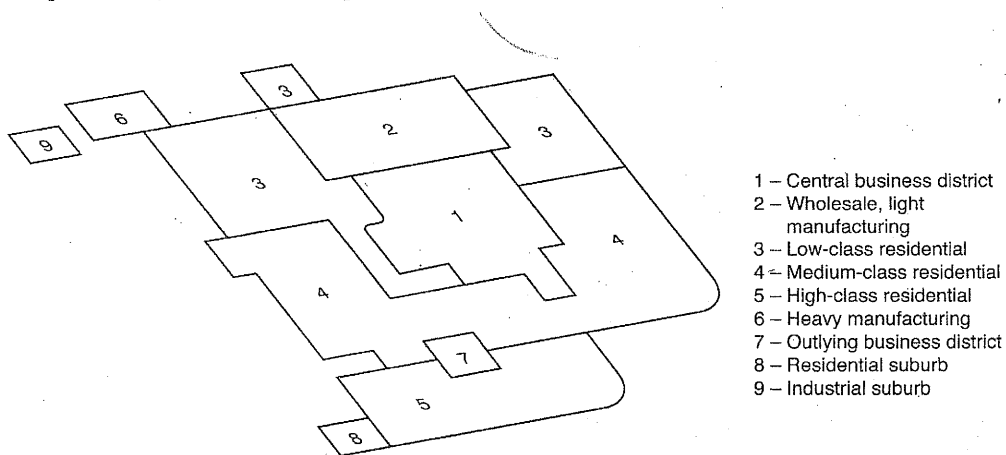


Figure 9.7: Diagram of Multiple Nuclei Model.

The multiple nuclei model also takes into account the economic effects of universities. Around college campuses, there are usually more fast-food restaurants, as well as coffee shops and bookstores. Again, development is independent of the central business district.

Although the central business district is still the commercial hub of the city and much development takes place there because of the economic activity, commercial and industrial enterprises may place a higher priority on being close to an airport or seaport. However, in these areas of growth, one would not likely find high-income housing. That tends to be built in its own area, based on the idea that the wealthy like to live next to the extremely wealthy and so on.

Many American cities follow the multiple nuclei model. Growth occurs where it is needed and where developers can maximize profits. Edge cities often result. **Edge cities** are large commercial centers that offer entertainment and shopping in the suburbs. Edge cities may approach 100,000 in population.

The **multiplier effect** is the principle that development spurs more development. When development occurs in a city, more services are needed to meet the needs of the growing population. When more infrastructure is needed, more tradespeople are needed. These people need more grocery stores, gas stations, and so forth, and more services attract more people. The city's tax base increases, supporting even more development through increased amenities such as parks, sports facilities, and better schools.

CENTRAL PLACE THEORY

Walter Christaller established the **central place theory**, shown in Figure 9.8, in 1933 based on his study of Southern Germany. Like von Thunen, Christaller based his central place theory on assumptions of uniform topography, equal transportation systems, and that people will travel the least distance possible to meet their service needs.

The central place theory shows the relationships between urban areas, including their hinterlands, and the range that individual cities need to maintain their size. Larger cities need larger ranges and hinterlands. Urban businesses need a threshold to be profitable.

RANGE

Range is the maximum distance that people are willing to travel to purchase a product or partake in a service; it may vary depending upon the product. Let's say that you are craving a bottle of soda. You own a car and are willing to travel about a mile to a local convenience store to purchase your soda. The range for the soda is limited, because it is a low-cost item and commonly available. People go to the nearest store selling soda rather than travel to a store farther away if the price is about the same.

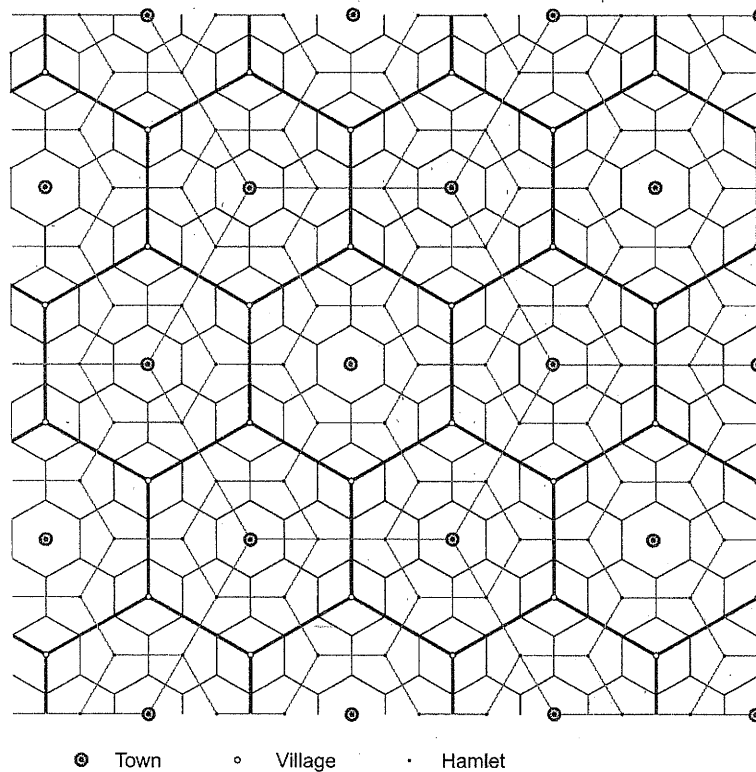


Figure 9.8: Map of Central Place Theory.

Now say you want to purchase a Rolls Royce. Rolls Royces are not sold in every metropolitan area. You must travel sometimes hundreds or even thousands of miles to purchase one. The range is greater for a Rolls Royce Phantom than for, say, a Ford Focus. In general, people are willing to travel farther to enjoy goods and services that are more rare.

