

Field Note

"The Ruhr Valley long functioned as the incubator of Germany's industrial economy. Largely destroyed during World War II, the Ruhr rose again to help Germany back to recovery. But as declining transportation costs and rising labor costs prompted heavy industries to move their operations to other parts of the world, factories such as this iron and steel mill on the edge of Duisburg fell silent. Unemployment soared, and the area became depressed. In an effort to rebound, local authorities are now trying to turn a few of these relics into tourist destinations. They are unlikely to compete with the great churches or medieval palaces found elsewhere in Germany, but for the geographer they provide fascinating insights into the urban and economic arrangements that made modern Europe what it is today."

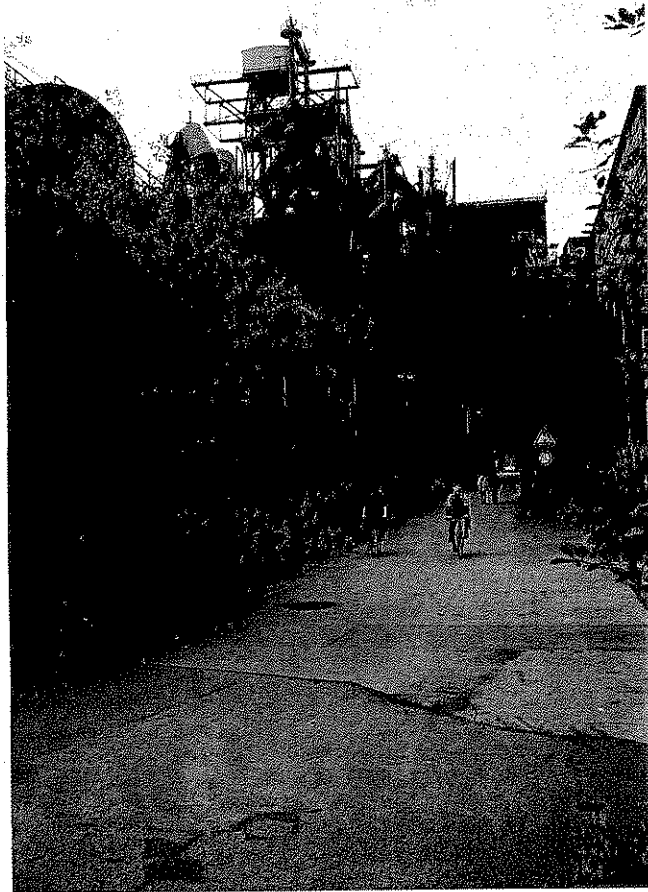


Figure 9.18
Duisburg, Germany. © Alexander B. Murphy.

"workers of the world" to unite, conditions in European manufacturing cities gradually improved. Industrialists were forced to recognize workers' rights, and governments intervened by legislating workers' rights and introducing city planning and zoning. Many manufacturing cities in North America never suffered as much as their European predecessors, although living and working conditions for factory workers (and "blue-collar" workers generally) were far from satisfactory. American manufacturing cities did not altogether escape the problems of the European industrial cities. During the late nineteenth and early twentieth centuries, the American manufacturing city grew rapidly, often with inadequate planning and rapid immigration leading to the development of slums and ghettos.

During the second half of the twentieth century, the nature of manufacturing changed, as did its location: cities repositioned many factories away from congested, overcrowded, expensive urban areas. Companies simply abandoned large manufacturing plants, making "rust belts" out of once-thriving industrial districts. Many of these plants still stand today, overgrown by weeds, with broken windows and cracking walls (Fig. 9.18).

Although factories and factory jobs are not permanent, the urbanization that went along with industrialization is still apparent. Depending on the sometimes variable definition of "urban," western Europe today is more than 80 percent urbanized, and urbanization has become a global phenomenon. Worldwide, more people now live in cities than in rural areas.



Archaeologists have found that the houses in Indus River cities, such as Mohenjo-Daro and Harappa, were a uniform size: each house had access to a sewer system, and palaces were absent from the cultural landscape. Derive a theory as to why these conditions were present in these cities that had both a leadership class and a surplus of agricultural goods.

WHERE ARE CITIES LOCATED AND WHY?

When you look at a map in an atlas of the United States or Canada, or at a road map of a State or province, you see an array of places of different sizes, with varying distances between them. The map looks like a jumble, yet each place is where it is because of some decision, some perception of the site or its situation. Site and situation help explain why certain cities were planned and why cities thrive or fail. To understand why a conglomeration of

