

# Urban Geography



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**FIGURE 9.1 Dublin, Ireland.** Dublin residents organized a Take Back the City demonstration to protest the city's housing crisis. Take Back the City is a conglomeration of 15 housing groups whose members are concerned about the cost and availability of housing for the city's residents. Each flat and house a developer buys to lease through home-sharing platforms is another residence not available for locals to rent or buy.

Protesters walk the streets of Dublin, Ireland, with a sign reading, "Take back the city" (Fig. 9.1). In Barcelona, Spain, a protester's sign reads, "Tourist flats displace families." And in Paris, France, a sign reads, "Homes. Not hotels." The protesters believe that Airbnb and other home-sharing platforms are destroying their cities by undermining their sense of community, driving up housing prices, compressing housing stock, and crowding tourist destinations.

The number of tourists in a city used to be somewhat regulated by the number of beds in hotels. But with home-sharing platforms, every building can become a short-term hotel, and the number of tourists in a city at one time is swelling beyond the city's capacity, making it difficult for the people who live there to get around or enjoy their city.

The first people to live in cities clustered together for community, security, and innovation. For a city to flourish, people need to live in community and be invested in the place and one

another. Tourists darting through a town do not vote for candidates or run in elections, serve on community boards and councils, or teach or send their children to the local school. Protesters argue that a city not populated by residents is basically a museum.

Urban geographer Edward Soja sees the city as a force in society. Concentrate millions of people in a close-knit city, and the very act of being so close and sharing space makes the city a catalyst for innovation. If Soja is right, home sharing can fundamentally shift the role cities play in society. His theory assumes that everyone in a city is invested in a place and identifies with that place.

In our study of urban geography in this chapter, we look at the city spatially, examining the forms of cities around the world, the role of people in building and shaping cities, and the changes that cities have undergone over space and time.

## CHAPTER OUTLINE

### 9.1 Describe the sites and situations of cities.

- The Hearths of Urbanization
- Site and Situation

### 9.2 Analyze the distribution of cities and their relative size.

- The Rank-Size Rule and Primate Cities
- Central Place Theory

### 9.3 Explain the internal structure of cities and compare urban models.

- Zones in Cities
- The European City Model
- The North American City Model
- The Latin American City Model

- The African City Model
- The Southeast Asian City Model

### 9.4 Analyze how political and economic policies shape cities.

- Redlining, Blockbusting, and White Flight
- Gentrification
- Urban Sprawl and New Urbanism
- Gated Communities
- Urban Geopolitics

### 9.5 Explain what world cities are and describe how they shape and reflect globalization.

- Megacities and Global Slums

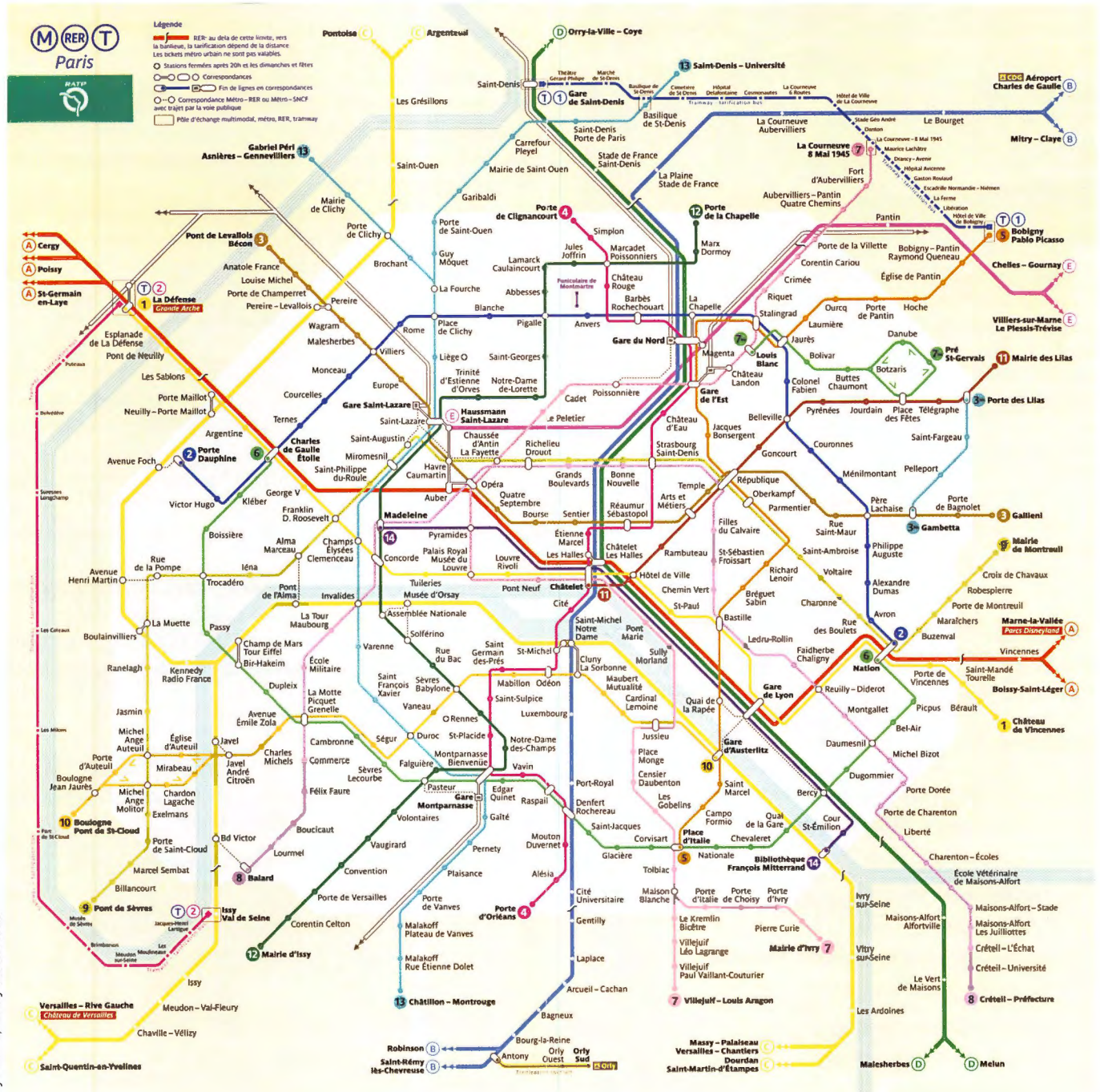


## 9.1 Describe the Sites and Situations of Cities.

More people now live in cities than at any point in human history. A **city** is an agglomeration of people and buildings clustered together to serve as a center of politics, culture, and economics. It is a large settlement of people with an extensive built environment. At the global scale, most people live in cities. In Japan, the United States, Canada, and western Europe, four out of five people now live in cities or towns. China is mostly urban, with a little

over 50 percent of Chinese living in cities, but India is mostly rural, with 70 percent of Indians living in rural areas.

The large concentration of people in cities gives people access to goods, services, and opportunities not available in rural areas. Cities also have governments that can levy taxes and then use the funds to build massive infrastructure systems, including webs of subway systems (**Fig. 9.2**) and bridges that



**FIGURE 9.2 Paris Metro Map.** Construction of the Paris Metro began in 1898. The first line opened for travelers in 1900. This map shows the more than 130 miles (214 km) of metro lines connecting the city today. Cities collect taxes, which makes it possible for them to build large infrastructure projects like subways.

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**FIGURE 9.3 Sydney, Australia.** The Gladesville bridge spans over the Parramatta River, connecting passengers with the Sydney central business district (CBD) in the background.

are works of art (**Fig. 9.3**). Cities are centers of political and economic power, higher education and technological innovation, artistic achievement and historical records, and research and medical advances. News and information are collected in cities and broadcast around the world. Enormous entertainment and sports complexes draw famous people to perform, teams to compete, and fans to watch them.

## The Hearths of Urbanization

A city can seemingly pop up on the landscape overnight. In 1979, the Chinese government designated the small fishing village of Shenzhen, located next to Hong Kong, as a special economic zone (SEZ). The designation propelled investment from foreign companies, and many industries moved from Hong Kong to Shenzhen to take advantage of lower labor costs. Shenzhen grew from 30,000 people to 12 million people in just over 40 years. Skyscrapers now tower where thatch houses, rice paddies, and duck ponds once stood (**Fig. 9.4**).

Unlike today, it took thousands of years for the first **hearths**, or centers, of urbanization to form in Mesopotamia, the Nile River Valley, the Indus River Valley, the Huang He and Wei River valleys, Mesoamerica, and Peru. Urbanization began when hunters and gatherers first clustered in permanent settlements to defend themselves and their leaders, grow crops, develop new arts and industries, cluster around sacred sites, and build places that aligned with their understanding of the universe.

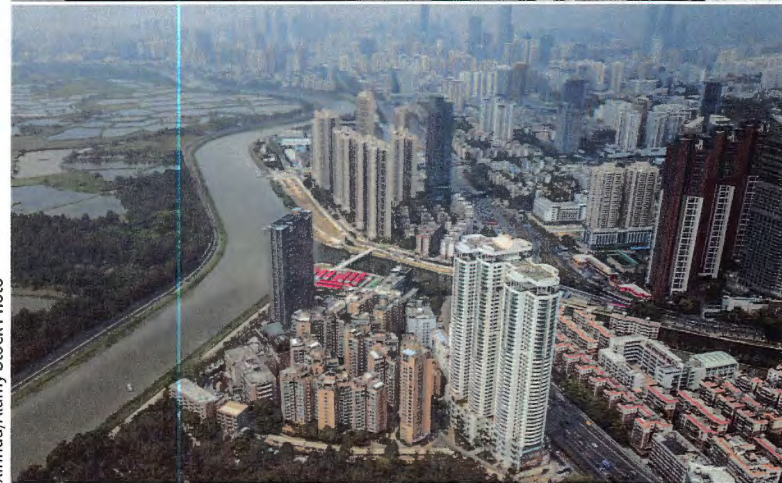
**The First Urban Revolution** The first permanent settlements were small agricultural villages. In these villages, everyone worked in agriculture and people were relatively

equal in status. As cities formed, this situation changed. In a city, people engage in many economic activities besides agriculture and stratify into classes as they generate personal, material wealth.

Some cities grew out of agricultural villages, and others grew in places previously unoccupied. The first formation of cities is called the **first urban revolution**, and it occurred independently in six separate hearths<sup>1</sup> (**Fig. 9.5**). In each of the urban hearths, people became engaged in various economic activities beyond agriculture, including specialty crafts, the military, trade, and government.

The six urban hearths were closely tied to the first hearths or centers of agriculture. The first hearth of agriculture, the Fertile Crescent, is the first place archaeologists find evidence of cities, dating to about 3500 BCE. This urban

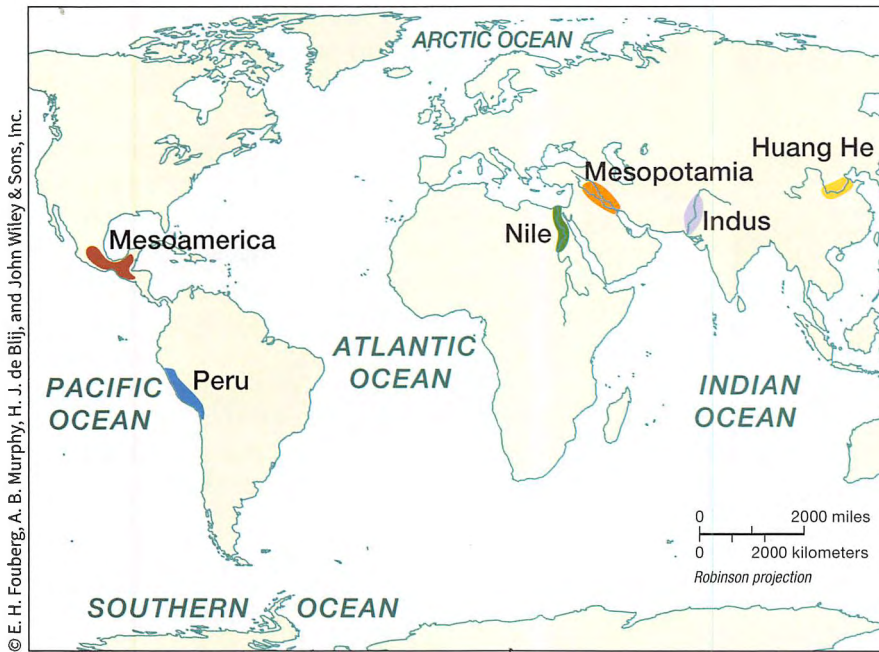
<sup>1</sup>Some scholars argue that there are fewer than six hearths and attribute some early centers of urbanization to diffusion.



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**FIGURE 9.4 Shenzhen, China.** When Shenzhen became the first special economic zone (SEZ) in China in 1979, the town had approximately 30,000 residents. Chinese banks and foreign investors flooded money into the city, building a network of transportation, utilities, and buildings. In just four decades, the city grew at an unprecedented rate to more than 12 million people.





**FIGURE 9.5 Six Hearths of Urbanization.** From these hearths, urbanization diffused around the world.

hearth, called **Mesopotamia**, included the cities of Ur and Babylon, located near the Tigris and Euphrates rivers. The social classes in Mesopotamian cities are seen in the different sizes of houses and their varying ornamentation. Cities in Mesopotamia had palaces, temples, and walls, all built with taxes and tribute collected by the priest-kings from farmers and workers.

The second hearth of urbanization, the **Nile River Valley**, dates to 3200 BCE. Irrigation distinguished the Nile from other urban hearths. The different social classes of the Nile civilization are evidenced by the great pyramids, tombs, and statues built by slaves and laborers. One distinct feature of Nile cities is the lack of walls, which was likely an environmental decision. Walls on the Nile side would have blocked access to the river, which was needed for irrigation. Walls on the side away from the river were unnecessary because just a few miles away from the Nile stretches a vast desert. The Nile flooded annually, and the river left rich sediment behind on the floodplain when the river receded. Walls would have blocked the river from flooding and annually nourishing the agricultural fields. The lack of walls may also have been a political decision. Settlements along the Nile were part of the same civilization; so they would not have had to protect themselves from each other.

The third urban hearth, dating to 2900 BCE, was the **Indus River Valley**, another place where agriculture likely diffused from the Fertile Crescent. The cities of Harappa and Mohenjo-Daro are distinct from every other urban hearth because they do not show signs of social classes. The intricate planning of the cities points to the existence of a leadership class, but the built landscape does not indicate who was in charge.

The houses are equal in size and have access to the same infrastructure. Cities in the Indus River Valley did not have palaces or monuments, but they did have thick walls. The discovery of coins from as far away as the Mediterranean points to significant trade over long distances.

The fourth urban hearth arose around the **Huang He (Yellow) and Wei valleys** of China, dating to 1500 BCE. Cities were planned to coincide with the cardinal directions and reflected the Chinese understanding of astronomy. The typical city had a vertical structure in the middle, surrounded by temples and palaces and encircled with an inner wall. Cities also had outer walls. Some workers lived inside the outer wall and some lived outside it. Leaders advertised their power by building enormous structures, including the Great Wall and the tomb of the emperor Qin Xi Huang. An estimated 700,000 laborers worked for over 40 years to craft an army of over 7000 terracotta

warriors who stand guard over the emperor's burial place, complete with detailed facial expressions and weapons, horses, and chariots (**Fig. 9.6**).

The fifth urban hearth, found in **Mesoamerica**, dates to 1100 BCE. The ancient cities of Mesoamerica were religious centers. The Olmec built cities, including San Lorenzo, on the Gulf Coast of Mexico. They carved large stone monuments, and archaeologists believe they moved the volcanic stones for these monuments 50 miles from the interior of Mexico to the coast. The Olmec civilization died out, but based on Olmec cultural teachings, the Maya built cities in the same region that were also centered on religious temples, including Tikal, Chichén Itzá, Uxmal, and Copán (**Fig. 9.7**).

Recent archaeological evidence establishes **Peru** as the sixth urban hearth, where people built cities dating to 900 BCE. The largest settlement, Chavín, was sited at an elevation of 10,530 feet in the Andean highlands.

## Urban Morphology and Functional Zonation

Other cities were built after the establishment of these sixth hearths. In each time and place that people formed new cities, civilizations left their own mark on the cultural landscape. Cities reflect the power and economic structures of the time they were built and of later periods as well. The religious buildings, monuments, organization, and architecture of cities all show what people value.