People are willing to travel extended distances for concerts or sporting events. For example, the map of the Minnesota Twins radio stations, shown in Figure 9.9, extends all the way from Minneapolis-Saint Paul to western North and South Dakota. The market area of the Minnesota Twins even includes eastern Montana. The range does not go far to the east and south because of the Brewers in Milwaukee, Wisconsin, and the fan base of the White Sox and Cubs, both in Chicago, Illinois.

THRESHOLD

The **threshold** of a product is the minimum number of customers needed for it to succeed. The threshold for a bottle of soda is much lower than a threshold for a waterbed. Less range is needed to find customers for the bottle of soda than for a waterbed. However, more soda needs to be sold to make the same amount of profit as one waterbed. Usually, waterbed stores are located in larger urban areas, because they need more range to meet the customer base threshold to survive.

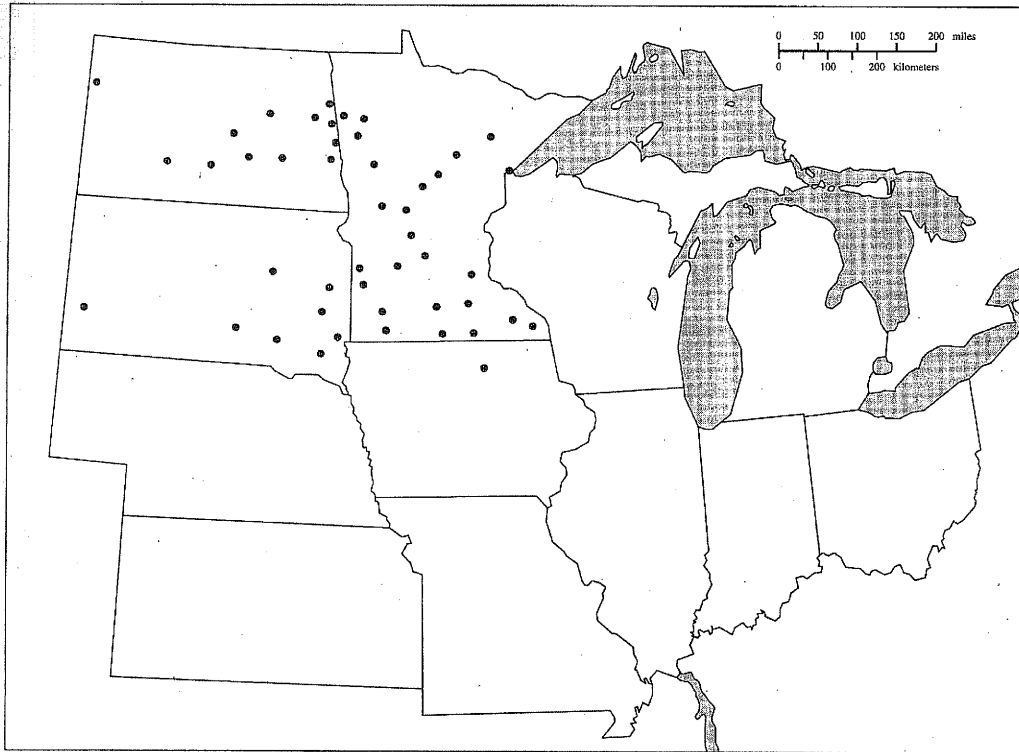


Figure 9.9: Minnesota Twins Radio Stations.

HINTERLAND

The **hinterland** is sometimes called the **market area** of the product. It is the area in which a product, urban area, or commercial outlet has influence. The hinterland is what makes the central place theory hexagonal in shape. It is equidistant along all edges from the product center or urban area. An entity's sphere of influence remains strongest near its source or center, but people in the hinterland may still be willing to travel some distance to purchase or enjoy it.

Smart new business owners find out the threshold for their business before they even open their doors. They must also try to find the range of their customers once the doors have opened. Finding the range can be done simply by asking customers where they are from. This is sometimes accomplished by collecting zip codes at the cash register.

To assist business people, census tracts are used to determine population. **Census tracts** are geographic areas with about 5,000 people on average, though they can vary from 2,500 up to approximately 8,000 inhabitants. From this, businesses can use geographic information system (GIS) technology and figure out the best location for their business.

The gravity model relates to Central Place Theory, because the mathematical formula can determine where the breaking point (BP) is between two cities. The BP determines the market area for each city. If a person lives somewhere between two cities the gravity model will predict which city has more retail pulling power.

THE GRAVITY MODEL

The increasing dominance of cities ties in with a fundamental principle of urbanization. The **gravity model**, shown in Figure 9.10, suggests that the greater the sphere of influence a city has, the greater its impact on other cities around it. This means that there will be more migration between these points, regardless of the distance between them. The gravity model takes into account not only migration between cities but also travel between them, telephone calls between them, trade between them, etc. To determine the degree to which two cities are related, the populations must be multiplied and then divided by square of the distance between the cities.

$$\frac{\text{Population 1} \times \text{Population 2}}{\text{Distance}^2}$$

Figure 9.10: The Gravity Model.

The Gravity Model is an effective way to determine the relationship between two urban areas. World-class cities such as New York City and Tokyo will have a high relationship even though the distance is far.

Let's assume that a city called Geogerville, with a population of 10 million, and another city, Geotown, with a population of 8 million, are being analyzed for their relationship. The distance between Geogerville and Geotown is 1,200 miles. Take the population of Geogerville and multiply it by the population of Geotown. Ten million people multiplied by 8 million people gives us 80,000,000,000,000. This number must be divided by the distance between the cities squared: 1,200 squared is 1,440,000. By expressing all the numbers in millions, we get $10 \times 8 = 80$. Then $80 \div 1.44 = 55.5$, which means that Geogerville and Geotown have a strong relationship with each other.