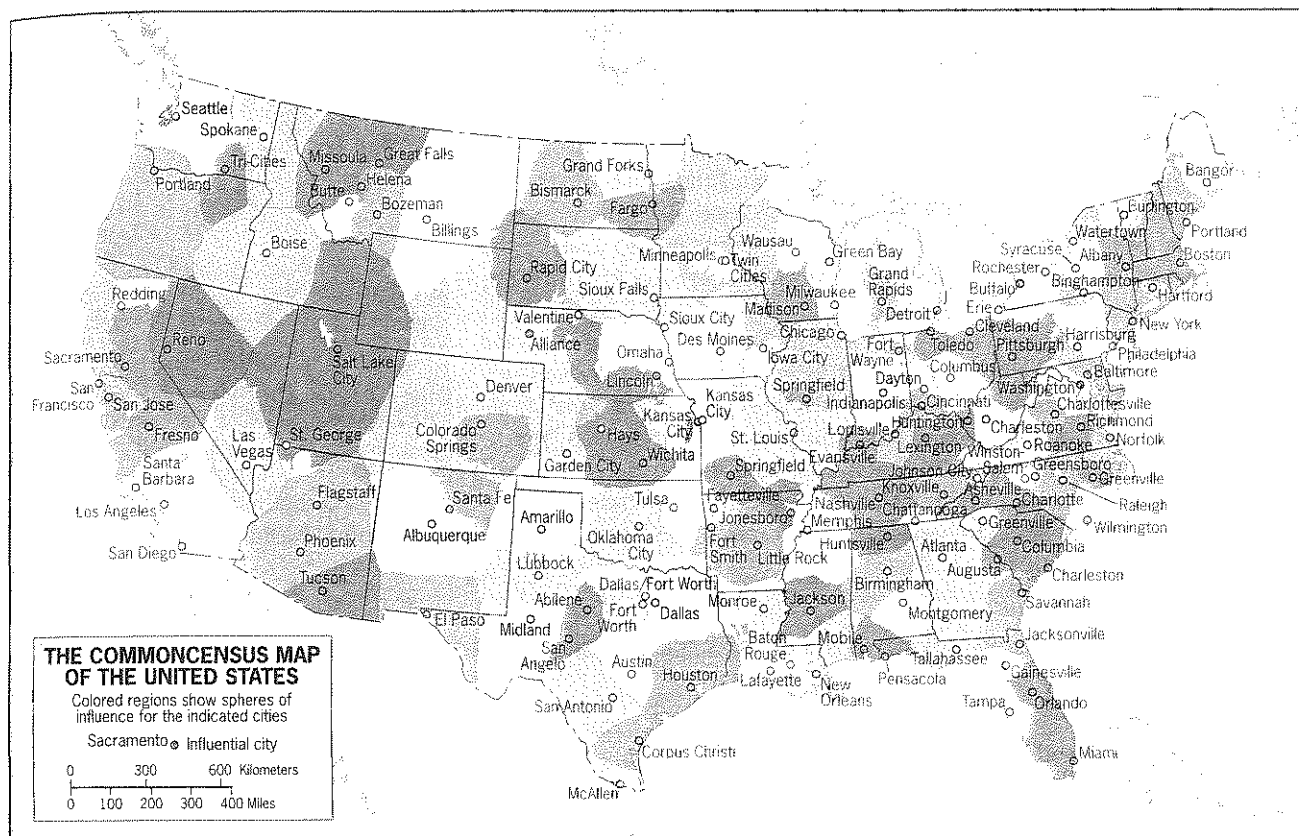


Figure 9.19

Regions of Influence for Cities in the Contiguous United States. This map is based on survey data from over 45,000 voters on commoncensus.org who answered the question, "On the Level of North America as a whole, what major city do you feel has the most cultural and economic influence on your area overall?" Adapted with permission from: www.commoncensus.org, last accessed August 2008.

cities is distributed across space the way it is and why cities are different sizes, it is necessary to examine more than one city at a time and see how those cities fit together, into the region, into the state, and into the globe as a whole.

Urban geographers studied the distribution of cities in Europe and the Americas during the 1900s, using quantitative techniques to determine how many cities and what size cities are needed within a certain space. In studying the size of cities and distances between them, urban geographers explored the **trade areas** of different size cities. Every city and town has a trade area, an adjacent region within which its influence is dominant. Customers from smaller towns and villages come to the city to shop and to conduct other business. An online survey of approximately 50,000 people helped one armchair geographer create a map of trade areas for the contiguous United States (Fig. 9.19). The city's newspapers are read, and its television stations are watched in the surrounding region (Fig. 9.20).

Across the multitude of quantitative studies in urban geography, three key components arose frequently: population, trade area, and distance. The simplest way to think

through the relationship among these three variables is to consider your State or province map. On the map, you will see many villages with unfamiliar names, a number of small towns sited on highways, several medium-sized cities where transportation routes converge, and likely one familiar, dominant city. The largest city has the largest trade area, and as a result fewer places rival it as the major trade area: the several medium-sized cities trade in smaller areas of commerce and are scattered apart from the major city, small towns house the grocery stores and other necessities, and finally villages may still have a café or a gas station. The trade areas and population combine to give us a hierarchy of urban places, following a pattern commonly called the rank-size rule.

Rank and Size in the Urban Matrix

The **rank-size rule** holds that in a model urban hierarchy, the population of a city or town will be inversely proportional to its rank in the hierarchy. Thus, if the largest city has 12 million people, the second largest will have

Guest Field Note

Broken Arrow, Oklahoma

Many trade areas in the United States are named, and their names typically coincide with the vernacular region, the region people perceive themselves as living in. In promoting a trade area, companies often adopt, name, or shape the name of the vernacular region. In Oklahoma, the label Green Country refers to the northeastern quarter of the state, the trade area served by Tulsa. Tourism promoters derived the label in the 1970s, and the Tulsa media have used the name since. Promoters see the label as positive, implying Green Country is a landscape of forests, lakes, rivers, hills, and wealth—a perception that challenges popular notions of Dust Bowl Oklahoma as a treeless, dry, flat, windy, and impoverished region of the 1930s. Green Country's popularity is confirmed by the hundreds of businesses, organizations, and agencies that have adopted the name. In turn, the presence of the trade area name throughout the cultural landscape reinforces the vernacular region, strengthening the importance of the region in the minds of the people.

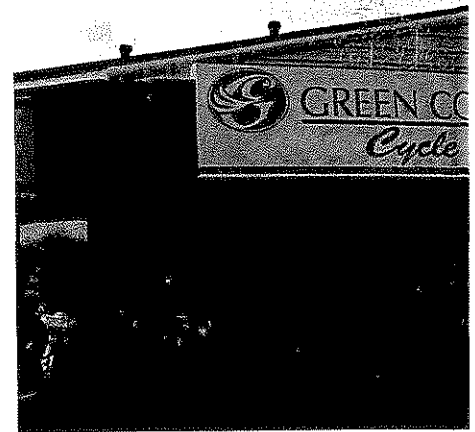


Figure 9.20

Credit: Brad Bays, Oklahoma State University

about 6 million (that is, half the population of the largest city); the third city will have 4 million (one-third); the fourth city 3 million; and so on. Note that the size differences between city levels become smaller at lower levels of the hierarchy, so that the tenth-largest city would have 1.2 million inhabitants.

Although German Felix Auerbach suggested the rank-size rule in 1913, linguist George Zipf is credited with establishing the mathematical equation for the rank-size rule in 1941. Since then, scholars across disciplines have tested the rule and questioned when the rule applies and when it does not. Studies in 1966, 1980, and again in 2002 found that the majority of countries they tested had populations with more even distributions than the rank-size rule would predict. Other recent studies have questioned why the rank-size rule fits the countries where it does fit, and these studies have offered answers including a combination of random growth (chance) and economies of scale (efficiency).