Two concepts in urban geography create the overall picture of any city we study: urban morphology and functional zonation. The **urban morphology** of a city is its layout, including the sizes and shapes of buildings and the pathways of





O. Louis Mazzatenta/National Geographic Image Collection/Getty Images

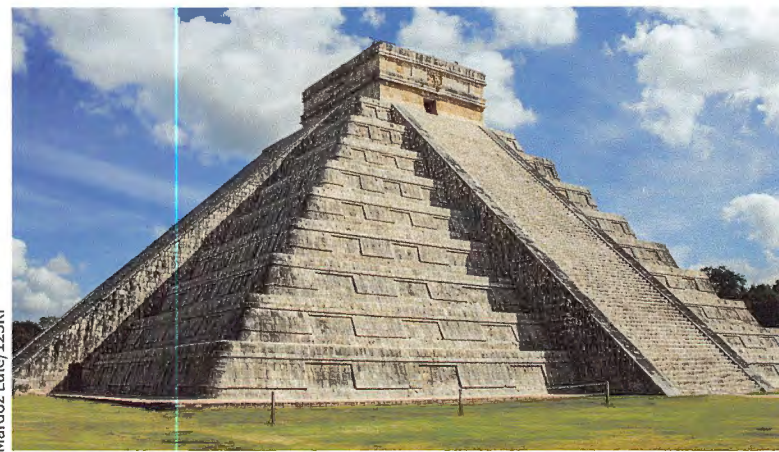
**FIGURE 9.6 Xi'an, China.** Terracotta warriors guard the tomb of the Chinese Emperor Qin Xi Huang. An estimated 700,000 laborers worked for over 40 years, around 200 BCE, to craft more than 7000 terracotta warriors who stand guard over the emperor's tomb.

infrastructure. The **functional zonation** is the division of a city into different regions (e.g., residential or industrial) by use or purpose (e.g., housing or manufacturing). Understanding the zones in a city and the functions of each zone helps us imagine how power and wealth were distributed in ancient cities and also gives us insight into what people in power value in modern cities.

We can use cities in the Indus Civilization to understand functional zonation and urban morphology. The Indus Civilization flourished from 2900 BCE to 1900 BCE. Archaeologists cannot find enough writing from this civilization to decipher the language and interpret the writing they have found. The best clues of what the Indus Civilization was like are in the city's urban morphology and functional zonation. The Indus city Mohenjo-Daro (in present-day Pakistan) has an urban morphology and functional zonation that give archaeologists clues about how the civilization was structured. The city does not have any temples or palaces, which leads us to believe that whoever oversaw the city did not display their leadership through wealth. Streets crossed at right angles, and the city had a system to get fresh water to the residents (**Fig. 9.8A**). Houses were about the same size, and each house had access to a covered sewer system (**Fig. 9.8B**). The city also had an older area built around the Great Bath, which had watertight brickwork and a slope designed to drain the bath. It appears that everyone had access to this Great Bath (**Fig. 9.9**). Archaeologists believe the Great Bath was used for ablutions because

ritual bathing is still important in Hinduism, the religion whose hearth was in this area (see Chapter 7).

We can also use urban morphology and functional zonation to study a modern city. The urban morphology of



Mardozi Lule/123RF

**FIGURE 9.7 Chichén Itzá, Mexico.** The Mayans built the famous El Castillo (castle) pyramid between the 9th and 12th centuries CE. El Castillo demonstrates the incredible astronomical skills of the Mayans and their intricate knowledge of earth-sun geometry. The pyramid has 91 stair steps on each side with a platform connecting them on the top, making for 365 total steps. The Mayans designed it so the sun casts a serpent-shaped shadow over the pyramid on the spring and fall equinoxes.



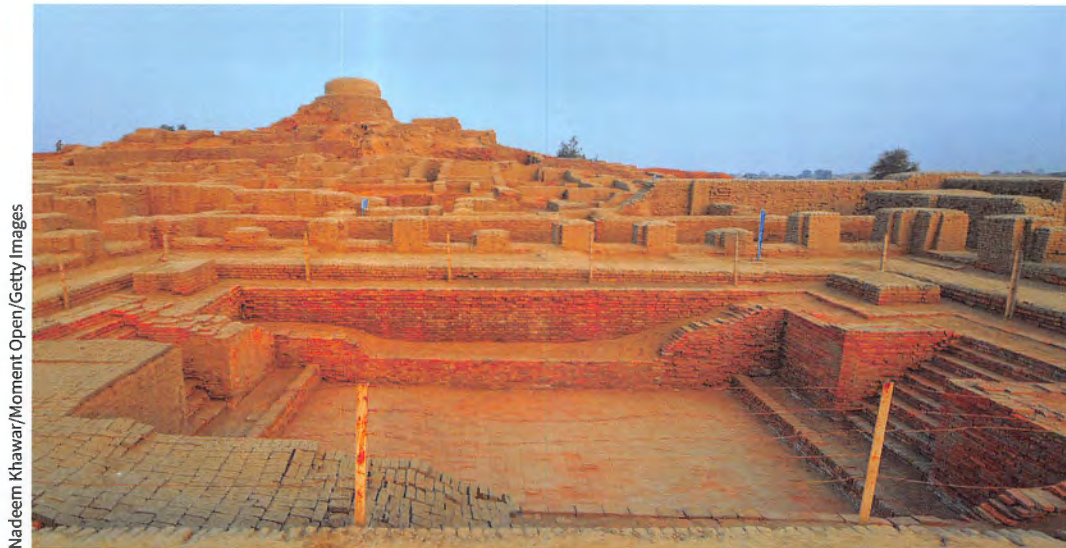


Source: Google LLC



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**FIGURE 9.8A AND B Mohenjo-Daro, Pakistan.** **A)** Satellite view of Mohenjo-Daro. From this perspective, the Mound of the Great Bath is in the center top of the image. The round structure on the upper right is a Buddhist stupa, build around 200 CE, to the east of the Great Bath. **B)** Residential district of Mohenjo-Daro. Archaeologists believe the city housed around 5000 people. Houses were similar sizes, and each house had access to water and sewer. Each residential block had one or more circular wells where residents could draw fresh water.



Nadeem Khawar/Moment Open/Getty Images

**FIGURE 9.9 Mohenjo-Daro, Pakistan.** The Great Bath is located at the highest point in the ancient city. Measuring 39 feet by 23 feet (12 m by 7 m), the Great Bath is the most important part of the city because it is at the highest point and streets lead to it. A Buddhist stupa built around 200 BCE stands in the background of this photo. When Buddhists built this stupa more than 1500 years after the original residents abandoned Mohenjo-Daro, they also chose the highest point to build their sacred place.

Washington, D.C., includes the sizes and shapes of buildings and the layout of the streets. Urban planner Pierre L'Enfant designed the city in 1791 (**Fig. 9.10**), building diagonal streets that are reminiscent of the grand boulevards of Paris. Figure 9.10 shows that the streets all radiate like the spokes in a

wheel from the hub of the U.S. Capitol building. The placement of the government buildings also has a historical foundation. The U.S. Constitution set up three branches of government: legislative (the Capitol), judicial (the Supreme Court), and executive (the White House). The U.S. Constitution establishes



the legislative branch first, in Article I, and so L'Enfant gave the U.S. Capitol a central location and marked it with  $0^{\circ}$  longitude. The White House is noticeable to the west and a bit north of the Capitol. The Supreme Court is not visible on the map because it was housed in the U.S. Capitol at the time. Today, the Supreme Court is located directly east of the U.S. Capitol.

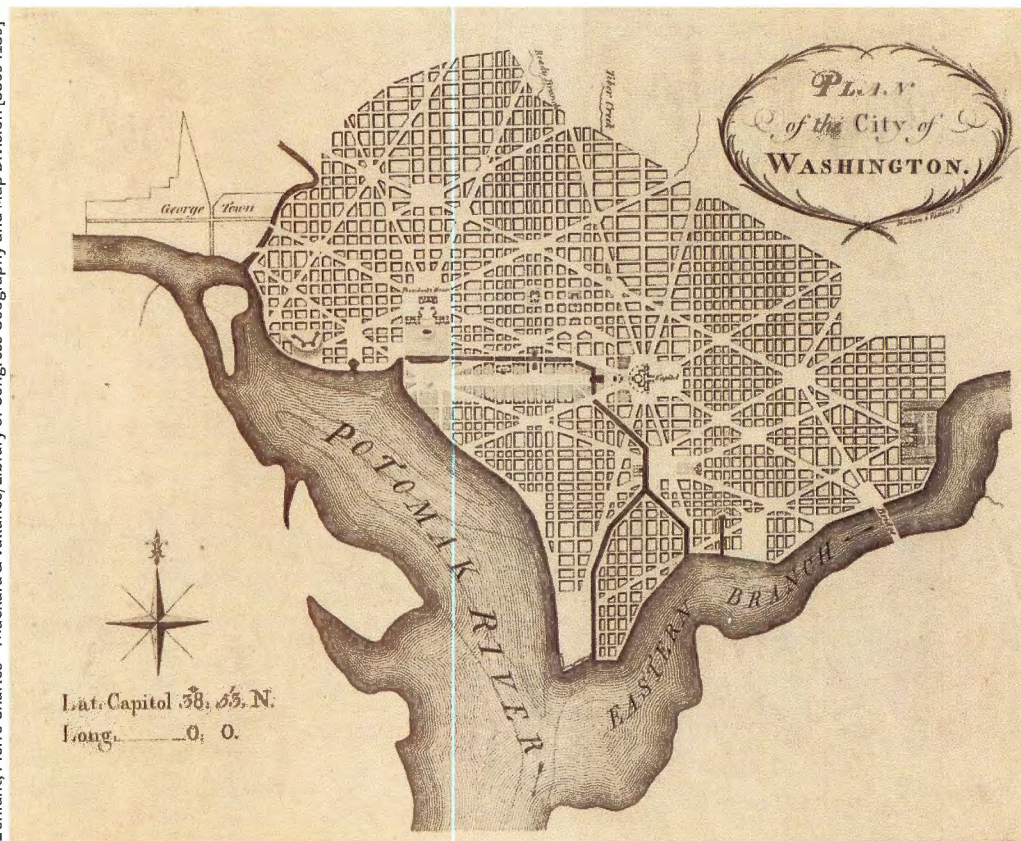
A modern tourist map of Washington, D.C., reveals the functional zonation of the city (Fig. 9.11). The central Mall stretches east-west from the U.S. Capitol to the Lincoln Monument. The Arlington Bridge connects the city to Virginia and the Arlington National Cemetery. Memorials to presidents and civil rights leaders, as well as museums housing the heritage and art of the country, encircle the Mall. The U.S. Capitol and U.S. Supreme Court are still central on the tourist map, but they are nearly off the page on the right side of Figure 9.11. The Washington Monument, built between 1848 and 1884, stands in the center of the map and is the tallest structure in the city. The White House is to the north of the Washington Monument, even more centrally located on the map. The top left of the map draws your eye to the Washington National Cathedral, which was built between 1907 and 1990. The U.S. Constitution established a separation between church and state, and this separation is apparent in the city's functional zonation because the cathedral is not located in the same zone as government buildings and museums (Fig. 9.12).

## Site and Situation

The **site** of a city is its absolute location: its precise position on Earth. A site is often chosen for its advantages in trade or defense, or as a center for religious practice. It may be chosen because it is a good port in a natural bay or a high point that works well for defense. City sites chosen for trade may be at the confluence of rivers, where two or more rivers come together (such as Pittsburgh, Pennsylvania), or at the fall line of rivers, where the river is no longer navigable by boat.

The fall line on the east coast of the United States marks where the continent's bedrock changes (Fig. 9.13). To the west of the fall line, the continent is at a higher elevation and the bedrock is more resistant to erosion. East of the fall line, the rock is more easily eroded and the coastal plains extend to the

L'Enfant, Pierre Charles - Thackara & Vallance/Library of Congress Geography and Map Division [88694159]



**FIGURE 9.10 L'Enfant Plan for Washington, D.C.** President George Washington employed Frenchman Pierre L'Enfant to design the District of Columbia (D.C.). The center of the city is the U.S. Capitol, with streets radiating out from its hub. L'Enfant also marked the site of the U.S. Capitol as  $0^{\circ}$  longitude in his plan.

Atlantic Ocean. At the time the east coast city sites were chosen, boats could travel from the Atlantic Ocean into the interior by river to the point of the fall line. At the fall line, navigators encountered falls and a change in elevation. Cities sited along the fall line became major centers for trade, connecting traffic from the ocean to traffic from the interior. Goods brought up river from the ocean were transported by horse and buggy to the higher elevation and were traded further into the interior by horse or by barge on the rivers.

The **situation** of a city is its relative location, its place in the region and the world around it. The situation of each city in Figure 9.13 changed multiple ways from colonial to modern times. For example, Fredericksburg, Virginia, was first a trading post in the Virginia colony where enslaved Africans were auctioned and from which the cotton they produced in the interior was shipped. In the mid-1700s, Mary Ball Washington, mother of George Washington, moved to Fredericksburg. When Washington became president, he reportedly visited Mary at her home before his inauguration to receive her approval. Decades later, during the Civil War, the situation of Fredericksburg changed because it was halfway between the capital of the North, Washington, D.C., and the capital of the South, Richmond, Virginia. Several Civil War battles, including the Battle of Fredericksburg, took place in and around the city. After the Civil War,





Source: <http://www.trolleytours.com/wp-content/uploads/2017/05/washington-dc-free-map-inside-4-17.png>

**FIGURE 9.11 Washington, D.C.** Tourist maps show the urban morphology and functional zonation of cities. On this trolley map from Washington, D.C., you can see the zone of museums and memorials along the Mall between the Lincoln Memorial and the U.S. Capitol. You can also see the zone of government buildings around the Mall, including the U.S. Capitol, and how it is separated from the Washington National Cathedral on the top left of the map.





Westend61 GmbH/Alamy Stock Photo

**FIGURE 9.12** Washington, D.C. From base to top, the Washington National Cathedral is not as tall as the Washington Monument (in the background of this photo). However, the Washington National Cathedral sits on the city's tallest hill.

Within a city itself, certain sites are chosen for specific functions. With the hilly topography of Greece, every city had its **acropolis** (*acro* means high point; *polis* means city) where temples were sited. The rocky hilltop of Athens is home to the Parthenon, a temple dedicated to the goddess Athena (**Fig. 9.14A**). Open, spacious squares, often in a low part of town with steps leading down to them, served as the site of the **agora**, or market (**Fig. 9.14B**). The agora became the focus of commercial activity and also served as a space where Athenians could debate, socialize, and make political decisions.

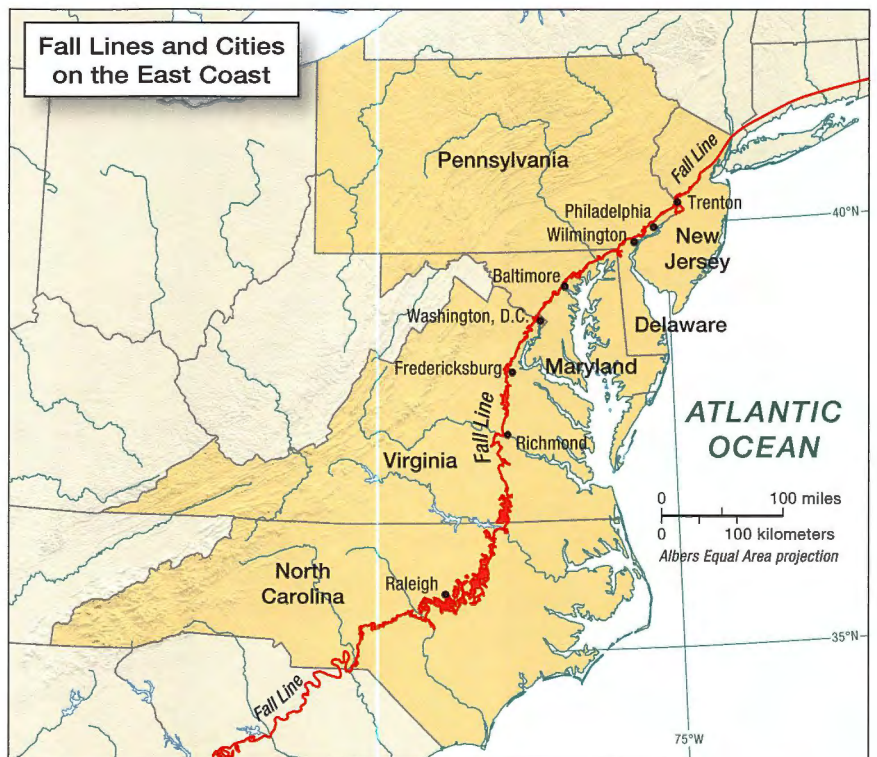
Roman urban planners adeptly chose favorable sites for cities and thought about each site and its role in the larger situation of the Roman Empire (**Fig. 9.15**). Rome was situated amid small villages and large cities that were all part of this empire. The Romans linked places in their empire with an extensive transportation network that included hundreds of miles of roads, well-established sea routes, and trading ports along the roads, sea, and rivers.