By looking at another example of smaller towns that are closer together, we can compare the results. Demogerville has a population of 1,000, and Migrationton has a population of 500. The distance between these two cities is 500 miles. We calculate as follows: $1,000 \times 500 = 500,000$; $500^2 = 250,000$; and $500,000 \div 250,000 = 2$.

These results mean that the relationship between Geograville and Geotown is stronger than the relationship between Demograville and Migrationton. Thus, there would likely be more trade between Geograville and Geotown, even though they are farther apart. The cities of Migrationton and Demograville do not hold the same amount of sway over each, other even though they are closer together. Instead, other trade areas or urban locations closer to them will dominate their migration, trade, and other patterns.

THE RANK-SIZE RULE

The **rank-size rule** states that the size of cities within a country will be in proportion to each other. The second-largest city should have half the population of the largest city, the third-largest city should have one-third the population of the largest city, and so on.

Primate cities have more than twice the population of any other urban area in that country. Primate cities are the most important urban areas economically, politically, and culturally in their countries. London is a good example of a primate city. London's population, depending upon how you measure it, exceeds 7 million. The next largest city in the United Kingdom is Birmingham, with 2.25 million people. Likewise in France, Paris's population approaches 10 million, while the next-largest city, Marseilles, has 1.5 million people. In Argentina, Buenos Aires is the largest city with a population approaching 14 million, while the second-largest city is Córdoba with a little over 3 million people. Thailand's largest city is Bangkok with a population of 7.5 million, while the next-largest city is Nanthaburi with just over 1 million.

Having a primate city does not make a country more developed or less developed. Great Britain and France, with London and Paris respectively, are more developed countries. Thailand, with Bangkok, is considered less developed.

Many countries do not have a primate city. The United States does not have a primate city. New York City is the U.S.'s largest urban area with over 18 million people, and the next-largest is Los Angeles with about 13 million, more than half the population of New York City. Even though New York is considered the cultural and financial capital, it is not the primate city in the United States. China also does not have a primate city. Shanghai, Beijing, and Hong Kong are all large and function as financial centers for their respective areas, but they are not more than twice the size of the next-largest city. India also does not have a primate city.

Proponents of the rank-size rule suggest that if a country does have a primate city, it lacks an effective distribution of goods and services throughout the country. Therefore, less developed countries would tend to have primate cities, while more developed countries would not. For the most part, this is true, with the notable exceptions of London and Paris.

Opponents of the rank-size rule suggest that the United Kingdom and France and many other countries in Europe contain primate cities, even though they are developed, because most European cities simply do not tend to be very large.

BUILT ENVIRONMENT AND SOCIAL SPACE

All cities revolve around their central business districts. In the United States, CBDs are characterized by the tallest buildings of the urban landscape. In Europe, the CBDs don't contain the tallest buildings, because many of those areas were already fully developed before skyscrapers became technologically feasible. Building skyscrapers in cities such as Paris and parts of Rome is made even more difficult by the expanse of underground **catacombs**. For centuries, the dead were buried beneath the city, creating a labyrinth of pockmarks in the soil and making the ground too unstable to support the weight of skyscrapers. However, the core of European cities frequently contains beautiful old architecture, including churches and other landmarks, that is as distinctive as skyscrapers.

When cities are painted or imagined, usually their central business districts are pictured. Artwork that shows a city is called a **cityscape**. Many cityscapes are recognizable around the world. When people think of Paris, they picture the Eiffel Tower; London, the Parliament building with Big Ben watching over it; New York, the Manhattan skyline. Many cities around the world are trying to create a memorable cityscape. Seattle built the Space Needle, and Beijing has its Forbidden City.

A **symbolic landscape** is an urban landscape that reflects the city's history and that has become synonymous with the city. The symbolic landscape is not the economic foundation of a city but rather the imprint of its historical foundation. In Athens and Rome, for example, the ruins from the great Greek and Roman civilizations are still evident. The Seven Hills of Rome as well as the ancient temples of Athens have drawn millions of tourists to these urban areas. The symbolic landscape has become an icon for another cultural or political phenomenon.

One of the world's best-known symbolic landscapes was the World Trade Center Towers in New York City. They represented a particular aspect of Western culture in their grandiose splendor. This is why they were targeted for the 9/11 terrorist attack that destroyed them. The Pentagon, which symbolizes the U.S. military presence around the world, was also struck. Islamic fundamentalists were not only attacking these physical buildings but also the psyche of the citizens of the United States. A third potential target was the Capitol Building in Washington, D.C., which represents the U.S. government.

SUBURBANIZATION IN THE UNITED STATES

In many cities around the world, **suburbanization** is a source of growth. Suburbs are usually outside of the primary city, yet their economic and cultural focus lies within the city. Suburbs may have residential, commercial, and industrial zones. Often, commuters are not commuting from suburbs to the city but rather from suburbs to different suburbs. Some suburbs possess over 100,000 inhabitants. Outlying suburbs, which are newer, usually have modern buildings and bigger houses. First-ring suburbs usually have smaller, older homes.

Much suburbanization is centered around push and pull factors. American culture favors wanting something that is new. Therefore, many people prefer new houses, which are more abundant in the suburbs. At the same time, people are being pushed away from the core city by their negative perceptions of it. These perceptions may be based on reality, as described in the next section.

Suburbanization is changing the demographics of cities, resulting in a core city that is dominated by the elderly as well as younger couples with either no children or children of young age. As families leave the core city in the hopes of finding homes with more bedrooms and larger yards, better schools, and more amenities, they are often replaced by new immigrants from other countries and double-income no-kids (DINKS) couples, who like living close to the amenities that the core city offers. More nightclubs, theaters, and sports facilities are present in the core city than in the suburbs.