The rank-size rule does not apply in all countries, especially countries with one dominant city. States often focus development in one particular city, such as the capital city, thereby bolstering that city and its population above the rest of the cities in the state. In 1939, geographer Mark Jefferson defined a **primate city** as "a country's leading city, always disproportionately large and exceptionally expressive of national capacity and feeling." He saw the primate city as the largest and most economically influential within the state, with the next largest city in the state being much smaller and much less influential.

Many former colonies have primate cities, as the colonial powers often ruled from a single dominant city, where economic and political activities were concen-

trated. Examples of primate cities in former colonies include Mexico City, Mexico and Manila, the Philippines. In the noncolonial context, London and Paris each serve as examples of primate cities in the United Kingdom and France, respectively.

Central Place Theory

Walter Christaller wrote the classic urban geography study to explain where cities, towns, and villages are likely to be located. In his book, *The Central Places in Southern Germany* (1933), Christaller laid the groundwork for **central place theory**. He attempted to develop a model to predict how and where central places in the urban hierarchy (hamlets, villages, towns, and cities) would be functionally and spatially distributed. Christaller began his theory of development with a set of assumptions: first, the surface of the ideal region would be flat and have no physical barriers; second, soil fertility would be the same everywhere; third, population and purchasing power would be evenly distributed; next, the region would have a uniform transportation network to permit direct travel from each settlement to the other; and, finally, from any given place, a good or service could be sold in all directions out to a certain distance.

Through his studies, Christaller calculated the ideal central place system and then compared his model to real-world situations and tried to explain the variations and exceptions. In the urban hierarchy, the central places would be nested, so the largest central place provides the greatest number of functions to most of the region. Within the trade area of the largest central place, a series of larger towns would provide functions to several smaller

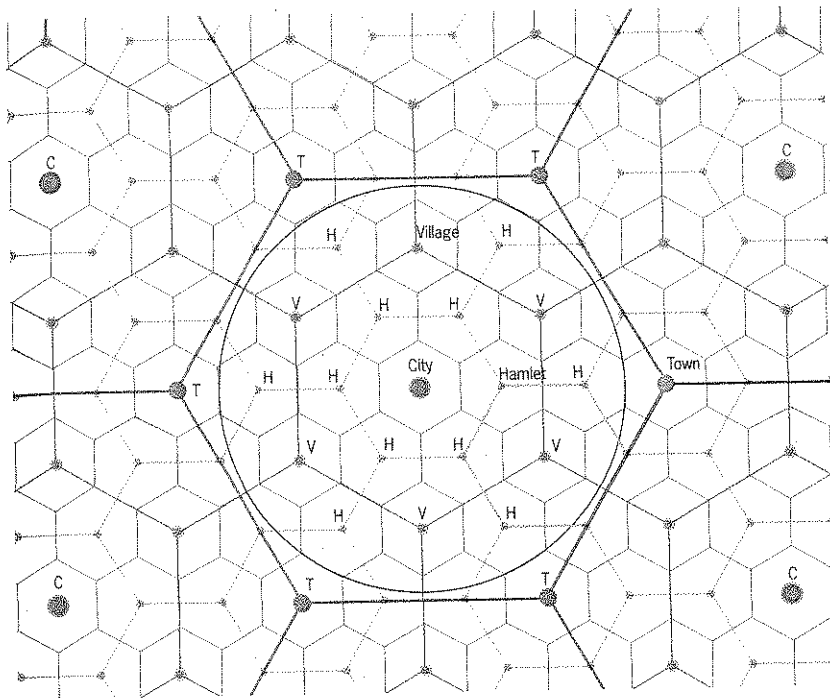


Figure 9.21
Christaller's Hierarchy of Settlements and Their Service Areas. Christaller's interlocking model of a hierarchy of settlements and their service areas include: C = city, T = town, V = village, H = hamlet.

places. The smaller places would then provide fewer central functions to a smaller-yet service area.

To determine the locations of each central place, Christaller needed to define the goods and services provided. He studied the sale of goods and services and calculated the distance people would willingly travel to acquire them. Cities, he postulated, would be regularly spaced, with central places where the same product was sold at the same price located a standard distance apart. He reasoned that a person would not be expected to travel 11 miles to one place to buy an item if it were possible to go only 9 miles to purchase it at another place. Central place theory maintains that each central place has a surrounding complementary region, an exclusive trade area within which the town has a monopoly on the sale of certain goods, because it alone can provide such goods at a given price and within a certain range of travel.

Hexagonal Hinterlands

Based on this description of Christaller's theory, you may expect the shape of each central place's trade area to be circular (bullseye shapes surrounding each place). But circles either have to overlap or leave certain areas unserved. Hence, Christaller chose perfectly fitted hexagonal regions as the shape of each trade area (Fig. 9.21).

Urban geographers were divided on the relevance of his model. Some saw hexagonal systems everywhere; others saw none at all. Christaller received support from geographers, who applied his ideas to regions in Europe, North America, and elsewhere. In China, both the North

China Plain and the Sichuan Basin display the seemingly uninterrupted flatness assumed by Christaller's model. When G. William Skinner examined the distribution of villages, towns, and cities there in 1964, he found a spatial pattern closely resembling the one predicted by Christaller's model. Studies in the U.S. Midwest suggested that while the square layout of the township-and-range system imposed a different kind of regularity on the landscape, the economic forces at work there tended to confirm Christaller's theory.

Christaller recognized that not all his assumptions would be met in reality; physical barriers, uneven resource distributions, and other factors all modify Christaller's hexagons. Nonetheless, his model yielded a number of practical insights. His studies pointed to a hierarchy of urban places that are spatially balanced and also established that larger cities would be spaced farther from each other than smaller towns or villages. Although Christaller's model of perfectly fit hexagons is not often realized, his studies confirm that the distribution of cities, towns, and villages in a region is not an accident but is tied to trade areas, population size, and distance.

Central Places Today

When Christaller worked on his spatial model and projected central place theory to help explain the distribution of urban areas, the world was a simpler and much less populated place than it is today. As many urban geographers have pointed out during the debate that followed Christaller's publications, new factors, forces, and conditions

not anticipated by his models and theories (including the Internet and the interstate system) make them less relevant today.