As with Fredericksburg, Virginia, the situation of Rome changed over time. For example, Rome was at first the center and focal point of the Roman Empire. When the Roman Empire dissolved, Rome became the center of the Roman Catholic

Fredericksburg functioned as part of the South, oppressing African Americans through segregation. Segregation did not end in the local schools until five African American students went to Spotsylvania High School in 1960, six years after the Supreme Court ruled that segregation was unconstitutional in *Brown v. Board of Education*.

### Site and Situation in Europe and Africa Before 1500

How civilizations chose sites for their cities tells us something about what the people valued and how the civilization operated. Ancient Greece encompassed a network of more than 500 cities and towns, not only on the mainland but also on the many Greek islands. The Greeks chose islands and coastal ports for the sites of their major cities and then connected the cities with trade routes across the Mediterranean. Athens and Sparta, which often vied with each other for power, were Greece's leading cities. Both were sited on mountainous peninsulas, which served them well for defense and trade.

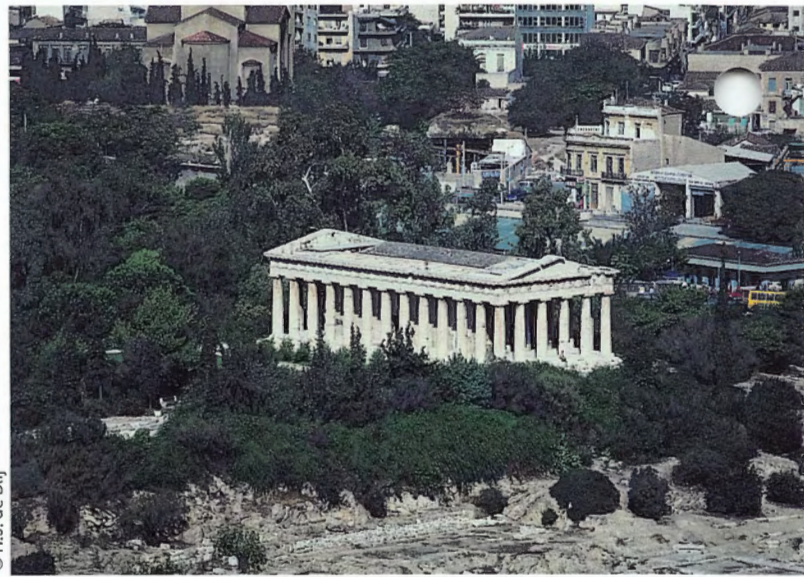


**FIGURE 9.13** Fall lines and cities on the east coast. On the east coast of the United States, several cities, including Raleigh, Richmond, Washington, D.C., and Philadelphia, are sited on the fall line.





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**FIGURE 9.14A AND B A) Athens, Greece; the Acropolis.** The rocky hilltop of Athens is home to the Acropolis (*acro* means high point). The Athens Acropolis is still crowned by the great Parthenon. The Parthenon has stood through nearly 2500 years of wars, erosion, vandalism, and environmental impact.

**B) Athens, Greece; the Agora.** Looking down from the Acropolis, you can see the agora, the ancient trade and market area, which is surrounded by new urban buildings. The situation of the agora in Athens has changed from a central gathering space to an area preserved from the urbanization growing around it.



**FIGURE 9.15 Roman Empire Trade Routes c. 117 CE.** The Romans established a system of cities linked by a network of land and sea routes. Many of the Roman cities have grown into modern cities.





**FIGURE 9.16 Saharan Trade Routes pre-1500.** Before European colonization, African cities mainly looked inland. Trade routes connected the region across the Sahara Desert.

Church, a role it still plays today. During the Renaissance, when Florence flourished, and during the Industrial Revolution, when Naples and points north of Rome grew economically, the situation of Rome within Italy shifted so that it no longer was the scientific and economic focal point of the country.

Before 1500 in West Africa, trading cities developed along the southern margin of the Sahara (**Fig. 9.16**). By 1350, Timbuktu (part of Mali today) was a major city: a seat of government, a university town, a market, and a religious center. Other cities included Niani (Guinea), Gao (Mali), Zaria (Nigeria), Kano (Nigeria), and Maiduguri (Nigeria). Here, cross-desert caravan traffic met boat traffic on the Niger River (where “camel met canoe”), and people exchanged goods from northern deserts for goods from coastal forests.

### Site and Situation During European Colonization

Before European exploration, most cities in the world were sited on trade routes in the interiors of continents, whether in Africa, Asia, or the Americas. Interior trade routes such as the Silk Route and the caravan routes of West Africa sustained inland cities and helped them prosper. The relative importance of interior trade routes changed, however, when European exploration and colonization expanded from 1500 on. Cities like Basel (Switzerland) and Xi’an (China) changed

from being crucial nodes on interior trading routes to being peripheral to ocean-oriented trade.

Cities sited on coasts gained prominence as the situation changed with global sea trade and European colonization after 1500. In Asia, coastal cities such as Bombay (now Mumbai, India), Madras (Chennai, India), Malacca (Malaysia), Batavia (Jakarta, Indonesia), and Tokyo (Japan) grew in economic and political importance. Exploration and trade also altered the situations of cities in West Africa. Coastal ports became the leading markets and centers of power, and the African cities of the interior began a long decline. European colonizers set up ports and railroads to extract resources from the interior and ship them globally (**Fig. 9.17**).

### TC Thinking Geographically

Focus on Africa and compare cities in the Nile civilization, cities in the Sahara region before 1500, and cities after European colonization. Explain how changes in transportation, communication, trade, and **globalization** influenced urbanization in Africa over time. Be sure to incorporate the geographic concepts **site** and **situation**.





Source: Adapted from figure 2.1, Rail map of Africa, from "Off Track: sub-Saharan African Railways" by Richard Bullock, November 2009, published by Africa Infrastructure Country Diagnostic background paper 17, page 23.

**FIGURE 9.17 Railroads in Africa.** European colonizers built railroads to extract resources from the interior of the continent. Railroads ended in ports, and resources from Africa were shipped around the world from these ports. This map shows where railroads in Africa are located today. Nearly all of these railroads were built before 1960, during European colonialism.

## 9.2 Analyze the Distribution of Cities and Their Relative Size.

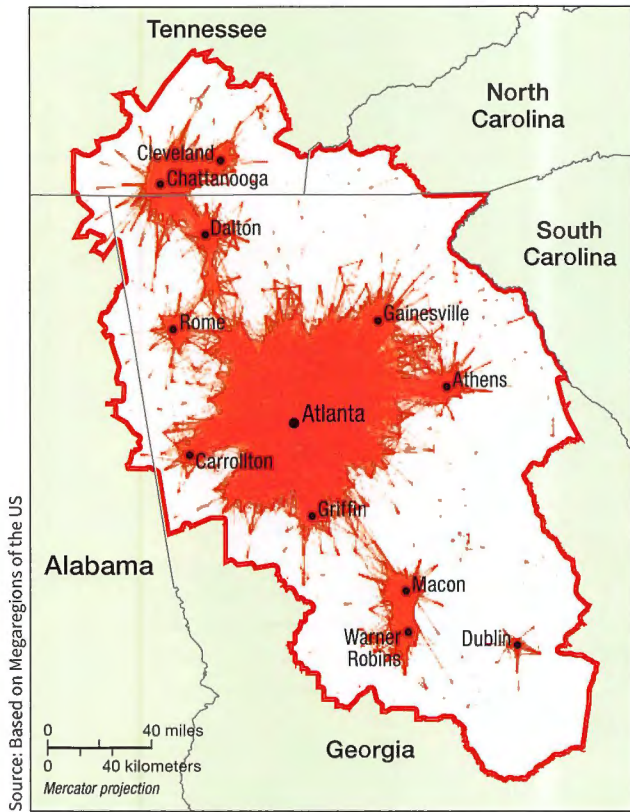
If you look at a map of cities with symbols displaying the relative population of each city, you may notice that cities appear to be distributed in a predictable way. Every city has a dominant trade area that acts like a force of gravity to the communities around it. People are drawn to the major city in the trade area to work, shop, receive medical care, or find entertainment (**Fig. 9.18**). If you zoom in on one area on Figure 9.18, you can see a hierarchy to the trade areas. The largest city has a large trade area, and then nested within that trade area are smaller cities, each with its own trade area (**Fig. 9.19**).

The goods and services provided within a large city's trade area will be different from those provided within a smaller city's trade area. People within the trade area of a small city likely travel to the small city to purchase milk and bread, have a beer at a bar, order breakfast at a café, or fill a tank of gas. The same consumers will travel to the larger city, whose larger trade area they are also in, to purchase a car, stock up at a big-box store like Target or Costco, visit a doctor, or go to a concert.

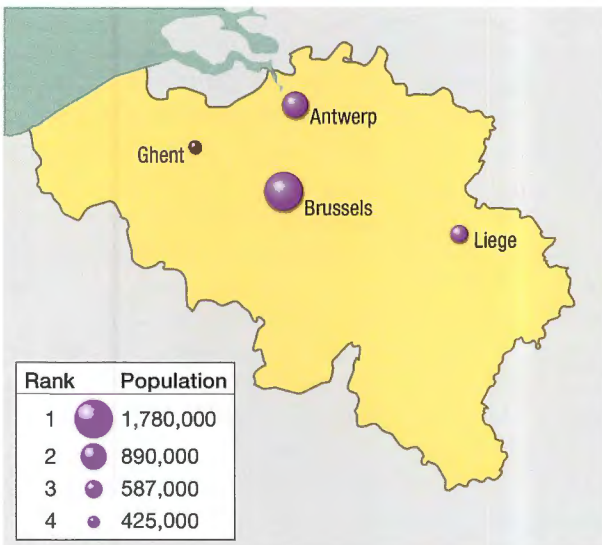




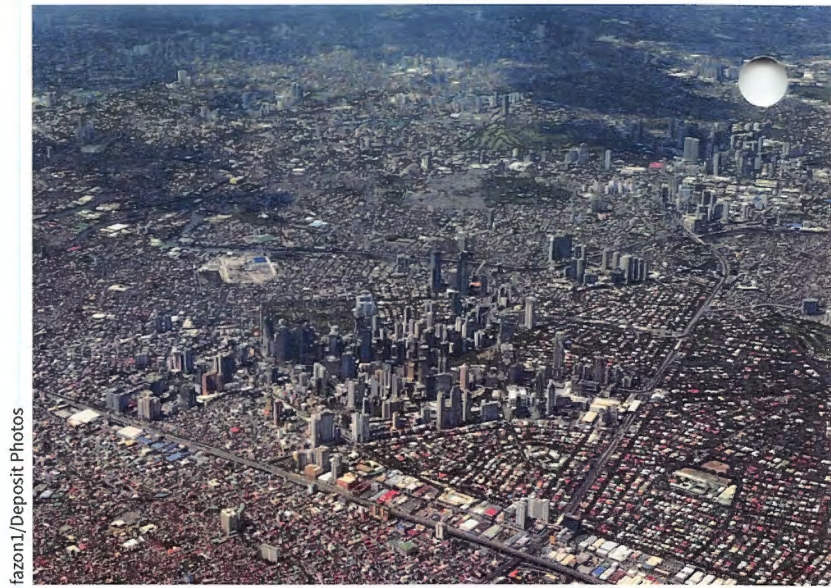




**FIGURE 9.19 Nested Trade Areas of Atlanta, Georgia.** Using the same commuter flow data from Figure 9.18, geographers mapped the commuter shed of each major city. Atlanta’s commuter shed is a good estimate of its trade area. Smaller cities that are part of the Atlanta megaregion, or trade area, each have their own smaller trade areas.



**FIGURE 9.20 Rank-Size Rule in Belgium.** Belgium is a great example of the rank-size rule, which says cities’ sizes will vary with their rank. The sizes of the circles on this map are proportional to each city’s population. The largest city, Brussels, is twice as large as the second largest city, Antwerp.



**FIGURE 9.21 Manila, the Philippines.** Manila is a primate city in the Philippines. The city is much bigger than all other cities in the country. This image shows how large the footprint of the city is, as it stretches it all directions.

In 1961, geographer Brian Berry studied 37 populations of countries and found that the rank-size rule worked in 13 countries and the primate city pattern was more evident in 15 countries, while the remaining 9 countries followed neither pattern.

Many former colonies have primate cities because colonizers ruled from one city and concentrated economic and political activities in that place. Examples of primate cities in former colonies include Mexico City, Mexico, and Manila, the Philippines (Fig. 9.21). In the noncolonial context, London and Paris serve as examples of primate cities in the United Kingdom and France, respectively.

### Central Place Theory

Walter Christaller wrote a 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**. His goal was to predict where central places in the urban hierarchy (hamlets, villages, towns, and cities) would be located. Christaller believed that the urban hierarchy was nested. The largest central place, a city, would provide the greatest number of functions to a large trade area, a **hinterland**. Within that trade area, a series of towns would provide functions to smaller villages. The smaller villages would then provide fewer central functions to hamlets.

Christaller’s theory makes several 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. Fourth, the region would have a uniform transportation network to permit direct travel from each settlement to the other. Finally, from any given city, a good or service could be sold in all directions as far from the city as might be profitable.

Christaller believed that cities would be regularly spaced so that cities that sold the same product at the same price



would be located a standard distance apart. He reasoned that a person would not travel 11 miles to one place to buy an item if he or she could travel 9 miles to buy the same product at the same price. With rationally behaving consumers, each city, each central place, would have an exclusive trade area where it had a monopoly on certain goods.

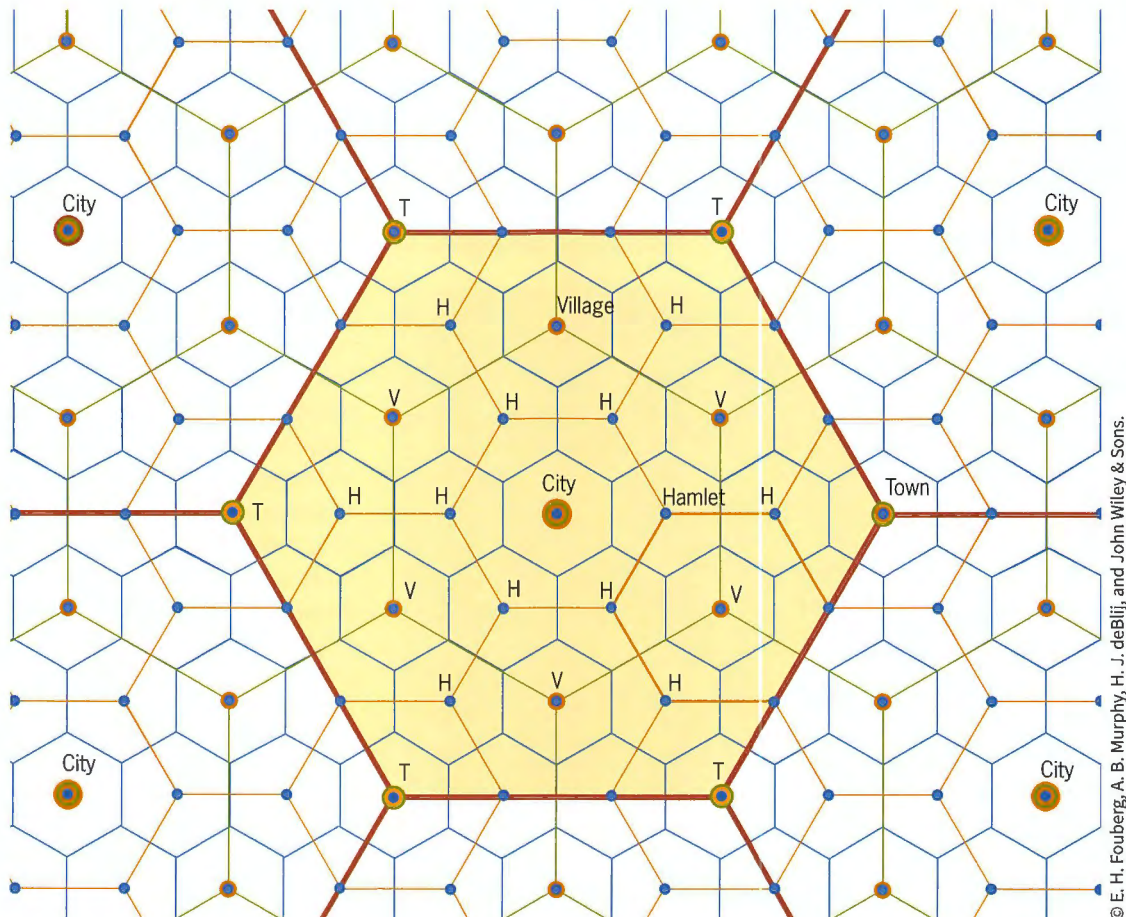
**Hexagonal Hinterlands** A series of cities with distinct trade areas spaced regularly from each other could be envisioned as a set of similarly shaped circles distributed evenly across a map. However, Christaller reasoned that circular trade areas would be inefficient because they would overlap one another or would leave out some places that would be unserved. Instead of circles, Christaller chose perfectly fitted hexagons as the shapes of the trade areas (**Fig. 9.22**).