However, when suburban children move away to go to college or develop families of their own, many older couples move back into the city. They no longer want to keep up a large house and yard, and they are at a stage in life where they value the conveniences of the city. This move back can spark a gentrification initiative in many core city neighborhoods.

White flight was the movement of white, middle-class people away from the inner city to the suburbs. In part, people moved out of fear of nonwhite neighbors. Other factors were crime, urban blight, and the cultural differences. Interestingly, in many European, African, Latin American, and Asian cities, the poorest areas are on the outskirts of the city rather than in the inner cities, where the wealthy tend to congregate.

In many cities, an underclass has formed in these squalid outer areas. The **underclass** is made up of people who are excluded from the creation of wealth. In India, the "untouchables" are excluded. Even though the practice of the Hindu caste system has been outlawed, the cultural tradition persists. In Latin American cities, many of the *favelas* are located on the outskirts of the cities.

CHARACTERISTICS OF U.S. SUBURBS

The suburbs have more children per capita than urban areas. The suburbs also tend to have more parents between the ages of 30 and 50; on the other hand, the inner city has more 20 to 30 year olds and elderly people. Both areas offer different amenities to different demographic segments.

The first ring of suburbs includes older neighborhoods that abut directly with the primary city. These suburbs saw their primary growth take place decades ago, and the result is a community with all of its available space filled with residential and commercial activities. The neighborhoods at one time may have been considered upper class or middle class but now may be considered lower class. This is not to suggest that many of these first-ring suburbs are not nice communities. Many of these suburbs possess amenities that make them desirable places to live.

The second-ring suburbs are growing and infringing on the surrounding rural areas. This process of growth is called **urban sprawl**. Urban sprawl puts a strain on the resources of the core city. Sewer lines, utility hookups, water treatment plants, and transportation systems are often designed with a certain reach in mind. When the urban area continues to expand, they suffer strain. Second-ring suburbs may be two or three decades old.

Some communities even have third-ring suburbs. Third-ring suburbs abut and encroach on rural areas. In some states, real estate developers are offering farmers top-dollar for their land. Some farmers resist this easy money because they love the agricultural lifestyle, despite its difficulties, but many take the offer and retire comfortably for the remainder of their lives.

Many third-ring suburbs are adopting the trend of planned communities. A **planned community** is an area where the developer can plot out each house and can build the entire development from scratch. Many newer planned communities have multimillion dollar homes with community pools, golf courses, and parks and playgrounds. In some cases, these communities are gated to ensure that only the residents or their guests are allowed to enter; aptly, such communities are called **gated communities**.

PROBLEMS IN URBAN AREAS

Cities suffer from the problems that arise when large numbers of people are concentrated together. These include crime, pollution, traffic congestion, housing costs, race relations, and many other problems. Some cities handle these issues better than others. When the problems of an urban area become so great that people leave, the process is called **counterurbanization**.

Different management structures can have either negative or positive effects on any urban problem. **Decentralization** is the distribution of authority from a central figure or point to other sectors in the city. **Centralization** is the opposite of decentralization; it is the focusing of power into one authority, usually the command of a mayor or city manager.

In terms of raw numbers, crime is higher in cities than in suburbs; there is more crime in larger urban areas. However, there are also more people in larger cities. On a per capita basis, urban areas may be no different than suburban or even rural areas in the incidence of crime.

Pollution is another difficulty plaguing larger urban areas. With the “greening” of cities, pollution has been curbed in the more developed countries. However, in the less developed countries, many of the larger urban areas are still health hazards for their residents. Rivers are polluted by industry, and local, state, or federal government agencies have few resources and little power to fight the polluting companies. Air pollution in many of these cities makes seeing the horizon a rarity. Waste management is another problem; indoor plumbing is nonexistent for many people in less developed countries.

Urban hydrology is how a city deals with getting clean water to its citizens and then removing dirty water and cleaning it before it is distributed back into the world’s rivers and oceans. Many cities in less developed countries do not have the infrastructure or the resources to build water mains and sewage lines into every residence. In some cases, millions of structures need hook-ups. Improper sewage treatment leads to endemic disease and occasional epidemics. Sickness in large urban areas can kill hundreds quickly. Recently, Sudden Acute Respiratory Syndrome (SARS) and “bird flu” have become concerns in Asia. Many doctors fear a pandemic due to a lack of safe drinking water, and inaccessible health care. Some argue that the cause of disease is not urban areas per se but rather poverty.

Another effect of pollution and congestion is that cities create their own heat. This process is known as the **urban heat island effect**. Usually cities are warmer by several degrees than their suburban areas. This can affect weather patterns around cities, even moving storms around a city. The urban heat island effect is due to **urban morphology**—that is, all of the street patterns, structures, and the physical form of the city. For example, all the blacktop and concentrated brick, stone, and metal in buildings hold the heat much longer than a natural landscape does.

Another problem often associated with cities is traffic congestion. Traffic can be a nightmare in many larger urban areas. There are simply not enough roads to meet the needs of the population. Cities have tried solving this problem in several ways. Mass transit moves tens of thousands of people around cities on a daily basis. Larger cities usually build trains or subways, which are expensive to construct, while smaller cities usually establish bus systems.

Another way to relieve traffic congestion is simply to build more roads, correct? It depends. Many traffic studies have suggested that the more roads that are built or lanes that are added to a freeway, the more traffic is created. More road space makes traveling by car appear more desirable, thus resulting in the congestion that the construction was intended to reduce. For example, thousands of people in the Dallas-Fort Worth area commute between the cities. Although the cities are connected by Interstate 30, many drivers do not use this road because it gets too crowded during rush hours. If developers added lanes to I-30, some commuters would leave the back roads and attempt to use the freeway. Now, instead of congestion on four lanes, there would be congestion on six lanes.