Geographer Larry Ford stresses that central place notions still have a role in explaining current developments. Take, for example, the **Sun Belt phenomenon** of the past four decades—the movement of millions of Americans from northern and northeastern States to the South and Southwest. This is not just an internal, voluntary migration made possible by social security funds and retirement plans; it also results from deliberate governmental economic and social policies that favor “Sun Belt” cities through federal spending on military, space, and research facilities. And even as Northerners moved southward, millions of Middle and South American migrants moved northward—into the same urban centers already growing for domestic reasons.

The overall effect of all this movement was to create a changed urban hierarchy in the Sun Belt region. Central place theory would predict that some existing cities would respond by increasing their production of higher-order (technological) goods and services, increasing their economic reach and bypassing others. And this is what happened: Atlanta, Dallas, and Phoenix became headquarters cities for large regions, moving up in the urban hierarchy. Charlotte, Tampa, San Antonio, and Tucson also rose, but took secondary status. Other centers participated less in the new spatial economy and remained where they were in the urban hierarchy.

As Ford emphasized, central place theory can still add “analytical power to the understanding of patterns of urban growth, even in this era of fast and long-distance transportation, suburbanization, and multiple urban functions.”



Sketch a map of your city or town and the cities or towns nearby. Make a list of the kinds of goods and services available in each of these towns. Do the ideas about central places presented in this section of the chapter apply to your region?

HOW ARE CITIES ORGANIZED, AND HOW DO THEY FUNCTION?

We all know that cities have certain features in common, and we use geographic terms to identify these features including downtowns, suburbs, industrial districts, and shopping malls. Cities in various geographic

regions of the world also have their own, distinct characteristics. Mumbai, India, looks vastly different from Chicago, Illinois. Tokyo, Japan, is distinct from Lagos, Nigeria. Cities in South America tend to be graced by often magnificent plazas not common in Australia or Russia.

One way to conceptualize the layout of cities is through models that illustrate the structures of cities. Since the 1920s, urban geographers have studied, charted, and mapped cities to create models that describe the urban morphology, functional zonation, and overall layout of cities in world regions.

City models reveal how cities are purposefully structured to perform the roles they have as centers of commerce, education, transportation, industry, and governance. The form of cities also reflects the historic, spatial, economic, cultural, and political processes that shaped cities in each world region.

In this section of the chapter, we discuss a number of models that urban geographers have drawn for cities. In the next section, we discuss the people and institutions that organize and shape cities.

Models of the City

Each model of the city, regardless of the region, is a study in **functional zonation**—the division of the city into certain regions (zones) for certain purposes (functions). Every city in the world is an assemblage of functional zones, orderly designed in some places and jumbled chaos in others. Zones of the city exist and play certain roles in the city’s life, whether to house residents, produce goods, educate students, or accommodate government. Each zone or region is part of the larger city.

Globalization has created common cultural landscapes in the financial districts of many world cities. Until little more than 30 years ago, Shanghai, China, was a vast, low-rise Chinese city centered on a colonial-era riverfront with British and French architectural imprints that had endured for more than a century. Today, you might mistake the financial districts in downtown Shanghai for New York City with its forest of skyscrapers housing international corporations, banks, hotels, and hundreds of thousands of apartment dwellers. You will also see the names of the same corporations and hotels on high-rise buildings in central Mumbai (India), Bangkok (Thailand), Dubai (United Arab Emirates) and Singapore.

With globalization reflected in cultural landscapes around the world, are regional models of cities no longer useful? Quite the opposite: they help us understand the processes that forged cities in the first place and understand the impact of modern linkages and influences now changing cities. In Shanghai, China, for example,

the government chose to preserve the unique colonial riverfront architecture and develop around the colonial neighborhood and across the Huangpu River. In South America, cities are protecting historic plazas against modernization through regulations that limit high-rise development to areas outside of the plazas. The city of Paris protects the old city from development of high rises. Instead, Paris concentrates skyscraper development in the technology corridor called La Defense, which is located along the axis of the Avenue Charles de Gaulle a little over 3 miles from the Arc de Triomphe.

Models of cities give us context for understanding the history and geography of regions and major cities within them. Studying the location and interplay of zones within cities and the changing cultural landscape of cities helps us grasp the interplay between cities and globalization.

Functional Zones

Before examining the models of urban spaces, we must define some terms commonly used in referring to parts of the city. The term **zone** is typically preceded by a descriptor that conveys the purpose of that area of the city. The models describe zones as areas with a relatively uniform land use, for example, an industrial zone or a residential zone. Most models define the key economic zone of the city (if there is such) as the central business district (CBD). The American CBD typically has high land values, tall buildings, busy traffic, converging highways, and mass transit systems.

The term **central city** describes the urban area that is not suburban. In effect, central city refers to the older city as opposed to the newer suburbs. A **suburb** is an outlying, functionally uniform part of an urban area, and is often (but not always) adjacent to the central city. Most suburbs are residential, but some have other land uses, including schools, shopping malls, and office parks.

Suburbanization is the process by which lands that were previously outside of the urban environment become urbanized, as people and businesses from the city move to these spaces. The process of suburbanization holds special interest for human geographers because it involves the transformation of large areas of land from rural to urban uses and affects large numbers of people who can afford to move to larger and more expensive suburban homes. The aesthetic of the suburb reveals the occupants' idealized living patterns because their layout can be planned in response to choice and demand.

In *Contemporary Suburban America* (1981), urban geographer P. O. Muller offered a thorough analysis of suburbanization, describing how suburbia "evolved into a self-sufficient urban entity, containing its own major economic and cultural activities, that is no longer an appendage to the central city." Muller found suburban

cities ready to compete with the central city for leading urban economic activities such as telecommunications, high-technology industries, and corporate headquarters. In addition to expanding residential zones, the process of suburbanization rapidly creates distinct urban regions complete with industrial, commercial, and educational components.

The overall importance of suburban life in the United States is underscored by the results of the 2000 census, which indicated that no less than 50 percent of the entire American population resided in the suburbs (up from 37 percent in 1970); the remaining 50 percent were divided between the central cities (30.3 percent) and non-metropolitan or rural areas (19.7 percent). Of the population living in metropolitan areas, 62.2 percent resided in the suburbs, which in 2000 had 141 million residents. Thus, the suburbs have become the essence of the modern American city.