Urban geographers were divided on the relevance of Christaller's model. Some saw hexagons everywhere, and others saw none. In China, both the North China Plain and the Sichuan Basin display the seemingly uninterrupted flatness assumed by Christaller's model. Geographer G. William Skinner examined the distribution of cities, towns, and villages in China in 1964 and found regularly spaced cities and trade areas that followed Christaller's model. Studies in the U.S. Midwest also found that the flatness and relative sparsity of population followed 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. However, Christaller's theories 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. Christaller's theory has illuminated hierarchies of urban places, nesting of smaller towns with smaller trade areas inside of the trade areas of larger cities, and the relatively regular spacing of large cities.

### Thinking Geographically

Look up the populations of the 10 largest cities and towns in your state and type them into a spreadsheet in order of largest to smallest. Determine whether the cities in your state follow the rank-size rule or the primate city model better. Play around with the data on your spreadsheet and look at a map of your state to see where the cities are located. Create a new rule or model of how cities are sized and distributed in your state. Justify your rule or model by considering how much has changed in lifestyles, economies, and communications since the rank-size rule and primate city model were developed.



**FIGURE 9.22 Christaller's Hierarchy of Settlements and Their Service Areas.** In this model: C = city, T = town, V = village, H = hamlet. Each city, town, village, and hamlet has its own hexagonal trade area. The trade areas are nested so the city's much larger trade area includes the trade areas of several villages and hamlets.



## 9.3 Explain the Internal Structure of Cities and Compare Urban Models.

A city teeming with millions of people may look chaotic, but it functions because the local people understand the organization behind the chaos. The sights, smells, sounds, and movement can be sensory overload to the tourist, but it's just another day for the city's residents (**Fig. 9.23**). What a tourist sees as chaotic, local people see as predictable. They understand how the city is laid out and how each zone functions independently and in concert with other zones.

Urban geographers have studied, charted, and mapped cities to create models that describe the layout of major cities in world regions. City models reveal the structures of the city and describe where functions take place, including trade, education, transportation, manufacturing, and governance. City models also show the combination of historic, spatial, economic, cultural, and political processes that have shaped cities in each world region. Regardless of the region or city, we recognize that models show us a product of many forces that have shaped cities over time. Each model focuses on its author's main interests, reflects his or her perceptions, and leaves out part of the story. Each city is a dynamic place, and its residents are currently reshaping and changing the use of spaces. These models offer a snapshot in time but also help us understand the role people play in making cities around the world.

### Zones in Cities

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). Models of cities give us context for understanding the history and geography of regions and the major cities within them. Studying the location and interplay of zones within cities and cities' changing cultural landscapes helps us grasp the interplay of local and global forces that shape urban development.

Before examining specific models of urban space, we must define some terms commonly used in referring to parts of the city. Each zone is named with a descriptor that indicates the purpose that area of the city serves, such as an industrial zone or a residential zone. The key economic zone of the city is the **central business district** (CBD). The **central city** is the older part of the city surrounding or near the CBD. A **suburb** is an outlying, primarily residential area on the outskirts of a city. The oldest suburbs are typically close to the central city, and the newest suburbs are farther away. **Suburbanization** happens when lands once outside the urban area—often farmland or small towns—are transformed into urban areas.

### The European City Model

The founding date of a European city gives some idea of how the city will be laid out. Cities built during the Roman Empire are often sited on prime trade locations like rivers or ports. Streets in the central city are narrow and winding, with paths leading to the trade center. Cities built during the Middle Ages typically have town centers with an elaborate church (built as a Catholic church) on one end, a town hall on the other end, and shops around the square. Residential zones near the central city usually demand high rents and are desirable for their proximity to amenities.

Surrounding the close-in residential zones is a preindustrial periphery that, in earlier times, housed people with lower incomes. This part of the city was significantly impacted by the development of railroads and factories during the Industrial Revolution. Beyond the preindustrial core lies a ring of industrial and postindustrial suburbs that are often the product of urban planning. Suburbs of European cities may be centers of commerce, residential zones that primarily house immigrants and guest workers (see Chapter 3), or bedroom communities for commuters.



**FIGURE 9.23 Dhaka, Bangladesh.** A traffic jam on a crowded street corner in Dhaka includes cars, rickshaws, auto-rickshaws, and pedestrians trying to merge into an already choked main road.



## The North American City Model

Athens, Greece, is 5000 years old. Beijing, China, is 3000 years old. Quebec City, Canada, and Boston, United States, are around 400 years old. North American cities have fewer layers of history than cities in Europe and Asia. However, North America's oldest cities look and feel a bit like Europe because they were built by European migrants.

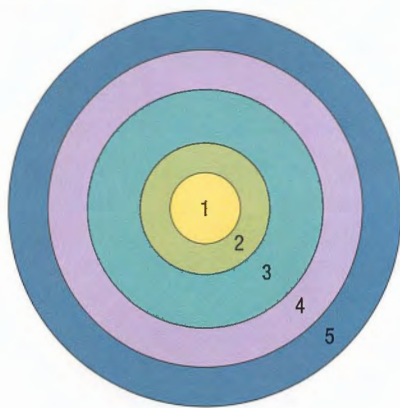
Models of North American cities developed and changed over the twentieth century as access to cars expanded, city planning increased, migration flows shifted, and functions of the central city diffused. One of the first models of North American cities was drawn by sociologist Ernest Burgess, who studied Chicago in the 1920s and divided the city into five **concentric zones**, all defined by their function (**Fig. 9.24**). At the center is the CBD (1), which is 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, modest homes occupied by factory workers. Zone 4 is 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**, partly as an answer to the limitations of the Burgess model (see Fig. 9.24). Hoyt focused on residential patterns, explaining where the wealthy in a city chose to live. He argued that the city grows outward from the center, so that 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 include the high-rent residential, intermediate-rent residential, low-rent residential, education and recreation, transportation, and industrial sectors.

Researchers studied both theories, and in the mid-twentieth century Chauncy Harris and Edward Ullman argued that neither the concentric rings nor the sector model adequately reflected city structure. In the 1940s, they proposed the **multiple nuclei model** (see Fig. 9.24). This 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 Figure 9.24 have their own nuclei.

Access to personal cars and the construction of ring roads and interstates after World War II led to rapid suburbanization, especially around transportation corridors. Suburban downtowns emerged near transportation intersections to serve residents in the suburbs. They attracted large shopping centers, industrial parks, office complexes, hotels, restaurants,

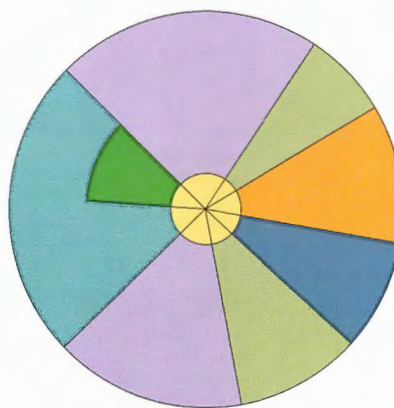
**BURGESS  
CONCENTRIC ZONE MODEL**



**A**

- Central business district
- Zone of transition
- Zone of independent workers' homes
- Zone of better residences
- Commuters' zone

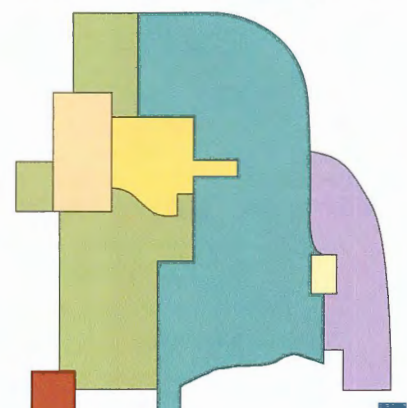
**HOYT  
SECTOR MODEL**



**B**

- Core
- Low-rent residential
- Intermediate-rent residential
- High-rent residential
- Education and recreation
- Transportation
- Industrial

**HARRIS-ULLMAN  
MULTIPLE NUCLEI MODEL**



**C**

- Central business district
- Low-class residential
- Middle-class residential
- High-class residential
- Outlying business district
- Wholesale, light manufacturing
- Industrial suburb
- Heavy manufacturing
- Residential suburb

**FIGURE 9.24 North American City Models.** The Burgess concentric zone model (left) was the first model of a North American city. The Hoyt sector model and Harris-Ullman multiple nuclei model followed, each tweaking zones laid out in Burgess's original model to fit zones the authors thought the Burgess model missed and the ways the authors saw the growth of North American cities.





The Washington Post/Getty Images

**FIGURE 9.25 Tysons Corner, Virginia.** In the suburbs of Washington, D.C., on Interstate 495, Tysons Corner has developed as a major edge city, with offices, retail, and commercial services.

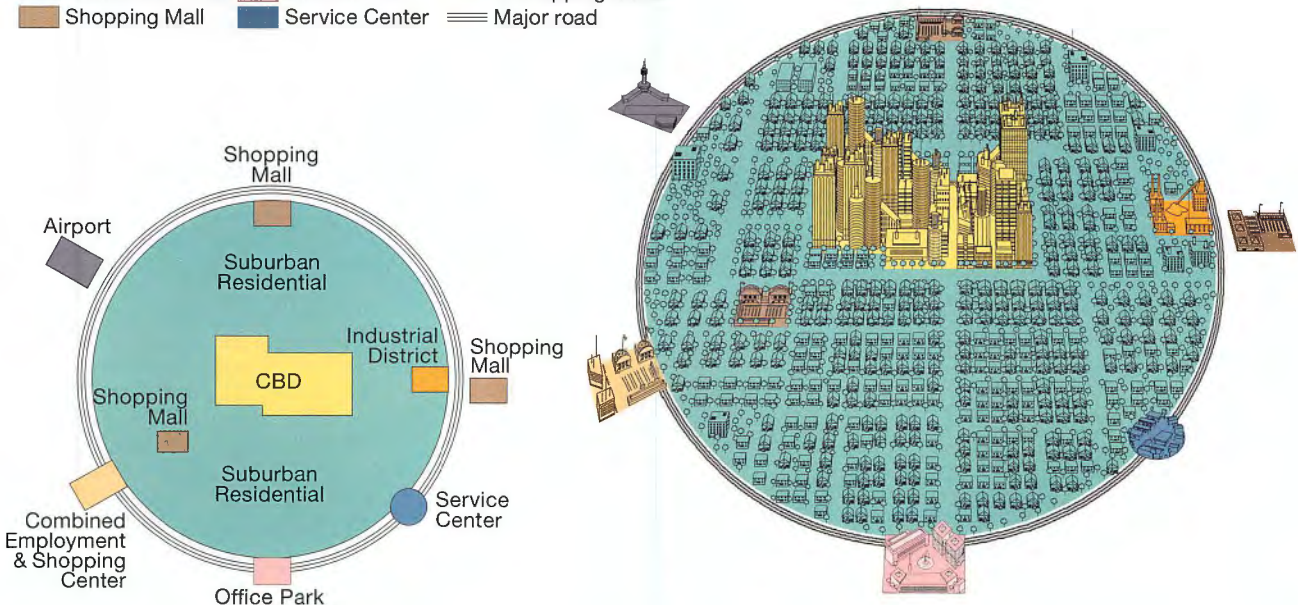
entertainment facilities, and even sports stadiums. Geographers call such large urban areas with extensive space for offices and retail businesses on the outskirts of major cities **edge cities**. Tysons Corner, Virginia (outside Washington, D.C.),

and Irvine, California (outside Los Angeles), are classic edge cities. Edge cities offer suburbanites office space, shopping opportunities, leisure activities, and all the other elements of a complete urban environment, making trips into the central city less necessary (**Fig. 9.25**).

Present-day Los Angeles and Toronto are prime examples of what is sometimes called a **galactic city**—a complex urban area where functions of the city are not centered in one place (**Fig. 9.26**). Cities with post-industrial economies often follow the galactic city model. The CBD has high rises and businesses and is surrounded by a less densely populated central city. The central city plays the role of a festival or recreational area, while around the city, industrial parks, shopping centers, high-tech centers, and edge-city downtowns each serve as centers of economic activity. The city often has a ring road or highway surrounding it and radial roads reaching out from the CBD. Suburbs create distant nuclei near the ring and radial roads. Suburban residents can

find the goods and services they need in the suburbs, which reduces the volume and level of interaction between the CBD and suburbs. Thus the galactic city is a decentered urban area with multiple nuclei that serve different functions.

- |                           |                     |                                       |
|---------------------------|---------------------|---------------------------------------|
| Central City              | Industrial District | Airport Complex                       |
| Suburban Residential Area | Office Park         | Combined Employment & Shopping Center |
| Shopping Mall             | Service Center      | Major road                            |



**FIGURE 9.26 The Galactic City Model.** Several North American cities, including Detroit, Atlanta, Los Angeles, and Toronto follow the galactic city model. The CBD has high rises and businesses. Suburban downtowns grow from the ring road, encircling the city, and radial highways stretch out from the CBD.



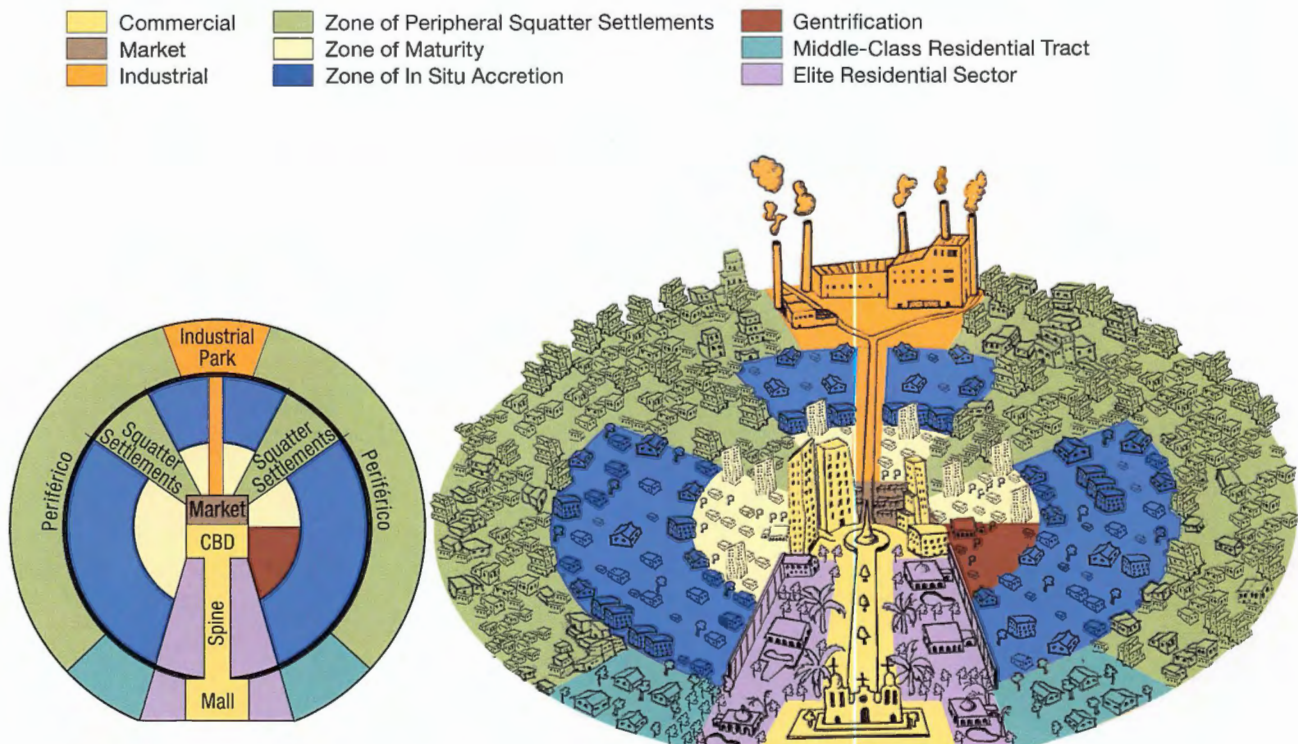
## The Latin American City Model

Geographers Ernst Griffin and Larry Ford created a model of South American cities that combined radial sectors and concentric zones. The **Latin American city model**, also called the Griffin–Ford model, blends traditional elements of South American culture with the influences of the global economy. When building cities in the Americas, Spanish colonizers followed the Laws of the Indies, which dictated how wide streets should be and specified that each city should be built around a central plaza. Over time the central plaza became a central business district (CBD).