As cities continue to expand, the issue of how to move people around the city becomes more pressing. The issue of mass transportation versus more roads is constantly fought in the political arena.

Housing costs can be prohibitive in many larger urban areas. Gentrification is both a problem and an advantage in inner city neighborhoods. **Gentrification** is the process of wealthy people moving into inner-city neighborhoods. These wealthy people make improvements to their homes, creating more demand for housing in the neighborhood. The result is a gradual increase of property taxes. Eventually, the original inhabitants of the neighborhood can no longer afford the high property taxes and are forced to move. Also, landlords see an economic opportunity in converting shabby rented apartments to luxury condominiums, which their current occupants can't possibly afford. Many people who have lived in these neighborhoods for decades are being forced out.

On the positive side, the result of gentrification is a beautiful urban neighborhood with expensive homes. The wealthy urbanites who have moved in have made the neighborhood prosperous, and the city enjoys much higher tax revenue. Often, the city uses the expanded tax revenue to build parks, repair sidewalks, and provide amenities that make the area a very pleasant place to live.

Because gentrification can be a high-risk investment, it is often undertaken by a developer who razes old buildings to build high-end townhomes or condominiums in the hopes of attracting affluent residents. Much gentrification uses the postmodern architecture that is trendy today. **Postmodern architecture** blends historical foundations with modern touches. Postmodernism is a reaction to the modern architecture that prevailed in the 20th century in the United States. **Modern architecture** emphasized boxy structures, usually made from concrete and glass.

To prevent the economic decline of newly gentrified areas, **restrictive covenants** are enforced. For example, it may not be illegal to park your car outside at night, but your development may fine you for doing so. Garbage cans must be kept inside the garage, and in some cases, garage doors must be kept closed at all times.

In Portland, Oregon, the city council has restricted the expansion of the city limits. By restricting outward growth, the city has forced growth inward, creating a high demand for housing within the urban area. Outlined by mountains on many sides, Portland has a site advantage to limit growth. The downside to this urban planning approach is that housing costs have skyrocketed. First-time homebuyers are being forced either to buy outside of the city and face long commutes or make excessive mortgage payments on homes within the city limits. Many urban planners have praised Portland's attempt at trying to halt urban sprawl. Opponents suggest that this strategy makes it nearly impossible for a lower-class or even middle-class resident to purchase a home within the city boundaries.

Yet another problem that cities around the world face is how to deal with race relations in the urban framework. Race riots have occurred in Los Angeles and other cities around the world. In some cases, illegal activities such as blockbusting have occurred. **Blockbusting** is when real estate agents try to induce people to sell their homes because of a perception that a different race is moving into the neighborhood. Real estate agents may claim that property values are about to

fall, playing on the perception that the more minorities who move into a neighborhood, the lower property values will be. In fact, just the opposite may be true.

Racial steering also occurs in some areas today. **Racial steering** occurs when real estate agents show homes only in certain neighborhoods based on the race of the buyers.

Racial steering was often used in the South prior to the Civil Rights movement. Some, not all, Southern whites were afraid of racial integration. **Segregation**—the enforced separation of the races—was practiced in many urban areas in the South as well as in some northern cities. In some cases, the institutions of the city were involved in the segregation process. These institutions not only included the real estate agents but also financial institutions that lent money to homebuyers. **Redlining** is the refusal of lending institutions to give loans to minorities or even whites in high-risk areas. Redlining would be invoked in a neighborhood that had a high default rate on mortgages. It could be in an ethnic community or not.

Cities, like people, are constantly evolving. Sometimes this change is for the better, sometimes for the worse. Development brings in new buildings at the expense of older and sometimes historic buildings. The result is a new landscape that may be visually stimulating or aesthetically ugly. The one constant among cities is that they are vital to understanding human nature. Humans need cities for trade, services, and cultural amenities. As cities around the world have larger populations, their status will change. The city's responsibility to its citizens is to plan for the growth and develop according to need.

CHANGING EMPLOYMENT MIX

Because of the rapid suburbanization of many American metropolitan areas, the employment mix and opportunities have changed according to location. Prior to World War II, there were many industrial and manufacturing jobs located in cities. With the construction of the interstate highway system many industries moved to the suburbs and rural towns to take advantage of inexpensive land and good access to highways. Also, the central business district (CBD) of cities used to have the most retail and office space of anywhere in a metro area. So, prior to the 1950s there were plenty of service and secondary jobs in urban areas. Suburbanization over the last fifty years has been accompanied by the movement of retail business, office parks, and industry to the suburban fringe. As a result, many low paying service jobs in suburbia are difficult to fill. A larger percentage of low-wage workers live in the inner cities, and they often do not own automobiles or have access to mass transit systems that are convenient for places of work. Recent census data have revealed that American suburbs have become increasingly ethnically and economically diverse in the last decade. By analyzing the changing employment mix one could anticipate the demographic changes that have taken place.