Just by using such terms as *residential area* and *central business district*, people acknowledge the existence of a regional structure within cities. When you refer to downtown, or to the airport, or to the city zoo, you are in fact referring to urban regions where certain functions prevail (business activity, transportation, and recreation, in the three just mentioned). All of these urban regions or zones lie near or adjacent to each other and together make up the city. But how are they arranged?

Modeling the North American City

Urban geographers have constructed a succession of models that reflect change and growth in the geographic layout of North American cities. The first model, the **concentric zone model** (Fig. 9.22A), resulted from sociologist Ernest Burgess's study of Chicago in the 1920s. Burgess's model divides the city into five concentric zones, defined by their function. As the city grew, land was converted in zones around the outside of the city, and the concentric zone model emerged. At the center is the CBD (1), itself subdivided into several subdistricts (financial, retail, theater).

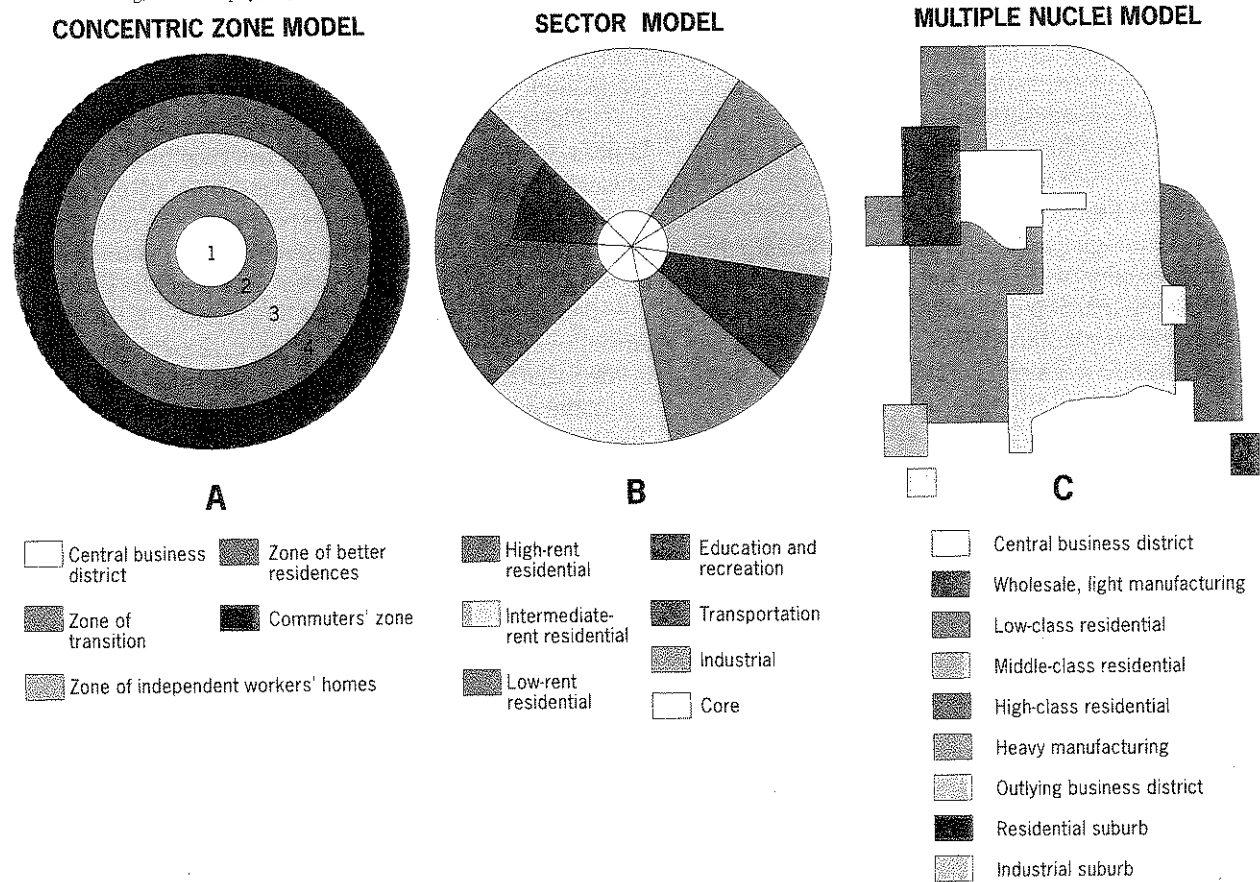
The zone of transition (2) is characterized by residential deterioration and encroachment by business and light manufacturing. Zone 3 is a ring of closely spaced but adequate homes occupied by the blue-collar labor force. Zone 4 consists of middle-class residences, and Zone 5 is the suburban ring. Burgess described his model as dynamic: as the city grew, inner zones encroached on outer ones, so that CBD functions invaded Zone 2 and the problems of Zone 2 affected the inner margins of Zone 3.

In the late 1930s, Homer Hoyt published his sector model (Fig. 9.22B), partly as an answer to the limitations of the Burgess model. Hoyt focused on residential patterns,

Figure 9.22

The Three Classical Models of Urban Structure. The three classical models of urban structure are the concentric zone model, the sector model, and the multiple nuclei model.

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explaining where the wealthy in a city chose to live. Hoyt argued that the city grows outward from the center, so a low-rent area could extend all the way from the CBD to the city's outer edge, creating zones that are shaped like a piece of pie. Hoyt found that the pie-shaped pieces describe the high-rent residential, intermediate rent residential, low-rent residential, education and recreation, transportation, and industrial sectors.

Researchers studied both theories, and Chauncy Harris and Edward Ullman argued that neither the concentric rings nor the sector model adequately reflected city structure by the mid-twentieth century. In the 1940s, Harris and Ullman proposed the multiple nuclei model (Fig. 9.22 C). Their model recognizes that the CBD was losing its dominant position as the single nucleus of the urban area. Several of the urban regions shown in the figure have their own nuclei.