The Latin American city model (the Griffin–Ford model) is anchored around a 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. Reaching out from the CBD are three radial sectors: the commercial spine and two zones of squatter settlements. The two radial sectors of squatter settlements are the oldest low-income neighborhoods (called favelas or barrios), with the oldest slums built closest to the CBD. The commercial spine includes offices, shopping areas, high-quality housing for the upper and upper-middle classes, restaurants, theaters, and amenities such as parks, zoos, and golf courses. The commercial spine is surrounded by the elite residential sector.

Surrounding the CBD are three concentric zones of residential areas. The zone of maturity is the closest to the CBD and has the oldest housing and the best transportation links to the CBD. The zone of in situ accretion is marked by constant building and rebuilding and is mainly a middle-class residential zone. A ring around the outside of the city is the zone of peripheral squatter settlements where more recent migrants from rural areas live (**Fig. 9.27**). The Griffin–Ford model also displays two smaller sectors: an industrial park, where industrial activity is concentrated, and a gentrification zone, where middle-class and wealthier residents are remodeling and rebuilding older homes close to the CBD.

A structural element common to many South American cities is the **disamenity sector**, the very poorest areas that may not be connected to regular city services and may be controlled by gangs or drug lords who run the informal economy in the sectors. Neighborhoods in the disamenity sector are known as *barrios* or *favelas* (**Fig. 9.28**). Favelas can be tucked in close to the CBD, as seen in the “squatter settlement” zones radiating from the CBD in the Griffin–Ford model. Residents of the closer-in favelas have lived there for generations. Many are descendants of enslaved Africans who migrated to the city from farming areas after Brazil became the last country in the Americas to abolish slavery in 1888. Favelas that encircle the outskirts of the city, near the ring highways or *periféricos*, are typically home to more recent migrants from rural areas who are drawn to the city for work.



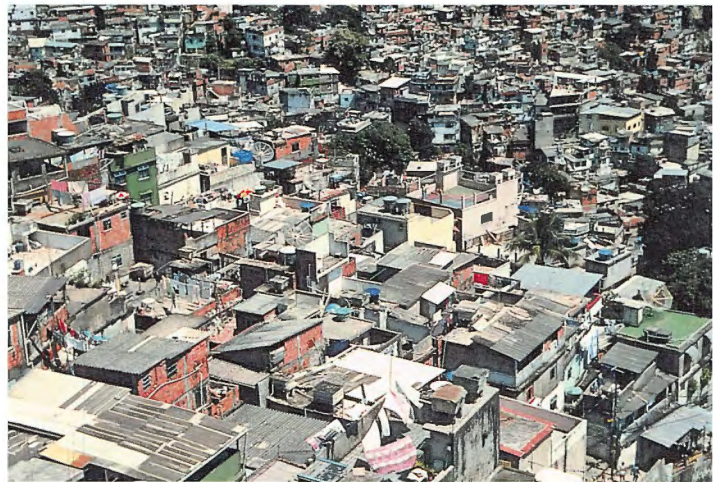
**FIGURE 9.27 Latin American City Model.** This model includes both the zones created in the original Griffin–Ford model and the new Ford model of the South American city.



**Author Field Note** Winding Through the Hillside Favelas of Rio de Janeiro, Brazil

“Thanks to a Brazilian colleague, I spent a day in two of Rio de Janeiro’s hill-slope 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 dishes 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. There are no roads or automobile access, so people walk to the nearest road at the bottom of the hill. In preparation for the 2014 World Cup, the city of Rio and government of Brazil demolished several favelas and spent millions of dollars working to provide services to remaining favelas in the path of the public eye.”

– H.J. de Blij



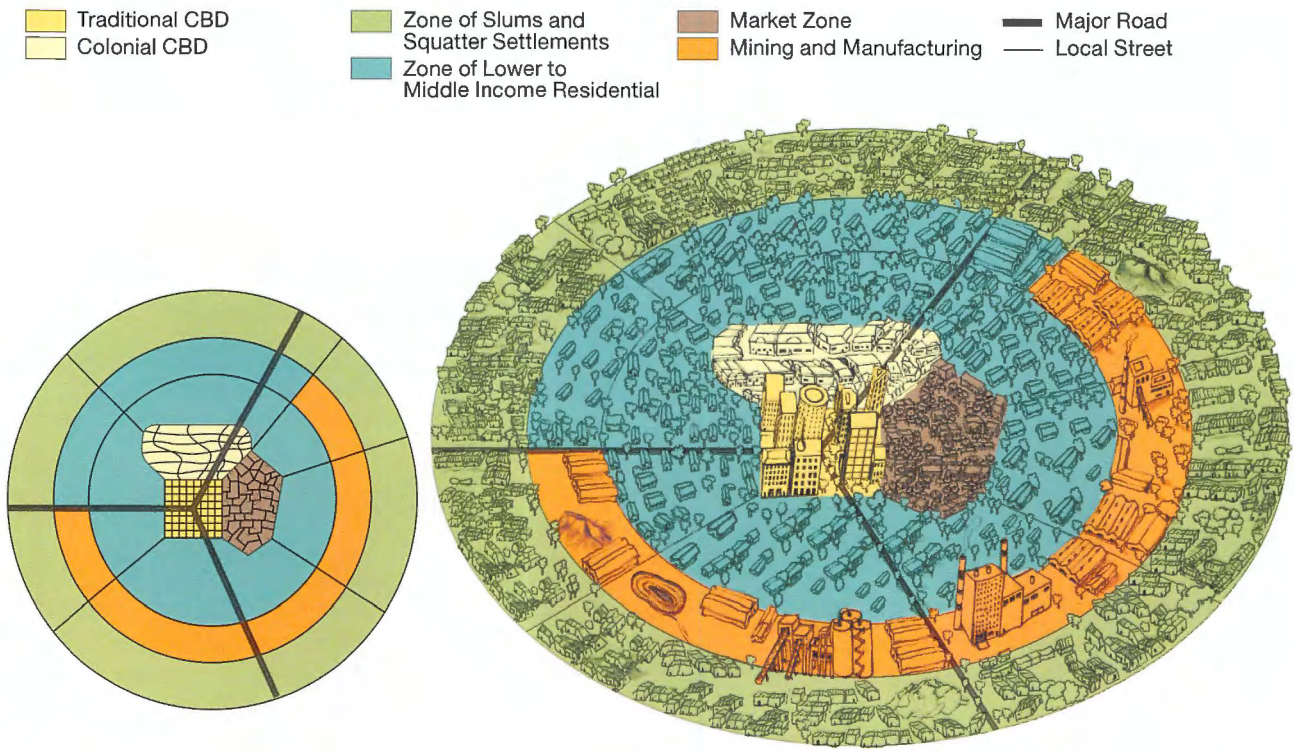
© H. J. de Blij

**FIGURE 9.28** Rio de Janeiro, Brazil. Approximately 25 percent of people in Rio de Janeiro live in favelas. This favela is one of more than 1,000 in the city.

**The African City Model**

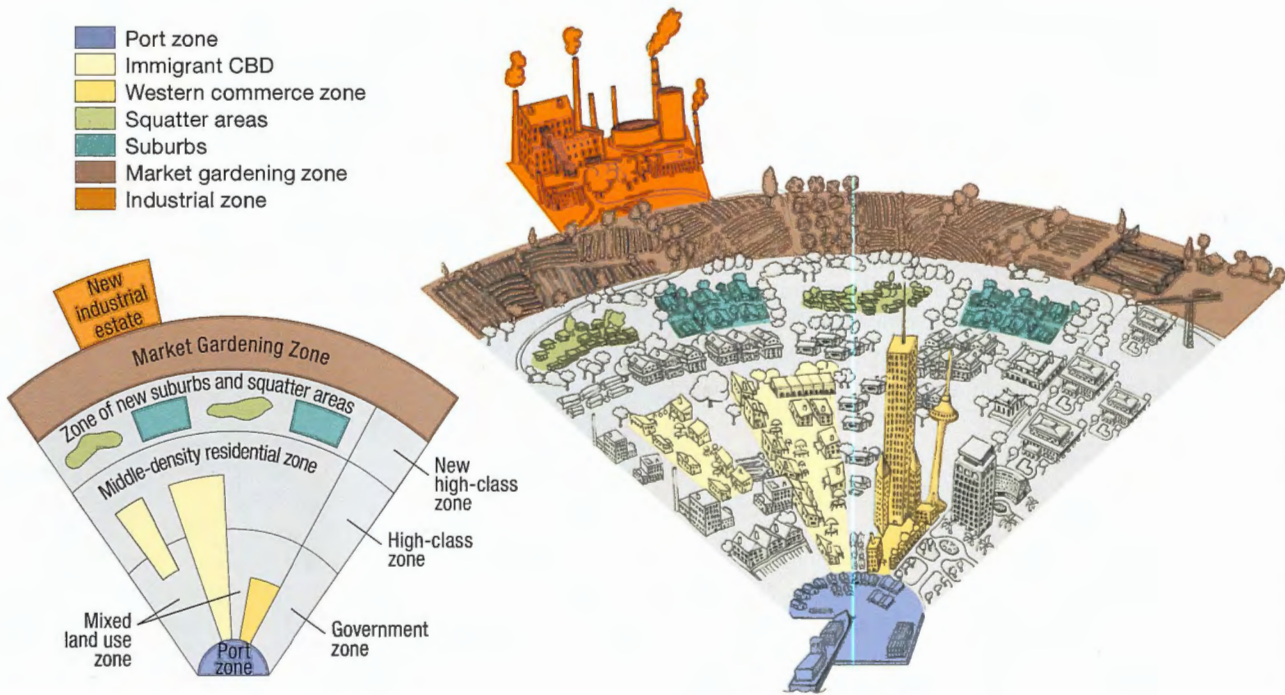
African cities predate European colonialism and include Timbuktu (Mali), home to the oldest university in the world. Geographer H.J. de Blij created the **African city model**, or the de

Blij model, to show how colonial cities were often built around African cities. In the model, the central city often consists of three CBDs (**Fig. 9.29**): a traditional CBD where commerce is conducted on streets, in stalls, and behind storefronts; an informal and sometimes periodic market zone, and a colonial



**FIGURE 9.29** African City Model. The de Blij model of the African city includes a colonial CBD, a traditional CBD, and a market zone.





Source: Adapted from: L. Ford, "A New and Improved Model of Latin American City Structure," *The Geographical Review* 86 (1996), p. 438

**FIGURE 9.30 Southeast Asian City Model.** A model of land use in the Southeast Asian city includes sectors and zones within each sector.

CBD. High-rise buildings are mainly found in the colonial CBD. The traditional CBD is usually a zone of single-story buildings with some traditional architecture. The market zone tends to be an open-air sector for the informal economy.

Around the CBDs, residential zones include lower-, middle-, and high-income housing. Ethnic neighborhoods are common and are populated by descendants of European colonizers, descendants of migrants from India who came over during the European colonial era, longtime African residents, and new migrants from rural areas who may be from neighboring countries. Mining operations may still take place in the African cities that developed first as mining towns. Factories are often found in and around mining areas, too, for proximity to workers. Much like Latin American cities, African cities often have rings of slums that are home to the most recent rural-to-urban migrants.

(WC on the model); and the immigrant CBD settled by Chinese merchants whose residences are attached to their places of business. 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 zone (or "estate").

The residential zones in the Southeast Asian city model include a higher-income residential zone radiating out from the port just beyond the government zone, and a new higher-income residential zone beyond that. On the left side of the diagram in Figure 9.30, a mixed land-use zone stretches from the port and is interspersed with the immigrant CBDs (IC in the model). Beyond that, a middle-density residential zone is followed by new suburbs and newer slums (A and B in the model). The outskirts of the city include a market-gardening zone.

## The Southeast Asian City Model

In 1967, urban geographer T. G. McGee studied medium-sized cities of Southeast Asia and found that they exhibit similar land-use patterns. He created a model referred to as the **Southeast Asian City Model** or the McGee model (**Fig. 9.30**). The focal point of the city is the old colonial port zone, which is combined with the largely commercial district that surrounds it. McGee found no formal CBD. Instead, he found that the elements of the CBD are present as separate clusters surrounding the old colonial port zone: the government zone; the Western commercial zone

### Thinking Geographically

Employing the concepts defined in this section of the chapter, compare and contrast the Latin American city model with either the African city or Southeast Asian city model. What is similar? Can you see influences of colonialism in each model? Are the lowest income residential areas located on the outskirts of the city? Where are the highest income residential areas located relative to manufacturing zones?



## 9.4 Analyze How Political and Economic Policies Shape Cities.

Individuals, governments, corporations, developers, financial lenders, and realtors all play a role in shaping cities. Government planning agencies can directly affect the layout of cities by restricting the kinds of development allowed in certain regions or zones. People also shape cities by choosing to live in certain neighborhoods and by opening stores, houses of worship, and even stadiums that reflect the values of their culture.

**Zoning laws** divide up the city and designate the kinds of development allowed in each zone. Portland, Oregon, is often described as the best-planned city in North America because it is built around free transportation in the central city to discourage the use of cars. Office buildings and residential zones are in close proximity to encourage walking, biking, and public transportation. In contrast, Houston, Texas, is the only large city that does not have zoning laws on the books. Houstonites voted against the creation of zoning laws three different times (most recently in 1993).

Cities in the global economic periphery, or the lower income parts of the world, generally lack enforceable zoning laws. Without zoning laws, people live anywhere there is space in cities in the periphery. For example, in cities such as Hyderabad, India (and in other cities in India), open space between new buildings is often occupied by squatter settlements (**Fig. 9.31**). In Accra, Ghana, slums like Nima are located between two high-income neighborhoods. In Manila, the Philippines, thousands of families live on and around garbage dumps and millions scavenge to find materials to sell and food to eat (**Fig. 9.32**). Over time, such living conditions may change,



Photo by E.H. Foubert. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.31 Hyderabad, India.** Homes made from corrugated steel, sticks, and blue tarps are tucked between building projects near an information technology park. The migrants who live here built their homes to withstand the rain of the summer monsoon.

as rising land values and greater demand for enforced zoning regulations are transforming the central cities of East Asia. But in South Asia, sub-Saharan Africa, Southwest Asia, North Africa, and Middle and South America, unregulated growth continues.

### Guest Field Note Scavenging a Living in Manila, the Philippines

**Johnathan Walker**  
James Madison University

“I passed through cargo shipping piers in Manila, the Philippines, and encountered row after row of hand-built squatter houses. I was struck by the scale of the settlements and the sheer number of people who inhabit them. I was shocked at the level of squalor in people’s living conditions. The people scavenging garbage in this picture wore cotton gloves and held prods to dig through the trash for items they can use, trade, or sell. Poorer residents live in settlements like this throughout the city because the city does not have enough housing and the housing available is not affordable. Still, thousands from rural areas and smaller cities migrate to Manila, recognizing that working in the informal economy and even scavenging garbage offer more opportunity than life in the rural provinces.”



**FIGURE 9.32 Manila, the Philippines.** Garbage scavengers in Manila look for materials to recycle and sell, and many also look for food to consume or sell.