REVIEW QUESTIONS

MULTIPLE-CHOICE QUESTIONS

- Which of the following would be considered a primate city?
 - Berlin, Germany
 - New York City, United States
 - Beijing, China
 - Paris, France
 - São Paulo, Brazil
- Which of the following best describes the urban hierarchy of settlements?
 - Town, hamlet, village, metropolis, megalopolis
 - Village, town, hamlet, metropolis, megalopolis
 - Megalopolis, metropolis, village, town, hamlet
 - Hamlet, town, city, metropolis, megalopolis
 - Hamlet, village, town, city, metropolis
- The United Kingdom has established greenbelts around certain cities to prevent what?
 - Major traffic tie-ups
 - Urban sprawl
 - The spread of poverty
 - Unbearable pollution
 - Race relations from erupting into riots
- According to Ullman and Harris's multiple nuclei model, what develops at the outskirts of core cities?
 - Airports
 - Nucleated cities
 - Edge cities
 - World cities
 - First-ring suburbs
- What city were the concentric zone model and the sector model based on when they were developed in the early 20th century?
 - Chicago
 - London
 - New York City
 - Philadelphia
 - Boston
- What do most cities in the developing world have in common?
 - Urban areas are ringed by shantytowns.
 - The central business district suffers from a lack of resources.
 - The wealthy live in a commuter zone on the edge of the city.
 - Industry is located next to the central business district.
 - None of the above.
- The Pentagon in Washington, D.C., is a good example of a
 - festival landscape.
 - symbolic landscape.
 - military landscape.
 - urban landscape.
 - postmodern landscape.

8. What one characteristic links megacities?
- (A) Each city has an efficient form of mass transportation.
 - (B) Each has a population of more than 10 million people.
 - (C) Each has a world-class airport with connections to each continent.
 - (D) Each possesses financial wealth greater than its gross domestic product.
 - (E) Each follows a model that is focused around the central business district.
9. Medieval cities in Europe usually had what characteristic in common?
- (A) Moats
 - (B) Protective walls
 - (C) All roads leading to them
 - (D) Well-developed urban hydrology plans
 - (E) Sections devoted to specific social classes
10. Which statement would be the most accurate regarding the bid-rent theory?
- (A) Land value is the highest in the central business district, and land value decreases with distance from the CBD.
 - (B) Land value is the highest in the suburbs, resulting in bigger houses.
 - (C) More space is available in the urban core due to the plight of the inner city.
 - (D) More space is available in the suburbs due to higher demand for land there.
 - (E) Land value is constant throughout the urban area due to the high demand for residential space there.
11. Where is the Canadian megalopolis?
- (A) British Columbia, including Vancouver and Victoria
 - (B) Canadian Rockies, including Calgary and Edmonton
 - (C) Canadian Plains, including Regina and Winnipeg
 - (D) Canadian St. Lawrence Seaway region, including Toronto and Montréal
 - (E) Canadian Maritime Provinces, including St. John's and Halifax
12. Latin American cities have what common characteristic in the model developed by Dr. Larry Ford?
- (A) A spine of high-class housing extending from the city center
 - (B) Dominance of the suburbs in urban growth
 - (C) *Favelas* or squatter settlements in the interior of the central business districts
 - (D) Three distinct central business districts: colonial, contemporary/traditional, and market zones
 - (E) Transportation systems that ring the city and do not connect to the central business district

13. Range and threshold are important to commercial establishments because
- (A) without a range, there are not enough customers to support the establishment.
 - (B) without a threshold, the distance is too far for people to go to partake in the goods or services offered.
 - (C) the range determines the maximum distance that people are willing to travel to buy or enjoy something, while the threshold is the minimum number of customers needed for the business to survive.
 - (D) the greater the range, the higher the cost of the item.
 - (E) the greater the threshold, the less the cost of the item.

City A—10 million
City B—5 million
City C—2.5 million
City D—1 million

14. The above cities located within the same country represent what geographic factor?
- (A) Urban hierarchy
 - (B) Rank-size rule
 - (C) Dispersed settlement
 - (D) Gentrification
 - (E) Centralization
15. A business such as a high-end department store with a high threshold would most likely be located where in the urban framework?
- (A) Central business district
 - (B) First-ring suburb
 - (C) Third-ring suburb
 - (D) Near a major interstate exit
 - (E) Close to the airport

16. Homer Hoyt's sector model is based on what fundamental principle?
- (A) Development is based on the location of amenities.
 - (B) Development is structured around the central business district.
 - (C) Development is based around enterprises such as airports.
 - (D) Development is centered around transportation routes.
 - (E) Development is independent of the central business district.
17. Which is the illegal process by which real estate agents encourage the sale of homes because people of certain races have moved into a neighborhood?
- (A) Redlining
 - (B) Ghettoization
 - (C) Segregation
 - (D) White flight
 - (E) Blockbusting
18. What is the most noticeable geographic trend in the last thirty years with respect to the world's twenty most populated cities?
- (A) Most of the twenty most populated cities are now located in more developed countries.
 - (B) Compared to thirty years ago, a much larger percentage of the cities are now located in Europe.
 - (C) Most of the twenty cities are now located in less developed countries.
 - (D) Most of the twenty cities are now located in Africa.
 - (E) The specific cities have not changed in thirty years; they have only grown in population.

19. The area in the urban setting with the highest land value, usually located within the central business district, is called what?
- (A) Planned community
 - (B) High lateral investment zone
 - (C) Peak land value intersection
 - (D) Third-ring suburb
 - (E) Tertiary land value
20. Which world-class city is the best example of an entrepot?
- (A) Shanghai
 - (B) Dubai
 - (C) São Paulo
 - (D) Madrid
 - (E) Singapore

FREE-RESPONSE QUESTION

Directions: While a formal essay is not required, it is not enough to answer the following question by merely listing facts. Your answer should be based upon your critical analysis of the question posed.

1. Sprawl is low-density suburban development that is characteristic of many cities in the United States.
 - (A) Discuss in detail how one of the following contributes to sprawl.
 - (i) transportation infrastructure
 - (ii) edge cities
 - (B) Discuss in detail how one of the following discourages sprawl.
 - (i) transportation infrastructure
 - (ii) New Urbanism developments
 - (C) How does sprawl contribute to economic and age segregation in suburbia?