Most urban geographers think these models are too simplistic to describe the modern city. With the availability of personal automobiles and the construction of ring roads and other arteries around cities in the

1970s and 1980s, suburbanization exploded around new transportation corridors. The outer city grew rapidly and became more functionally independent of the central city, and suburban downtowns emerged to serve their new local economies. Often located near key freeway intersections, these suburban downtowns developed mainly around big regional shopping centers and attracted industrial parks, office complexes, hotels, restaurants, entertainment facilities, and even sports stadiums. They became **edge cities**. Edge cities such as Tysons Corner, Virginia (outside Washington, D.C.) and Irvine, California (outside Los Angeles) flourished. They attracted tens of thousands of nearby suburbanites—offering workplaces, shopping, leisure activities, and all the other elements of a complete urban environment—thereby loosening remaining ties not only to the central city but to other suburban areas as well (Fig. 9.23). As early as 1973, American suburbs surpassed the central cities in total employment. By the mid-1980s, in some metropolises in the Sun Belt, the majority of jobs in the metropolis were in the suburbs.



Figure 9.23
Tysons Corner, Virginia. In the suburbs of Washington, D.C., on Interstate 495 (the Beltway), Tysons Corner has developed as a major edge city, with offices, retail, and commercial services. © Rob Crandall/The Image Works.

Modeling the Cities of the Global Periphery and Semiperiphery

Cities in the world with millions of inhabitants can now be counted in the hundreds; it therefore becomes increasingly difficult to model, classify, or typify urban centers. In the 1960s, researchers classified “colonial” cities as urban areas where European transplants dominated the form of the city, laying it out with Western styles. Researchers also drew models of “indigenous” cities that remained remote from globalizing influences and various forms of the Western city.

The rapid growth in population and territorial footprint of megacities in the developing world has made it difficult to apply city models. Primate cities in developing countries are called **megacities** when the city has a large population, a vast territorial extent, rapid in-migration, and a strained, inadequate infrastructure. For example, Mumbai, India, has more people than the country of Australia. São Paulo, Brazil, covers more land than the country of Belgium. Kinshasa, The Congo, is the fastest growing city in Africa. Jakarta, Indonesia, is the largest city in the world without a subway or metro system.

In Middle and South America, Mexico City (Mexico) and São Paulo (Brazil) are now the kinds of megacities that make analysis difficult. Nonetheless, some cities located in South American countries once colonized by Spain have

retained a common social-spatial geography. Also, some former colonial cities in Sub-Saharan Africa have maintained the spatial components lost in megacities like Lagos (Nigeria) and Kinshasa (The Congo).

The South American City

In 1980, geographers Ernst Griffin and Larry Ford studied South American cities and derived a model of the South American city referred to as the **Griffin-Ford model**. Griffin and Ford found that South American cities blend traditional elements of South American culture with the forces of globalization that are reshaping the urban scene, combining radial sectors and concentric zones.

Anchoring the model is the thriving CBD, which remains the city’s primary business, employment, and entertainment focus. The CBD is divided into a traditional market sector and a more modern high-rise sector. Adequate public transit systems and nearby affluent residential areas assure the dominance of the CBD. Emanating outward from the urban core along the city’s most prestigious axis is the commercial spine, which is surrounded by the elite residential sector. This widening corridor is essentially an extension of the CBD. It features offices, shopping, high-quality housing for the upper and upper-middle classes, restaurants, theaters, and such amenities as parks, zoos, and golf courses. At the end of the

A NEW AND IMPROVED MODEL OF LATIN AMERICAN CITY STRUCTURE

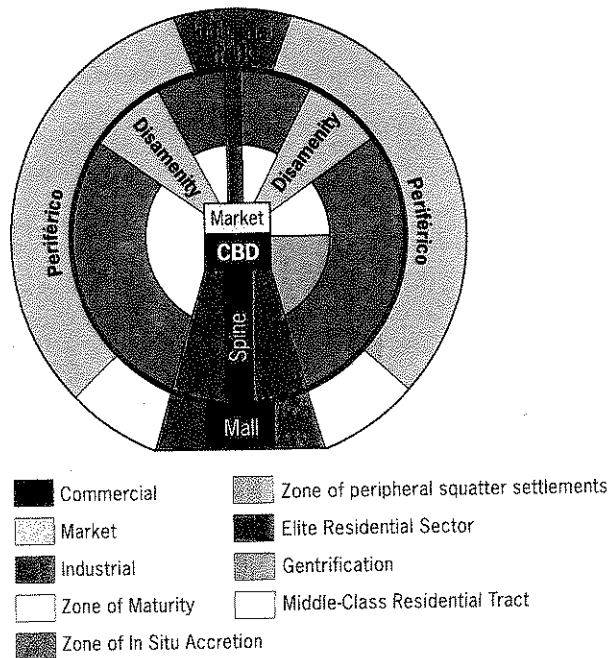


Figure 9.24

A New and Improved Model of the South American City Structure. This model includes both the zones created in the original Griffin-Ford model and the new Ford model of the South American city. *Adapted with permission from: L. Ford, "A New and Improved Model of Latin American City Structure," *The Geographical Review* 86 (1996), p. 438.*

elite spine sector lies an incipient edge city shown as "mall" on the model and flanked by high-priced residences. This reflects the emergence of suburban nodes from the North American model in South America's cities.

In the Griffin-Ford model, the remaining concentric zones are home to less well-off residents, who compose the great majority of the urban population. Socioeconomic levels and housing quality decrease markedly with greater distance from the city center (Fig. 9.24). The zone of maturity in the inner city contains the best housing outside the spine sector, attracting the middle classes, who invest sufficiently to keep their solidly built but aging dwellings from deteriorating. The adjacent zone is one of much more modest housing. Interspersed with the more modest areas are densely populated unkempt areas, which represent a transition from inner-ring affluence to outer-ring poverty. The outermost zone of peripheral squatter settlements is home to the impoverished and recent migrants who live in shantytowns. **Shantytowns** are unplanned developments of crude dwellings and shelters made mostly of scrap wood, iron, and pieces of cardboard that develop around cities. Although the ring of peripheral squatter settlements consists mainly of teeming, high-density shantytowns,

many residents here are surprisingly optimistic about finding work and improving their living conditions.

A structural element common among many South American cities is the **disamenity sector**, the very poorest parts of cities that in extreme cases are not connected to regular city services and are controlled by gangs and drug lords. The disamenity sectors in South American cities contain relatively unchanging slums known as *barrios* or *favelas*. The worst of these poverty-stricken areas often include large numbers of people who are so poor that they are forced to live in the streets (Fig. 9.25). There is little in the way of regular law enforcement within such communities, and drug lords often run the show—or battle with other drug lords for dominance. Such conditions also prevail in places beyond the ring highway or *periferico*, which is now a feature of most South American cities.