© Johnathan Walker



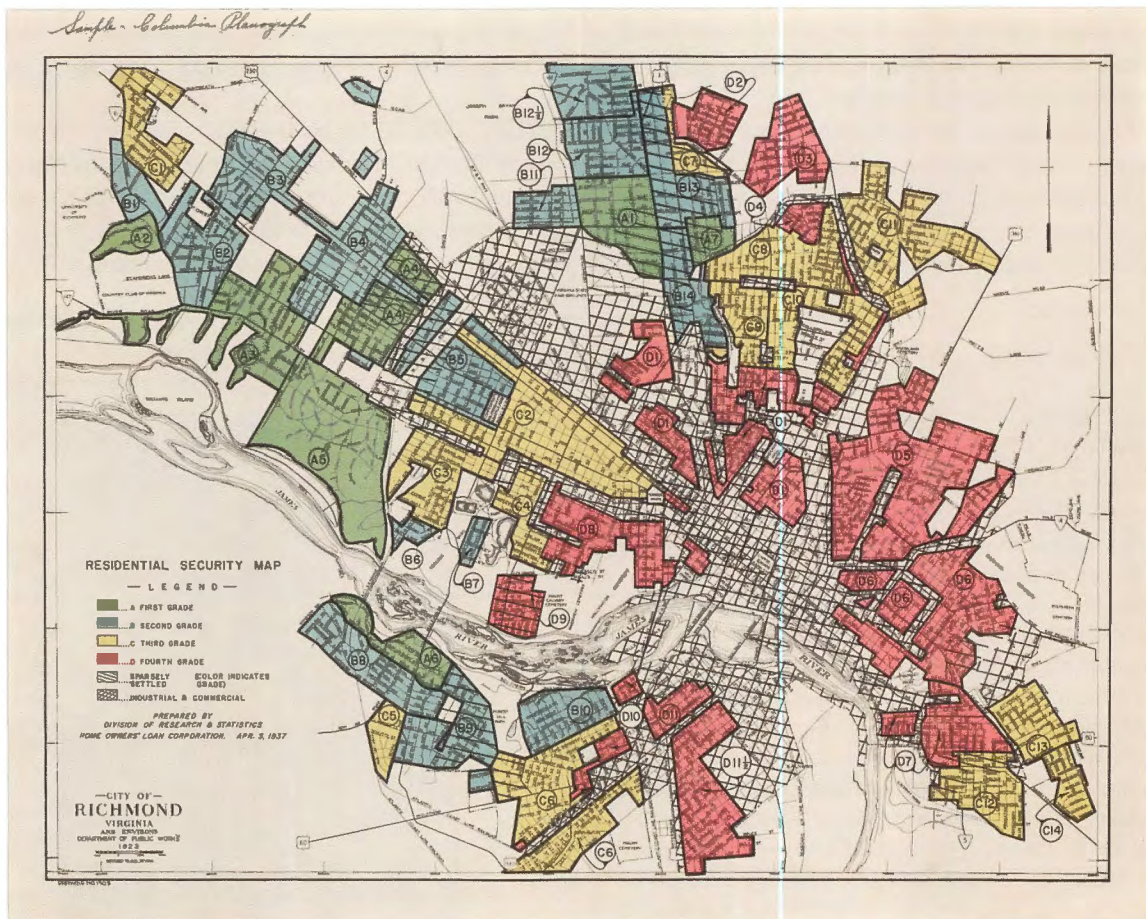
## Redlining, Blockbusting, and White Flight

The goals people have in establishing cities have changed over time. People constantly remake the cities where they live, reinventing neighborhoods or altering layouts to reflect changing goals and aesthetics. During the segregation era in the United States, realtors, financial lenders, and city governments defined and segregated spaces in urban environments. For example, before the civil rights movement of the 1960s, a federal agency (the Home Owners' Loan Corporation) and banks engaged in **redlining**. The federal agency assessed the risk of real estate investments in major cities in the United States, using 4 categories. They drew red lines on a map around neighborhoods they considered to be “hazardous” or “risky” (Fig. 9.33). The main criteria they used to assess risk was race, and they placed predominantly black neighborhoods within red lines. Banks refused to offer mortgage loans to anyone purchasing a house in the redlined neighborhoods.

Redlining, which became illegal with the 1968 Fair Housing Act, worked against those living in the “hazardous” neighborhoods that were redlined. Not being able to secure a mortgage meant that black residents of redlined neighborhoods could not easily buy homes. Those who did buy homes saw little to

no increase in the value of their houses. These factors grew the wealth gap between blacks and whites because equity gained through home ownership is a major generator of household wealth in the United States. The impacts of redlining persist today. A report by the real estate company Zillow in 2018 found that across the United States, the median housing value of homes in redlined neighborhoods is 85 percent of the median value in surrounding, non-redlined neighborhoods.

Also before the Fair Housing Act, realtors could purposely sell a house in a white neighborhood at a very low price to a black buyer. In a practice called **blockbusting**, realtors would then solicit white residents of the neighborhood to sell their homes under the guise that the neighborhood was “going downhill” because a black person or family had moved in. This practice produced what urban geographers and sociologists call **white flight**—movement of whites from the city and adjacent neighborhoods to the outlying suburbs. Blockbusting led to significant turnover in housing, which of course benefited real estate agents because of the commissions they earned as representatives of buyers and sellers. Blockbusting also prompted landowners to sell their properties at low prices to get out of the neighborhood quickly, which in turn allowed developers to subdivide lots and build tenements. Typically, developers did not maintain tenements well, dropping the property values even further.



Source: Federal Home Loan Bank Board, Home Owners' Loan Corporation. 1933-7/1/1939/National Archives and Records Administration

**FIGURE 9.33 Richmond, Virginia.** The Federal Home Loan Bank Board and the Home Owners' Loan Corporation mapped four zones of the City of Richmond, Virginia in 1933. The areas colored in red on the map were deemed “hazardous” and banks denied mortgage loans to residents in redlined areas. The Home Owners' Loan Corporation drew red lines around predominantly black neighborhoods.



## Gentrification

Developers and governments are also important actors in shaping cities. In cities of the global core that have experienced high levels of suburbanization, people have left the city proper for the suburbs in search of single-family homes, yards, better schools, and safety. As a result, city governments lose tax revenue, as middle- and upper-class taxpayers leave the city and pay taxes in the suburbs instead. To counter the suburbanization trend, city governments are encouraging commercialization of the CBD and gentrification of neighborhoods in and around that district.

The plans that city governments develop to revive central cities usually involve cleaning streets, sidewalks, and buildings; tearing down old, abandoned buildings; and building up commercial offerings and residences. City governments have often created programs to encourage the commercialization of CBDs, which entails transforming the CBD into an area attractive to residents and tourists alike. Several cities, including Miami, New York, and Baltimore, have created waterfront “theme” areas to attract visitors. These areas include festival marketplaces, parks with exotic sculptures and play areas, and amusement zones occupying former industrial sites. Cities such as Detroit and Minneapolis commercialize their CBDs by building or using tax incentives to attract professional sports stadiums to the central areas in the city. Such ventures have been successful in attracting tourists and in generating business, but they alone cannot revive downtowns because they cannot attract what the core of the city needs most: permanent residents with a stake in its future.

Newly commercialized downtowns often stand apart from the rest of the central city. Beginning in the 1960s, low-income central-city neighborhoods located conveniently close to CBDs began to attract buyers who were willing to move back into the city to renovate rundown houses and live in central-city

neighborhoods. A process called **gentrification**, the renewal or rebuilding of lower-income neighborhoods into middle- to upper-class neighborhoods, took hold near the centers of many cities.

In the United States, gentrification began in cities with a tight housing market and defined central-city neighborhoods, including San Francisco, Portland, and Chicago. Gentrification slowed in the 1990s, but it is growing again as city governments encourage beautification programs and give significant tax breaks to people who buy up abandoned or dilapidated housing. The growing interest in central-city housing has resulted in part from the changing character of American society: The proportion of childless couples (heterosexual and homosexual) is growing, as is the number of single people in the population. Childless couples and singles often choose to live in cities because features of the suburbs, including excellent school districts and large back yards, do not have the same draw. Gentrified central-city neighborhoods attract residents who want to live within walking distance of their workplace and close to cultural, entertainment, and recreational amenities, nightlife, and restaurants (**Fig. 9.34**).

One consequence of gentrification is increased housing prices in central-city neighborhoods. Gentrification usually displaces lower-income residents because property taxes rise as land values rise, and the cost of goods and services in the neighborhood, from parking to restaurants, rises as well. For urbanites displaced by gentrification, the consequences can be serious. Rising housing costs associated with gentrification have played a key role in the growing number of homeless in American cities.

**Gentrification in Suburbs** Suburbs are not immune to gentrification. In suburbs that are close to the city or directly connected by commuter rail, people purchase smaller or older homes with the intention of tearing the house down and building a much larger home. The homes intended for

### Author Field Note Tracking Gentrification over Three Decades in Fort Worth, Texas

“In 2008, downtown Fort Worth, Texas, looked quite different than it did when I first visited in 1997. In that 11-year period, business leaders in the city of Fort Worth gentrified the downtown. The Bass family, who has a great deal of wealth from oil holdings and who now owns about 40 blocks of downtown Fort Worth, was instrumental in the city’s gentrification. In the 1970s and 1980s, members of the Bass family looked at empty, stark, downtown Fort Worth and sought a way to revitalize the downtown. They worked with the Tandy family to build and revitalize the spaces of the city, which took off in the late 1990s and into the present century. The crown jewel in the gentrified Fort Worth is the beautiful cultural center called the Bass Performance Hall, named for Nancy Lee and Perry R. Bass, which opened in 1998. I returned to Fort Worth in 2016, and found public spaces where families were watching movies outdoors at night, new restaurants, and a vibrant retail district. The city’s gentrification, however, is pushing out low-income residents and access to affordable housing is lacking. People without homes have built tent-cities in Fort Worth. Churches and coalitions provide shelters and other services to a growing number of homeless.”

—E.H. Fouberg



Photo by E.H. Fouberg. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.34** Fort Worth, Texas.





Photo by E.H. Foubert. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.35 Hinsdale, Illinois.** In this upscale suburb of Chicago, a new McMansion stands in the place where a smaller house (similar in size to the one still standing in the right of the photo) used to stand. One historic preservation consultant estimated half of the houses in Hinsdale were torn down and replaced, usually with much larger houses, since the 1990s.

suburban demolition are called **teardowns**. In their place, suburbanites build newer homes that often are supersized and stretch to the outer limits of the lot. New supersized mansions are sometimes called **McMansions** (Fig. 9.35).

Like gentrification in the city, the teardown phenomenon changes the landscape and increases average housing values, tax revenue for the suburb, and the average household income of the neighborhood. Unlike with central-city gentrification, with teardowns the original houses are destroyed instead of preserved. Teardowns often occur in middle-class and wealthy suburbs such as Greenwich, Connecticut, and Hinsdale, Illinois.

Greenwich, a high-end neighborhood in Fairfield County, Connecticut, just outside of New York City, issued 138 permits for teardowns in 2004 (56 more than it did the year before). The collapse of the housing market brought a decline in the number of teardowns in Fairfield County starting in 2007. The number of teardowns annually rose again after 2010 but has ticked down as the area has reached an oversupply in multimillion-dollar homes.

The teardown phenomenon may have hit saturation, as desire for enormous houses is declining in neighborhoods like Hinsdale and Greenwich. Owners often overestimate the value of their larger, newer homes and have found it more difficult to sell the homes than they expected because of the oversupply.

Realtors are speculating that as teardowns decline in popularity in high-end neighborhoods, they may increase in popularity in middle-income suburbs where tract homes were built quickly following World War II. The number of new lots within reasonable commuting distance is limited, and if incomes continue to rise, new areas of cities will be looked toward for teardowns.

Those in favor of teardowns argue that the phenomenon slows urban sprawl by replacing existing homes with new homes, rather than converting farmland to residential lots. Those opposed to teardowns see the houses as too large for their lots, dwarfing the neighboring houses and destroying the character of the street by demolishing the older homes on it.

## Urban Sprawl and New Urbanism

As populations have grown in certain areas of the United States, such as the Sun Belt and the West, urban areas have experienced **urban sprawl**—unrestricted growth of housing, commercial developments, and roads over large expanses of land, with little concern for urban planning. Urban sprawl is easy to spot as you drive down major roadways in any urbanized part of the country. You will see strip malls, big-box stores, chain restaurants, huge intersections, and numerous housing developments, all spread out over many acres (Fig. 9.36).

Sprawl is a phenomenon of the automobile era. Cities that expanded before the automobile typically grew “up” instead of “out.” For instance, Boston grew around the marketplace and port, but it grew before the automobile, resulting in development over smaller areas. When you go through the central city of Boston today, you can walk where you need to go or take the T (metro). Places are built up vertically, and curving, narrow



Ethan Miller/Getty Images News/Getty Images

**FIGURE 9.36 Henderson, Nevada.** Henderson is the largest suburb of Las Vegas, and it was also the fastest-growing urban settlement in the United States between 1990 and 2000. Many of the houses in this photograph are empty today, as Las Vegas is experiencing high vacancy rates.



streets and commercial developments with a flavor of the old city (Quincy Market) give the city a cozy, intimate feel.

Does population growth explain which cities experience the most urban sprawl? In a study of sprawl from 1960 through the 1990s, Leon Kolankiewicz and Roy Beck (two anti-sprawl writers) used United States Census data on urbanized areas and found that urban sprawl happened even in urban areas without significant population growth. In the United States, urban sprawl is more common in the Sun Belt of the South (Atlanta) and in the West (Houston) in urban areas where population is rapidly growing (Table 9.1). Yet, even in cities such as Detroit and Pittsburgh, where urban populations fell between 1960 and 1990—by 7 percent in Detroit and 9 percent in Pittsburgh—urban sprawl increased the urbanized areas of the cities by 28 percent and 30 percent, respectively. When urban sprawl happens, farmlands and old industrial sites are razed, roads are built or widened, strip malls are erected, and housing developments come to monopolize the horizon.

To counter urban sprawl, a group of architects, urban planners, and developers (now numbering over 2000 in more than 20 countries) proposed an urban design vision they call new urbanism. Forming the Congress for the New Urbanism in 1993, the group defines **new urbanism** as development, urban revitalization, and suburban reforms that create walkable neighborhoods with a diversity of housing and jobs. On their website, the Congress for the New Urbanism explains that “New Urbanists support regional planning for open space, appropriate architecture and planning, and the balanced development of jobs and housing. They believe these strategies are the best way to reduce how long people spend in traffic, to increase the supply of affordable housing, and to rein in

urban sprawl.” New urbanists want to create neighborhoods that promote a sense of community and a sense of place.

The most famous new urbanist projects are cities that new urbanists designed from the ground up, including Seaside, Florida (featured in the movie *The Truman Show*), West Laguna, California, and Kentlands, Maryland. When new urbanists build a town, the design is reminiscent of Christaller over a much smaller area. The planners choose the central shopping areas and open spaces and develop the neighborhoods around them, with housing clustered around the central space so that people can walk to the shopping area within five minutes. One goal of new urbanist designs is to build housing more densely, taking up less space. In addition, making shopping and other amenities walkable decreases dependency on the automobile, which in the process helps improve sustainability.

Although some see new urbanist designs as manufactured communities and feel disconnected in a new urbanist space, others see these designs as an important antidote to sprawl. Celebration, Florida, is a remarkable new urbanist space: It is adjacent to Walt Disney’s theme parks, was envisioned by Walt Disney himself, and was originally owned by the Disney Company (Fig. 9.37). Built in 1994, Celebration is centered on Market Street, a shopping district with restaurants (including a 1950s-style diner and a pizza place), a town hall, banks, a post office, and a movie theater with a nostalgic marquee (Fig. 9.38). The town includes schools, a health center, a fitness center, and churches. The Disney Company chose certain architectural styles for the houses in Celebration, and builders initially offered homes and townhouses in a price range from \$300,000 to over \$1 million. To meet the new urbanist goal of incorporating diverse people in a community, Celebration includes apartments for rent and condominiums for sale.

For geographers, new urbanism marks a redefinition of space in the city. Public spaces, they say, become privatized for the enjoyment of the few (the residents of the neighborhood). Geographers Stuart Aitken, Don Mitchell, and Lynn Staeheli note that as new urbanism strives to turn neighborhoods back in time, “spaces and social functions historically deemed public (such as parks, neighborhood centers, shopping districts)” are privatized. The houses with porches that encourage neighbors to talk and the parks that are within walking distance for the residents create “mythic landscapes that are ingratiating for those who can afford them and exclusionary for those who cannot.”