ANSWERS AND EXPLANATIONS

MULTIPLE-CHOICE QUESTIONS

1. D

A primate city is not only the largest city in a country but also has more than twice the population of the next-largest city. Paris, France, has around 10 million people, and the next most populated city in France is Marseilles, with about 1.5 million people. Berlin, Germany, would not count because Munich, Düsseldorf, and Frankfurt all have populations close to that of Berlin. In the United States, New York City is the largest city, but Los Angeles has more than half of New York City's population. Beijing, China, competes with Shanghai to be the most-populated city. São Paulo, Brazil, is closely followed by Rio de Janeiro in terms of population.

2. E

The correct order of urban hierarchy is hamlet, village, town, city, metropolis, and megalopolis. The urban hierarchy is determined by the population of the urban area. Hamlets may only have a dozen or so people, villages may contain up to about a hundred people, towns may consist of upward of several thousand people, cities have tens of thousands of people, metropolises have more than 50,000 people, and a megalopolis is made of several metropolises.

3. B

Greenbelts are areas around cities in the United Kingdom designed to prevent urban sprawl. Greenbelts are used to prevent different towns from blending together with their individual growth. Greenbelts also prevent the urban framework from extending farther beyond the city's borders than it can sustain. In other words, sewer, utility, and transportation systems are structured to extend a certain distance. When urban sprawl moves the city past the borders of these utility systems, the

city loses money owing to the expense of providing those same services farther outwards. Greenbelts promote growth within the urban setting. Greenbelts also raise home prices within the urban setting by limiting the space available for building. Greenbelts do not prevent major traffic tie-ups. Lower-class homes are usually in the suburbs of European cities, but public transportation brings people into the city to work. Pollution is not increased by Greenbelts; in fact, pollution may be diminished by Greenbelts.

4. C

Edge cities are suburbs that develop around an amenity, such as an airport. This is the correct answer. First-ring suburbs are usually older suburbs where development occurred early in the city's history. Edge cities may have populations approaching 100,000 in some circumstances. Many edge cities are somewhat independent of the core city's central business district.

5. A

Both the concentric zone model and sector model of urban development were based on Chicago in the early 20th century. According to Burgess, the developer of the concentric zone model, development expands from the central business district in a series of rings in an "invasion and succession" process of development. The lower-class residential areas start relatively close to the industrial centers near the central business district but eventually move outwards. The sector model, according to Homer Hoyt, fit Chicago because upper-class citizens settled on the north side of the city along the major rail routes, which facilitated residents' commute into the central business district.

6. A

Quite often cities in the developing world are ringed by shantytowns, which are areas populated by recent migrants from rural areas. Shantytowns typically

have no services, such as water, sewage, electricity, police protection, or schools. People have no title to the land they claim and use whatever materials they can find to build makeshift homes. Shantytowns have different names depending where they are in the world; for example, Brazil's shantytowns are known as favelas.

7. B

A symbolic landscape represents something else, usually some sort of political, economic, or cultural value. The Pentagon represents the military of the United States. A festival landscape is usually an open space where many people can congregate. An urban landscape is simply a city. Even though the Pentagon is a military building, a military landscape would most likely be a battlefield or military base.

8. B

Megacities are urban areas with over 10 million people. Megacities are growing as the rate of urbanization continues to climb around the world. Urban growth rates are especially high in less developed countries, where people move to cities looking for employment. India alone has three megacities, including Delhi, Mumbai (Bombay), and Calcutta. Many megacities have some form of mass transportation, but it is not necessarily efficient.

9. B

Many medieval cities built walls around to protect themselves against invading armies. Many of these walls are still evident today around the historic core of European cities, such as Paris and London.

10. A

The bid-rent theory is almost the opposite of the concentric zone theory. Whereas the concentric zone theory suggests that housing values increase as one moves farther from the central business district, the bid-rent theory suggests that land value is highest

around the central business district because of competition for limited land. Because land here is so expensive, only commercial establishments can afford it; residential buildings are almost always apartments or condominiums. Therefore, inner city neighborhoods are not necessarily downtrodden. The suburbs have bigger homes and larger yards, because land is more available.

11. D

The Canadian megalopolis extends from Burlington, Ontario, through Montréal, Québec, along the St. Lawrence Seaway. The majority of Canadians live here. Canada's largest city is Toronto with just over 4 million people. The interior portion of Canada is sparsely populated, much like the Great Plains of the United States. The Rocky Mountain region has beautiful cities, such as Vancouver and Victoria, but the land is rugged and cities are not very large. Calgary and Edmonton each have big cities but are still built on the Great Plains. Edmonton has benefited from the discovery of petroleum. The Atlantic Provinces are the poorest regions of Canada; people are leaving them because of the collapse of the Atlantic fishing industry.

12. A

Latin American cities possess a spine of high-quality housing extending outwards from the city center. Most transportation routes come into the central business district, ensuring its cultural and economic dominance. Many of the favelas or squatter settlements are located on the edges of the cities. Suburbs do not have nearly as much influence as the central business district.

13. C

Range determines the maximum distance that people are willing to travel for a product or service. The threshold is the minimum number of customers needed for an establishment to survive. Likewise, the more ordinary and inexpensive something is, the

less the range of the product or service. Commercial establishments need to determine the best location to maximize the range and threshold for their product. Usually, the higher the price of the product, the greater the threshold and the farther the range needs to be. Professional sports are a good indicator of a threshold. Large cities, such as Los Angeles, Chicago, and New York, may be able to support two teams within the same sport because of their high populations. However, in other areas, a larger range is needed from which to draw the fan base (threshold) for their team to survive.

14. B

The rank-size rule states that the second-largest city should have half the population of the country's largest populated city. The third-largest city should contain one-third of the population of the largest city, and the fourth-largest city should have one-fourth of the population of the largest city. In this Country X, the rank-size rule applies. Urban hierarchy means categorizing urban areas based on population size.