Finally, the Griffin-Ford model displays two smaller sectors: an industrial park, reflecting the ongoing concentration of industrial activity in the city, and a gentrification zone, where historic buildings are preserved. Gentrification remains much less common in South American cities than in North America, but it is an emerging phenomenon.

To what extent is the Griffin-Ford model a realistic portrayal of the South American city? The model reflects the enormous differences between the spaces of privilege and the spaces of abject poverty within the South American city. The model also describes elements of sector development evident in many large South American cities, but the concentricity suggested by the model seems to be breaking down. Figure 9.24 incorporates both the original zones of the Griffin-Ford model and the updates Larry Ford added in a 1996 article. Larry Ford's updated Griffin-Ford model adds a ring highway (*periferico*) around the outskirts of the city, divides the downtown business district into a CBD and a market, adds a mall near the elite space, and leaves space for suburban industrial parks.

The African City

At the beginning of this century, Subsaharan Africa included countries with some of the world's lowest levels of urbanization. In the tropical region of Africa, the majority of the people are farmers, and most countries in the tropics remain under 40 percent urbanized. Outside the tropics, the region is about 57 percent urban. Despite the region's lower levels of overall urbanization than much of the rest of the world, Africa now has the world's fastest growing cities, followed by those in South Asia and mainland East Asia and South and Middle America. In contrast, the cities of North America, southern South America, and Australia are growing more slowly, and those of western Europe are barely growing at all.

The imprint of European colonialism can still be seen in many African cities. During colonialism, Europeans

Field Note

"February 1, 2003. A long-held hope came true today: thanks to a Brazilian intermediary I was allowed to enter and spend a day in two of Rio de Janeiro's hillslope *favelas*, an eight-hour walk through one into the other. Here live millions of the city's poor, in areas often ruled by drug lords and their gangs, with minimal or no public services, amid squalor and stench, in discomfort and danger. And yet life in the older *favelas* has become more comfortable as shacks are replaced by more permanent structures, electricity is sometimes available, water supply, however haphazard, is improved, and an informal economy brings goods and services to the residents. I stood in the doorway of a resident's single-room dwelling for this overview of an urban landscape in transition: satellite-television disks symbolize the change going on here. The often blue cisterns catch rainwater; walls are made of rough brick and roofs of corrugated iron or asbestos sheeting. No roads or automobile access, so people walk to the nearest road at the bottom of the hill. Locals told me of their hope that they will some day have legal rights to the space they occupy. During his campaign for president of Brazil, former president Lula de Silva suggested that long-term inhabitants should be awarded title, and in 2003 his government approved the notion. It will be complicated: as the photo shows, people live quite literally on top of one another, and mapping the chaos will not be simple (but will be made possible with geographic information systems). This would allow the government to tax residents, but it would also allow residents to obtain loans based on the value of their *favela* properties, and bring millions of Brazilians into the formal economy. The hardships I saw on this excursion were often dreadful, but you could sense the hope for and anticipation of a better future. In 2007, Lula da Silva's government pledged \$3.6 billion to bring water, sewage, roads, and improved housing to the 20 percent of the city of Rio de Janeiro who live in the favelas."

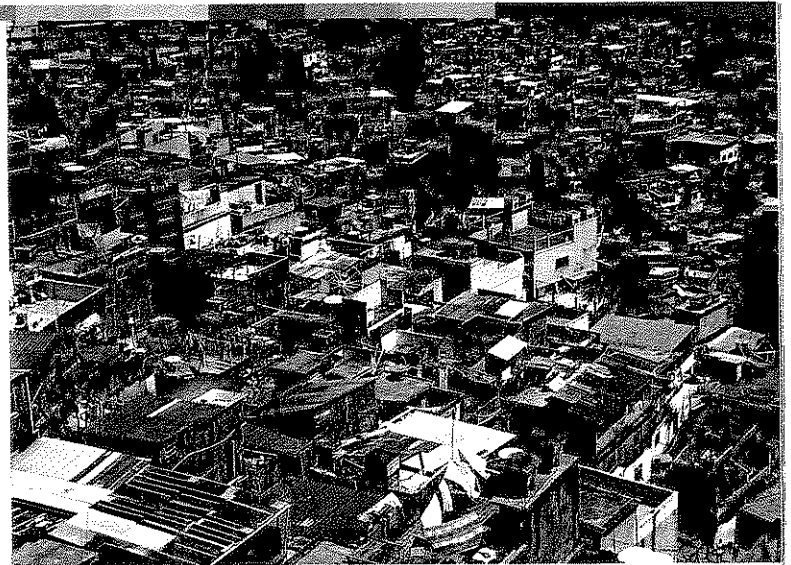


Figure 9.25
Rio de Janeiro, Brazil. © H. J. de Blij.

laid out prominent urban centers such as Kinshasa (The Congo), Nairobi (Kenya), and Harare (Zimbabwe) in the interior, and Dakar (Senegal), Abidjan (Ivory Coast), Luanda (Angola), Maputo (Mozambique), and other ports along the coast. Africa even has cities that are neither traditional nor colonial. The centers of South Africa's major cities (Johannesburg, Cape Town, and Durban) remain essentially Western, with elements of European as well as American models and a veneer of globalization including high-rise CBDs and sprawling upper-income suburbs.