Noted geographer David Harvey offers one of the strongest critiques of new urbanism, explaining first that most new urbanist designs are “greenfield” projects designed for the affluent to make suburban areas more livable. This fact is evidence, Harvey argues, that the new urbanism movement is a kind of “spatial determinism” that does not recognize that “the fundamental difficulty with modernism was its persistent habit of privileging spatial forms over social processes.” Harvey, and others who critique new urbanism, claim that new urbanism does nothing to break down the social conditions that privilege some while disadvantaging others; that new urbanist projects take away much of the grittiness and character of the city; and that the “communities” that new urbanists form through their projects are exclusionary communities that deepen racial segregation.

**TABLE 9.1** Most Sprawling Metro Areas with a Population Over 1 Million in the United States

Smart Growth America created an index to measure urban sprawl based on development density, land-use mix, activity centering, and street accessibility. These ten major metro areas have the lowest density over a wide space, creating urban sprawl.

Most Sprawling Large Metro Areas, 2014	
Cities with a population of more than one million	State
1. Atlanta-Sandy Springs/Marietta	GA
2. Nashville/Davidson/Murfreesboro/Franklin	TN
3. Riverside-San Bernardino/Ontario	CA
4. Warren/Troy/Farmington Hills	MI
5. Charlotte/Gastonia-Rock Hill	NC/SC
6. Memphis	TN/MS/AR
7. Birmingham-Hoover	AL
8. Rochester	NY
9. Richmond	VA
10. Houston/Sugar Land/Baytown	TX

**Source:** Data from: R. Ewing, Rolf Pendall, and Don Chen. *Measuring Sprawl and Its Impact*. Volume 1. Smart Growth America. <http://www.smartgrowthamerica.org/documents/MeasuringSprawlTechnical.pdf>.



### Author Field Note Embracing Nostalgia in New Urbanism in Celebration, Florida

“When I visited Celebration, Florida, in 1997, one year after residents moved into the first houses in the community, I felt like I was walking onto a movie or television set. The architecture in the Walt Disney-designed new urbanist development looked like



Photo by E.H. Fouberg. © 2020 John Wiley & Sons, Inc.

a quintessential American town. Each house has a porch, but on the day I was there, the porches sat empty—waiting to welcome the arrival of their owners at the end of the work day. We walked through town, past the 50s-style movie marquee, and ate lunch at a 50s-style diner. At that point, Celebration was still growing. Across the street from the ‘Bank of Celebration’ stood a sign marking the future home of the ‘Church in Celebration.’

I recently returned to Celebration, and I spent the day walking the same streets. The ‘Church in Celebration,’ a Presbyterian community church, was built, and the main street through the town square was hosting an arts festival focused on dogs. The city had grown to 11,000 residents, suffered its first murder, and was experiencing a higher rate of foreclosures than the rest of Florida. The movie theater still stood but no longer showed movies. A Starbucks took up a main corner in town, standing next door to a Morgan Stanley office and an Irish pub. Disney no longer owns the town, but the influence of the Disney vision still stands, with architectural covenants allowing only certain house styles, a few pastel house colors, and hiding the trash and cars in alleys.”

—E.H. Fouberg



Photo by E.H. Fouberg. © 2020 John Wiley & Sons, Inc.



Photo by E.H. Fouberg. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.37** Celebration, Florida.



Photo by E.H. Fouberg. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.38** Celebration, Florida. Opened in 1996 with two screens and operated by AMC, the Celebration Cinema closed in 2010. The spires remain landmarks in the town.



Despite the critiques against new urbanism, developments in the new urbanist tradition are attracting a growing number of people, and when they are situated within cities, they can work against urban sprawl.

## Gated Communities

As you drive through urban spaces in the United States, suburban and central city alike, you will note more and more neighborhoods being developed or redesigned to align with new urbanist principles. In your inventory of landscapes, even more overwhelming will be the proliferation of gated communities. **Gated communities** are fenced-in neighborhoods with controlled access gates for people and automobiles. Often gated communities have security cameras and security forces (privatized police) keeping watch over the community, as the main objective is to create a space of safety within the uncertain urban world. A secondary objective is to maintain or increase housing values in the neighborhood through enforcement of the neighborhood association's bylaws, which control everything from the color of houses to the character and size of additions.

During the late 1980s and early 1990s, developers in the United States began building gated communities in urban areas around the country. In a 2001 American Housing Survey, the United States government reported that 16 million people, or about 6 percent of Americans, live in gated communities. Recent surveys have not gathered the same statistics; so, it's difficult to estimate what percent of U.S. residents live in gated communities today, but the demand for homes in gated communities is increasing. Gated communities in the U.S. are quite popular in the Sun Belt and have diffused both across the U.S. and around the globe at record speed. Gated communities are now found in Europe, Asia, Africa, and Latin America.

In countries in the global periphery, where cities are divided between wealthy and poor, between haves and have-nots, gated communities provide another layer of comfort for the city's wealthy. In the large cities of Latin America and Africa, you commonly see walls around individual houses belonging to wealthy and middle-class families, enclosing yards and pools and keeping out crime. Barbed wire or shards of glass are often fixed to the top of walls to discourage intruders from scaling them.

Walled houses and gated communities in wealthy suburbs north of Johannesburg, South Africa, are threatening to undo the desegregation of this post-Apartheid city. White, wealthy residents fear crime in the city, which, along with neighboring Pretoria, has a murder rate of 5000 per year (in an area with about 5 million people). In response to their fear of crime, by 2004 people in the suburbs of Johannesburg had blocked off over 2500 streets and posted guards to control access to the streets. Today, more than 15 percent of housing in Johannesburg is enclosed in gated communities. Many see the gated communities as a new form of segregation. Since the vast majority of crimes occur in lower income, primarily black communities or in the central city, the concern is that gated community developments are a new means of creating racial segregation.

Gated communities have taken off in China as well, with communities now crossing socioeconomic classes and assuming a prominent place in the urban landscape (**Fig. 9.39**). Like the gated communities in Europe and North America, the gated communities of China privatize spaces and exclude outsiders with gates, security cameras, and restricted access. However, China's gated communities are 5 to 10 times more densely populated than Europe's and North America's. Geographer Youqin Huang has found other differences between gated communities in China and those in North America and Europe. China has a long history of gated communities, dating back to the first Chinese cities and persisting since. Huang argues that the "collectivism-oriented culture and tight political control" in China explain why the Chinese government built gated communities during the socialist period and why privately developed gated communities have proliferated since China's 1998 housing reform promoted individual home ownership.

In Europe and North America, gated communities are not only for the wealthy and privileged; the middle and lower classes also have a growing desire to feel safe at home. Some urban planners have encouraged governments to recast low-income housing as small communities, gated from each other, to reduce the flowthrough traffic and associated crime. Cities have sometimes torn down enormous high rises, typically ridden with crime and referred to as "the projects," including Cabrini-Green in Chicago and Pruitt-Igoe in St. Louis, in an effort to make the lower income spaces more livable.

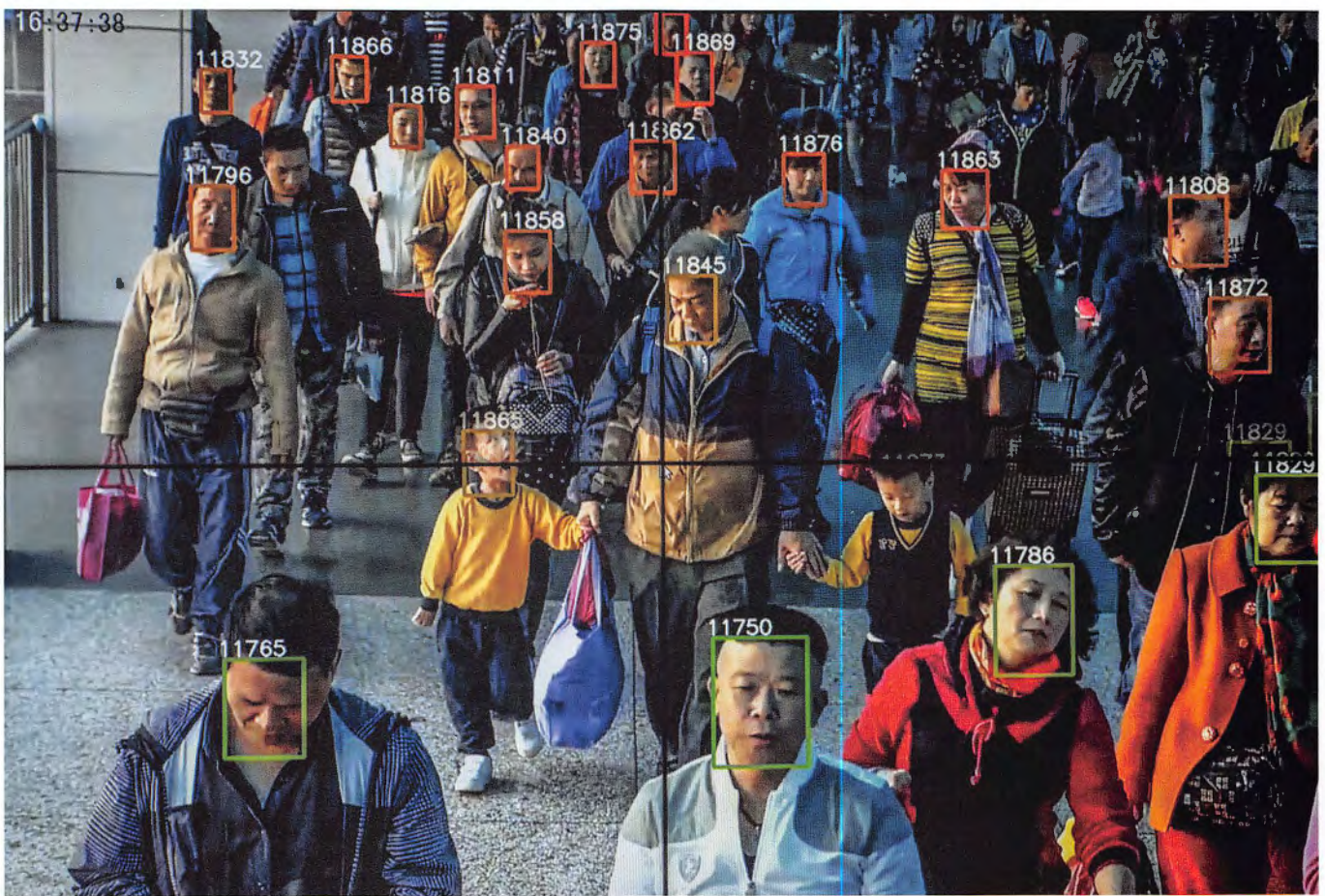
Champions of middle-income and low-income neighborhoods seek to create a sense of community and make the spaces "defensible" from undesired activities such as drug dealing and prostitution. One of the best-documented cases of gating a middle-income community is the Five Oaks district of Dayton, Ohio, a neighborhood that is about 50 percent African American and 50 percent white and has a high rate of rentals. Urban planner Oscar Newman encouraged planners in Dayton to divide the 2000 households in the Five Oaks district into 10 smaller, gated



Photo by A.B. Murphy. © 2020 John Wiley & Sons, Inc.

**FIGURE 9.39** Guangzhou, China. This gated housing community just outside the city is much more serene than the teeming metropolis next door.





GILLES SABRIE/The New York Times/Redux Pictures

**FIGURE 9.40 Beijing, China.** The artificial intelligence company Megvii developed real-time facial recognition software. It claims that once a face is in their system, it can recognize them anywhere. The Chinese government, which uses real-time facial recognition software to track and control who is moving in and around the country, is a major investor in Megvii.

communities with restricted access. The city turned most of the residential streets in each of these mini-neighborhoods into cul-de-sacs. It has experienced a serious reduction in crime, along with an increase in housing sales and housing values.

## Urban Geopolitics

Geographer Stephen Graham coined the term **urban geopolitics** to draw attention to the impact of global geopolitical developments on the character of cities. Urban areas play a central role in twenty-first-century geopolitics. Global surveillance networks and advanced weaponry have transformed how countries control people, especially in cities. With each terrorist attack since 9/11, whether in London or Mumbai, countries and cities have built concrete barricades, jersey barriers, and bollards around government facilities, embassies, and high-profile buildings. In some cases, fixtures close off entire blocks of sidewalks and bike lanes in the name of safety and security. In other cities, local governments have redirected the flow of traffic in the city center, even closing some streets off to vehicular traffic altogether.

Artificial intelligence surveillance systems shape contemporary urban landscapes, perhaps nowhere more so

than in China. The government of China and Chinese technology companies are using facial recognition software to control movement around major cities, including Beijing and Shanghai, through surveillance (**Fig. 9.40**). The Chinese government tracks people's movement across public spaces officially in the name of public safety, but more so for government control. Since he took office in 2014, China's president Xi Jinping has used systems of control to quell any contrary opinions. A minority group of Sunni Muslims in China, the Uighurs, are under constant surveillance through facial recognition and checkpoints because the government wants to track minorities that it fears may protest the country's authoritarian control and crackdowns on religious practices.

### TC Thinking Geographically

Analyze the map of redlined neighborhoods in Richmond, Virginia (**Fig. 9.33**). Go online and find a recent map of the distribution of **rac**es in Richmond, Virginia. You can use the Racial Dot Map at: <https://demographics.virginia.edu/DotMap/index.html>. Compare and contrast the map you find with the map of redlined neighborhoods. Explain how and why redlining has long-lasting impacts on neighborhoods as **places** and **identities** of people.



## 9.5 Explain What World Cities Are and Describe How They Shape and Reflect Globalization.

Globalization, as we defined the term in the first chapter, is a set of processes that are heightening interactions, increasing interdependence, and deepening relations across country borders. Through globalization, cities are taking over in ways we barely understand. Most data about economic activity are collected by countries and reported as one statistic representing an entire country. For example, gross national income (GNI) and total fertility rates (TFR) give one number for each country. Neither tells us about differences within countries, such as how cities are faring compared to rural areas. While we have little data about differences within countries, many of the most important processes of globalization happen among and between world cities, not between countries. The very way we collect data masks the integral role world cities play in globalization. World cities function at the global scale, beyond the reach of state borders, as nodes in the world economy.

Arguing that models and hierarchies of cities do not reflect the reality of what is happening with the city, geographers Peter Taylor and Robert Lang (2004) argued that the city has become “something else.” The city cannot be understood as a CBD tied into a hierarchy of other cities within a country. The world city is a node in globalization, reflecting processes that have “redrawn the limits on spatial interaction” (Felsenstein et al. 2002). A **node** is a place where action and interaction occur. As nodes, world cities are connected to other world cities, and through these connections, they act as forces shaping globalization.