15. A

A high-end department store would most likely need to be located near the central business district to enjoy the maximum range and threshold. Being located in a first-ring suburb would mean being surrounded by older residences, which are usually inhabited by people with lower incomes than the store's target customers. Third-ring suburbs lack the dense population base needed for the threshold of the business. Access to transportation, such as an interstate highway, is important, but that usually is available in the central business district.

16. D

The sector model of urbanization is based on the principle that different zones within the urban area

are dictated by transportation routes. Many areas of the same income class extend outward along transportation routes. Therefore, if a high-income zone extends outwards from the central business district in a particular direction, that zone will continue to move farther out in that direction.

17. E

Blockbusting is the illegal practice of real estate agents trying to persuade residents to move away from a certain area because of an influx of minority races. White flight is the next-best answer, but white flight is not illegal. Redlining is the refusal to give loans based on a property's location. Redlining doesn't necessarily mean refusing a loan to a minority, because it can impact all races.

18. C

Most of the world's largest cities are now located in less developed countries (LDCs). This is a function primarily of the rapid population growth rates after World War II in LDCs. The excess population in rural areas often migrates to the largest city in the country to look for work and opportunities. This trend started in the 1950s and hasn't abated, leading to the massive growth in many LDC cities. Many of these mega-cities have more than 10 million people and some are growing so fast that government officials are unable to accurately determine the population.

19. C

The peak land value intersection is the location in an urban setting with the highest land value, usually in the central business district. A planned community usually has a high property value but not the highest in the city. The priciest land in almost every city is in the downtown region. A third-ring suburb may have high property values but not as high as the central business district, because land is more available.

20. E

An entrepot is a port facility that takes in goods from other areas and loads them onto other forms of transportation for reexport. An entrepot is a break-of-bulk point. Singapore and Hong Kong are the world's largest entrepots. Shanghai produces many products for export to Japan, Europe, and the United

States. Dubai is the commercial and economic center of the Middle East, but it does not reexport goods made elsewhere. Madrid is not even located on the ocean, and while São Paulo is a world-class city in terms of population, it exports goods primarily from Brazil, not from elsewhere.

FREE-RESPONSE QUESTION: ANSWER**SAMPLE ESSAY****PART A**

- (i) The building of transportation infrastructure such as interstate highways significantly contributes to low-density development of suburbia. Starting in the 1950s, construction of interstate highways made it easier for people to commute longer distances into work and possibly spend less time in their cars. Before the construction of this infrastructure, it was impractical for people to live very far from work. Most office jobs were located in the central business district (CBD), so people would often live in city neighborhoods that were only a few miles away from their workplaces. Developers then bought up large tracts of land from farmers and ranchers far from the CBD and constructed hundreds or thousands of homes beyond the continuously built up urban area. As a result, the population density of the urban area declined (density gradient) as more prime agricultural land was converted to housing developments on the periphery.
- (ii) Edge cities contribute to sprawl because these types of developments are dominated by a concentration of office buildings making it even easier for someone to live farther out from the urban area. Edge cities are usually situated at the intersection of an interstate highway and a beltway that circumnavigates the urban area. The intersection of these two highways is an attractive location at which to build office buildings, shopping malls, and other amenities that suburban residents desire. Now someone living in suburbia might not have to commute to the CBD for work and can move even farther away. Developers recognize this and respond by buying undeveloped land for housing developments contributing even more to the cycle of sprawl.

PART B

- (i) Transportation infrastructure such as light rail helps to discourage suburban sprawl by making areas close to light rail stops more desirable and convenient places to live. These types of developments are referred to as Transit Oriented Development (TOD), which allows for mixed-use (commercial, residential, and office) higher density development around and near transit stops. TOD is convenient for commuting, and once home a person can walk to many amenities. In many suburban communities people have long commutes and have to use their automobiles for everything.

- (ii) New Urbanism developments allow higher residential densities, and incorporate a variety of land uses in close proximity to each other, so people don't have to use their automobiles as much as in suburbia. The dense residential arrangement helps support retail and offices within walking distance. People like the convenience and community atmosphere that is often lacking in suburban housing developments.

PART C

Sprawl contributes to age and income segregation by separating land uses horizontally. As a result, housing developments are spread across the landscape with only a small range in cost between different models of homes. Therefore, only people with a certain level of income can afford to buy into a particular neighborhood. Since the housing developments are low density, it means that there are vast areas of suburbia that are unaffordable to lower income people. Since sprawl uses a great deal of land, it means that people have to drive long distances to go shopping or use any other service. Because of this, senior citizens are often underrepresented in many suburban areas. Other age cohorts that tend to be underrepresented in sprawling developments are people in their twenties and early thirties. There are few advantages to living in suburbia for this age bracket until they decide to start a family or can afford to purchase a large suburban home.

RUBRIC FOR FREE-RESPONSE QUESTION

Total point value for question 1 = 6

Part A—Two points possible:

- Two points for identifying how transportation infrastructure or edge cities contribute to sprawl.
 - highways contribute to sprawl
 - edge cities encourage leapfrog development and sprawl

Part B—Two points possible:

- Two points for discussing how transportation infrastructure (fixed rail) and New Urbanism discourages sprawl.
 - light rail encourages denser development (Transit Oriented Development)
 - New Urbanism (mixed use, higher densities) reduces sprawl and automobile use

Part C—Two points possible:

- One point for discussing how suburbia contributes to economic segregation.
 - housing developments usually have a limited range of house prices, which means only people of a certain income range can afford to live in certain suburban areas
- One point for discussing how suburbia contributes to age segregation (unique population pyramids) in suburbia.
 - suburbia spreads horizontally, not vertically, which is not conducive for the elderly or other populations with limited means of transportation
 - young single people don't find single-family homes and geographic isolation from services attractive or suitable to their needs