As a result of this diversity, it is difficult to formulate a model African city. Studies of African cities indicate that the central city often consists of not one but three CBDs (Fig. 9.26): a remnant of the colonial CBD, an informal and sometimes periodic market zone, and a transitional business center where commerce is conducted from curbside, stalls, or storefronts. Vertical development occurs mainly in the former colonial CBD; the traditional business center is usually

A MODEL SUBSAHARAN AFRICAN CITY

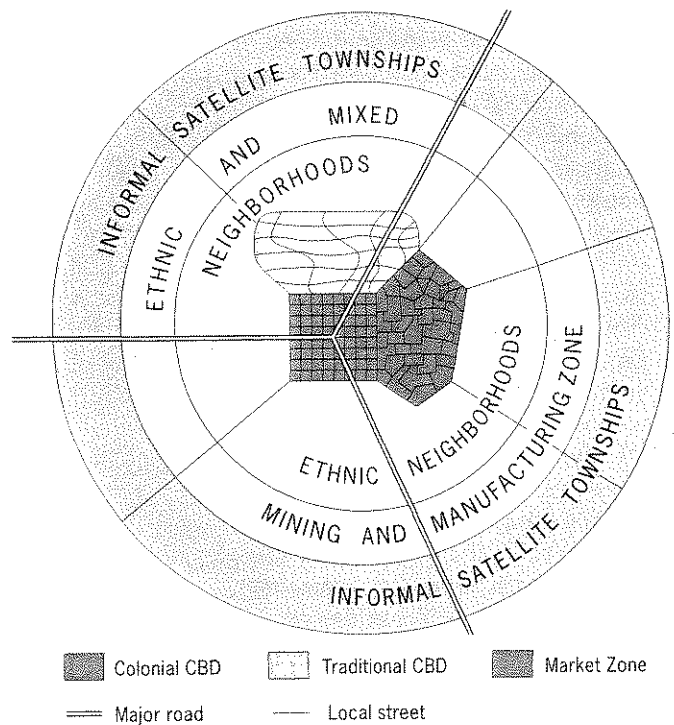


Figure 9.26
Model of the Sub-Saharan African City. One model of the African city includes a colonial CBD, traditional CBD, and market zone. © E. H. Fouberg, A. B. Murphy, H. J. de Blij, and John Wiley & Sons, Inc.

a zone of single-story buildings with some traditional architecture; and the market zone tends to be open-air, informal, yet still important. Sector development marks the encircling zone of ethnic and mixed neighborhoods (often characterized by strong ethnic identities as people of ethnic kin tend to cluster together). Since many African cities began as mining towns, such operations still occur in conjunction with this zone in some instances. Manufacturing companies, originally founded near the labor force concentrated in this zone still function here. Invariably, fast-growing African cities are encircled by vast shantytowns rapidly growing as a result of virtually unchecked in-migration.

The Southeast Asian City

Some of the most populated cities in the world are in Southeast Asia. The city of Kuala Lumpur, Malaysia, is a complex of high-rise development, including the 1483-foot-tall Petronas Towers, which until recently was the world's tallest building. The city of Jakarta, Indonesia, called Jabotabek by the locals, is an enormous conurbation of Bogor, Tangerang, and Bekasi.

In 1967, urban geographer T. G. McGee studied the medium-sized cities of Southeast Asia and found that they exhibit similar land-use patterns, creating a model referred to as the **McGee model** (Fig. 9.27). The focal point of the city is the old colonial port zone combined with the largely commercial district that surrounds it. McGee found no formal central business district; rather, he found the elements of the CBD present as separate clusters surrounding the old colonial port zone: the government zone; the Western commercial zone (practically a CBD by itself); the alien commercial zone, dominated by Chinese merchants whose residences are attached to their places of business; and the mixed land-use zone that contains miscellaneous economic activities, including light industry. The other nonresidential areas are the market-gardening zone at the outskirts of the urban area and, still farther from the city, a recently built industrial park or "estate."

The residential zones in McGee's model are similar to those in the *Griffin-Ford model* of the South American city. Other similarities between the McGee and Griffin-Ford model are the hybrid structure of sectors and zones, an elite residential sector that includes new suburbs, an inner-city zone of middle-income housing, and peripheral low-income squatter settlements. One main difference is that the McGee model includes middle-income housing in a suburban zone, reflecting the larger middle class in these cities of the global semiperiphery and the small middle class in South American cities.

Regardless of the region or city, we recognize that models do not explain how or why cities are organized the way they are. A model of a city shows us an end product, whether planned or not and suggests the forces that created that end product.

A GENERALIZED MODEL OF LAND USE AREAS IN THE LARGE SOUTHEAST ASIAN CITY

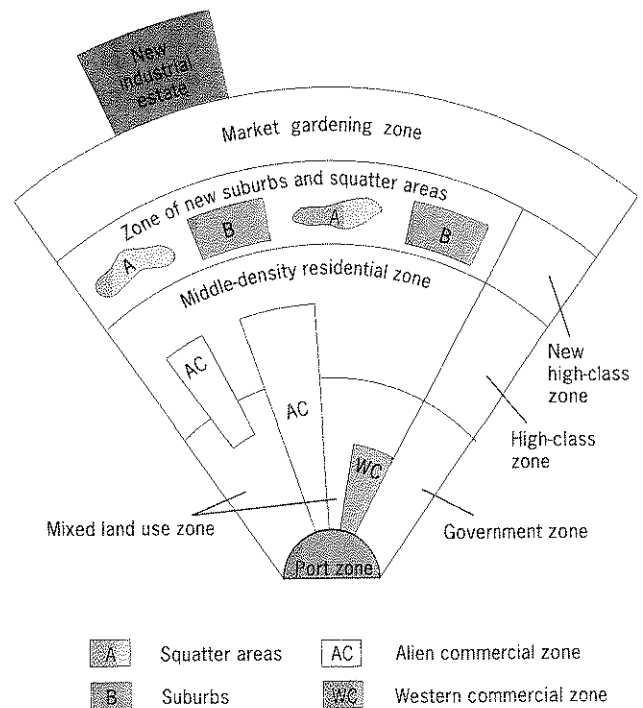


Figure 9.27

Model of the Large Southeast Asian City. A model of land use in the medium-sized Southeast Asian city includes sectors and zones within each sector. Adapted with permission from: T. G. McGee, *The Southeast Asian City*, London: Bell, 1967, p. 128.



Employing the concepts defined in this section of the chapter, draw a model of the city with which you are most familiar. Label each section of the city accordingly. After reading through the models described in this section, determine which model best corresponds to the model you drew and hypothesize as to why it is so.

HOW DO PEOPLE SHAPE CITIES?

People and institutions make places, and the city is no exception to this rule. The roles individual people, governments, corporations, developers, financial lenders, and realtors play in shaping cities varies across the world. Government planning agencies can directly affect the layout of cities by restricting the kinds of development allowed in certain regions or zones of cities.

Through **zoning laws**, cities define areas of the city and designate the kinds of development allowed in each