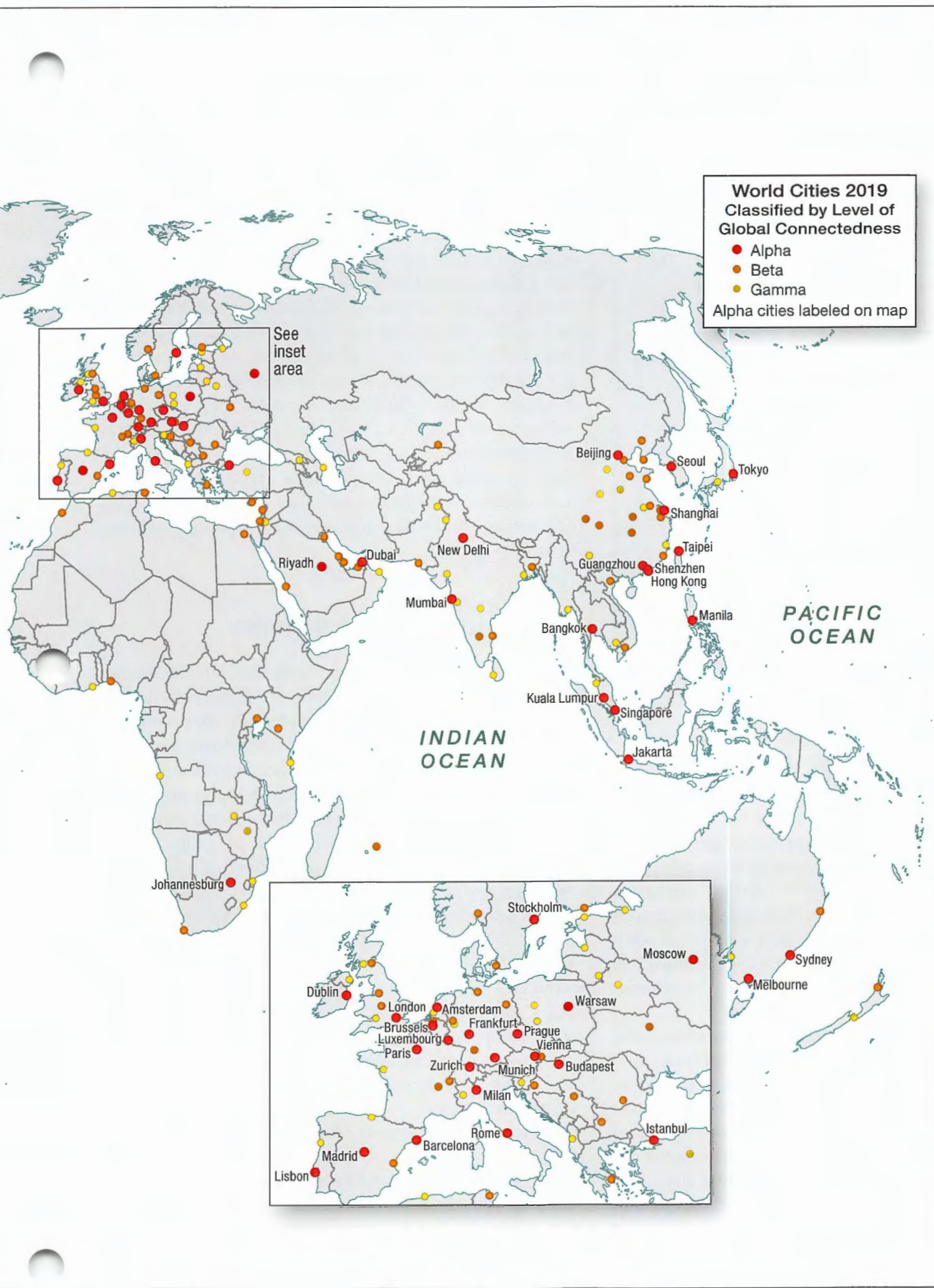
Geographers Jon Beaverstock and Peter J. Taylor and their Globalization and World Cities Study Group and Network have produced over 400 research papers, chapters, and books on the geography of world cities. They have collected data for each city on producer services in the areas of banking, law, advertising, and accounting. Using the data, the geographers have established an inventory and a classification of world cities into Alpha, Beta, and Gamma world cities (**Fig. 9.41**). Comparing the top Alpha world cities in 2000 to the top Alpha cities in 2018 demonstrates the remarkable rise of China in the world economy over the last two decades (**Fig. 9.42**). Alpha cities are categorized as Alpha++, Alpha+, and Alpha, based on the level of global impact they have. All three categories of Alpha world cities have the global capacity to provide services in the world economy.

The two Alpha++ world cities, New York and London, are the most important nodes. These two cities have remained at the top in terms of influence in the world economy since the Globalization and World Cities group began collecting data.



**FIGURE 9.41 World Cities: Alpha, Beta, and Gamma.** Alpha world cities are labeled with city names on the map.





Data from: "The World According to GaWC 2018," Globalization and World Cities Research Network, <https://www.lboro.ac.uk/gawc/world2018t.html>.



Source: Data from: "The World According to GaWC 2012," posted 13 January 2014. Globalization and World Cities Research Network, <http://www.lboro.ac.uk/gawc/world2012t.html>



**FIGURE 9.42** Shifting Alpha World Cities. The rise of China's global influence since 2000 is evident when comparing locations of Alpha++ and Alpha+ world cities in 2000 to 2018.

However, whether they will remain so is to be seen. The three largest banks in the world as of 2019 are all located in China. Moreover, both the United States and the United Kingdom are experiencing conservative movements that are pulling them back from their central role in the world economy: The presidency of Donald Trump in the United States and the Brexit vote in the United Kingdom (see Chapter 8) both signal a movement toward isolationism.

In addition to being major players in the world economy, world cities play a huge role in the economies of their countries. World cities like London and Paris are also capital cities. Governments help concentrate development and encourage interconnections between their capital cities and the rest of the world. The United States has several world cities that are both connected to each other within the United States and are also connected to world cities in other world regions. For example, data from the Globalization and World Cities project indicate that Washington, D.C., is most overconnected to Chicago (meaning the data show the cities are more interlinked than distance would predict) and to other world cities in the United States (Fig. 9.43).

Beijing, the capital of China, is also most overconnected to another city in China, in this case Guangzhou. Figure 9.44 shows the other cities that are linked to Beijing. Not as regionally confined as the cities linked to Washington, D.C., the world cities linked to Beijing are in Southeast Asia, Europe, Africa, and the Americas. Beijing plays a central role in China's One Belt, One Road, and Maritime Silk Road initiatives (see Chapter 8). Through these initiatives, China's global investments extend to over 70 countries.

The world cities listed as over linkage, mainly in Asia, Southeast Asia, and Europe, are most connected to Beijing, China. The world cities listed as under linkages are least connected. Connections among world cities reveal the pulses of globalization across country borders (Fig. 9.45). World cities operate as nodes in globalization, and the forces of globalization are pulsing across world cities without regard to country borders (Fig. 9.45). By inventorying world cities and generating data on cities instead of countries, geographers are helping us see how world cities are reshaping the map of political and economic power globally. Geographers have uncovered the globalized flows and processes occurring across world cities, mapping them and bringing them to light.

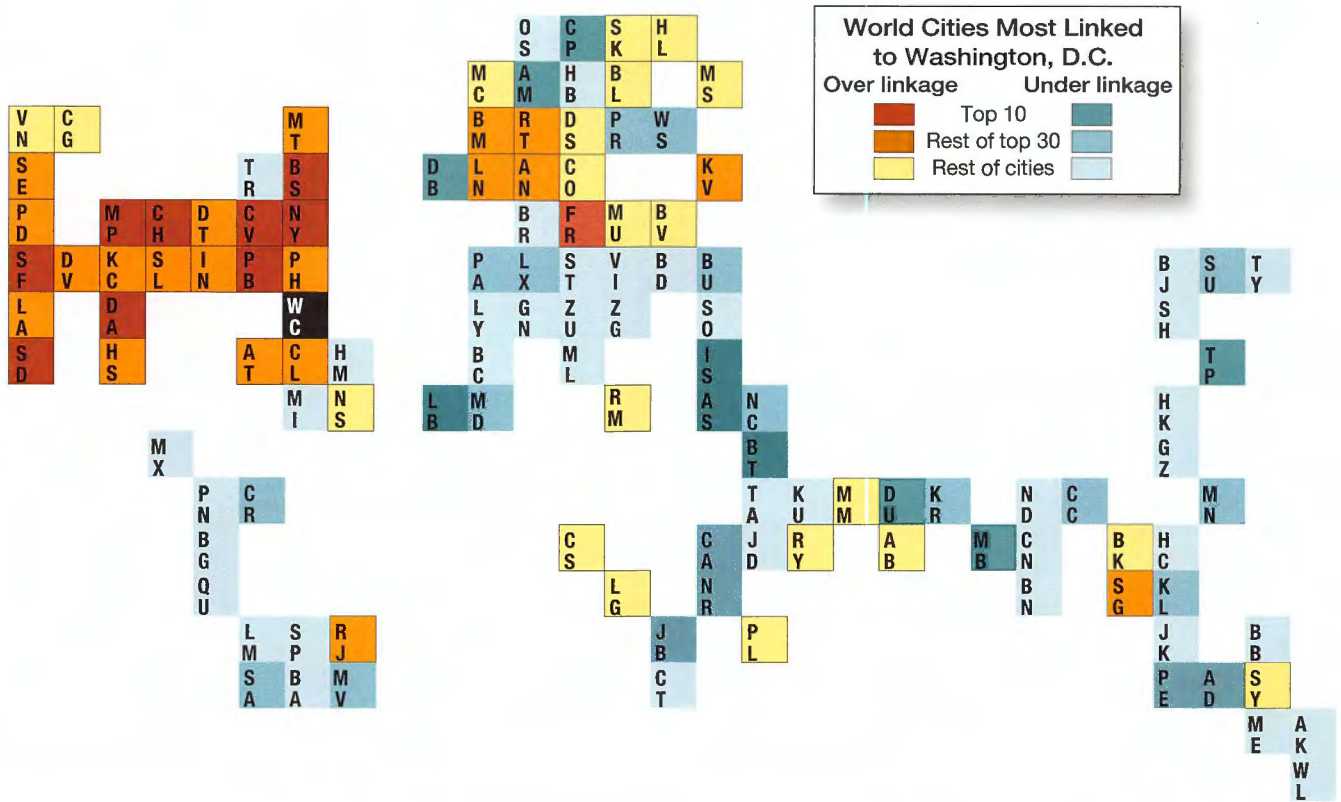
## Megacities and Global Slums

Whereas world cities are measured by their influence in the world economy, megacities are measured by their number of residents. A **megacity** is a large city with over 10 million people. Providing services to that many people is difficult in the global core (wealthier countries) and only increases in difficulty in the global semiperiphery and periphery. Megacities act as centers of gravity for migrants (see Chapter 3), who are attracted by the prospect of finding work in the formal economy or finding opportunities in the informal economy.

Megacities often have large slum developments that are tucked into and around the city center and that create rings around the city where the permanent buildings end. If you stand on a hill outside Lima (Peru), overlook the Cape Flats near Cape Town (South Africa), or fly a drone camera over a city, you see an unchanging panorama of makeshift slums built of every conceivable material, vying for every foot of space, and extending to the horizon (Fig. 9.46). Photos of slums and tent cities reveal few, if any, trees and narrow footpaths leading to a few unpaved streets that go into the central city.

The number of people living in slum developments is uncertain, but the United Nations has estimated the proportion of each country living in slums (Fig. 9.47). In Rio de Janeiro (Brazil), the migrants build their dwellings on dangerous, landslide-prone slopes; in Port Moresby (Papua New Guinea), the migrants sink stilts in the mud and build out over the water, risking wind and waves. In Kolkata (formerly Calcutta, India),



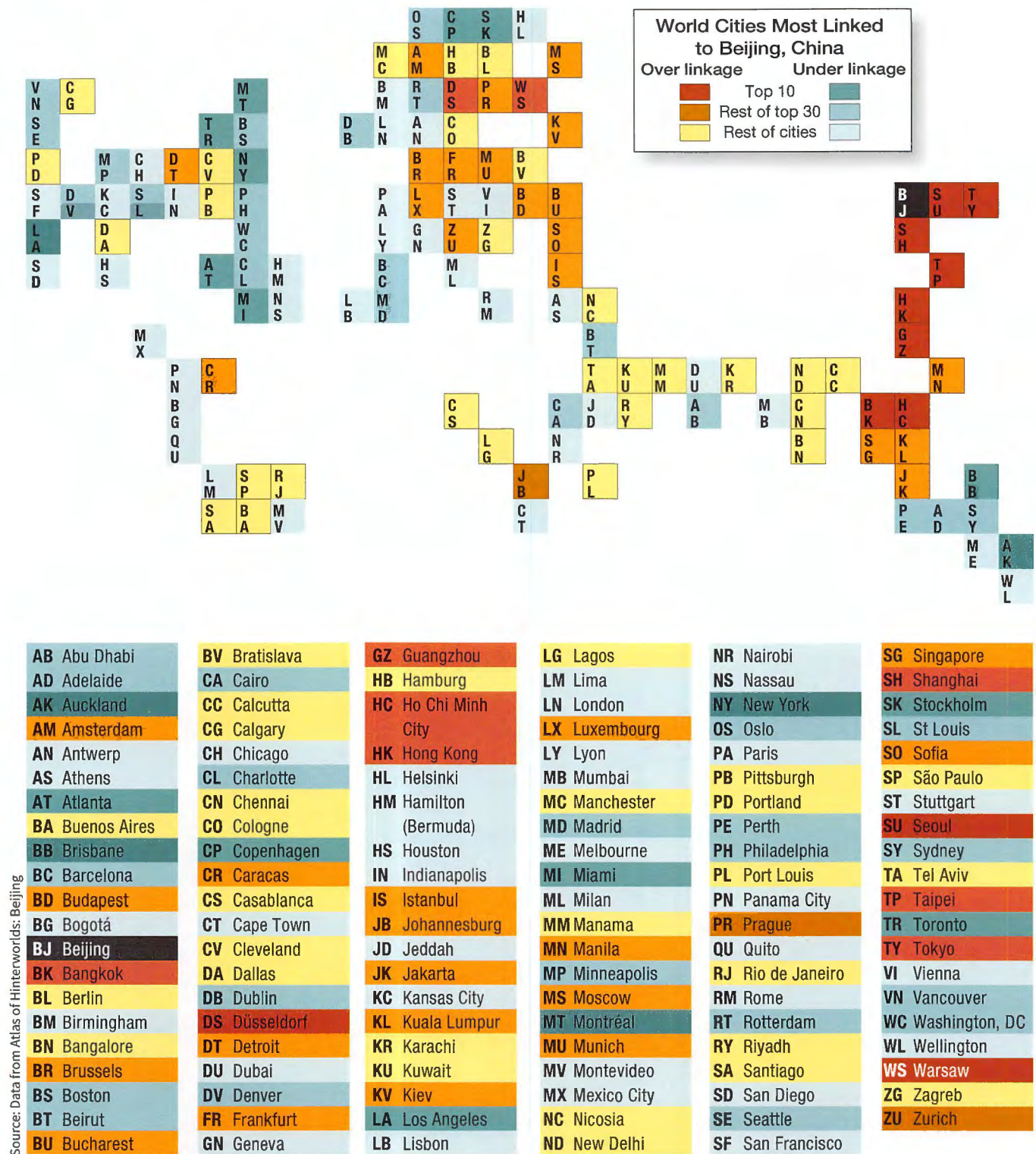


<b>AB</b> Abu Dhabi	<b>BV</b> Bratislava	<b>GZ</b> Guangzhou	<b>LG</b> Lagos	<b>NR</b> Nairobi	<b>SG</b> Singapore
<b>AD</b> Adelaide	<b>CA</b> Cairo	<b>HB</b> Hamburg	<b>LM</b> Lima	<b>NS</b> Nassau	<b>SH</b> Shanghai
<b>AK</b> Auckland	<b>CC</b> Calcutta	<b>HC</b> Ho Chi Minh City	<b>LN</b> London	<b>NY</b> New York	<b>SK</b> Stockholm
<b>AM</b> Amsterdam	<b>CG</b> Calgary	<b>HK</b> Hong Kong	<b>LX</b> Luxembourg	<b>OS</b> Oslo	<b>SL</b> St Louis
<b>AN</b> Antwerp	<b>CH</b> Chicago	<b>HL</b> Helsinki	<b>LY</b> Lyon	<b>PA</b> Paris	<b>SO</b> Sofia
<b>AS</b> Athens	<b>CL</b> Charlotte	<b>HM</b> Hamilton (Bermuda)	<b>MB</b> Mumbai	<b>PB</b> Pittsburgh	<b>SP</b> São Paulo
<b>AT</b> Atlanta	<b>CN</b> Chennai	<b>HS</b> Houston	<b>MC</b> Manchester	<b>PD</b> Portland	<b>ST</b> Stuttgart
<b>BA</b> Buenos Aires	<b>CO</b> Cologne	<b>IN</b> Indianapolis	<b>MD</b> Madrid	<b>PE</b> Perth	<b>SU</b> Seoul
<b>BB</b> Brisbane	<b>CP</b> Copenhagen	<b>IS</b> Istanbul	<b>ME</b> Melbourne	<b>PH</b> Philadelphia	<b>SY</b> Sydney
<b>BC</b> Barcelona	<b>CR</b> Caracas	<b>JB</b> Johannesburg	<b>MI</b> Miami	<b>PL</b> Port Louis	<b>TA</b> Tel Aviv
<b>BD</b> Budapest	<b>CS</b> Casablanca	<b>JD</b> Jeddah	<b>ML</b> Milan	<b>PN</b> Panama City	<b>TP</b> Taipei
<b>BG</b> Bogotá	<b>CT</b> Cape Town	<b>JK</b> Jakarta	<b>MM</b> Manama	<b>PR</b> Prague	<b>TR</b> Toronto
<b>BJ</b> Beijing	<b>CV</b> Cleveland	<b>KC</b> Kansas City	<b>MN</b> Manila	<b>QU</b> Quito	<b>TY</b> Tokyo
<b>BK</b> Bangkok	<b>DA</b> Dallas	<b>KL</b> Kuala Lumpur	<b>MP</b> Minneapolis	<b>RJ</b> Rio de Janeiro	<b>VI</b> Vienna
<b>BL</b> Berlin	<b>DB</b> Dublin	<b>KR</b> Karachi	<b>MS</b> Moscow	<b>RM</b> Rome	<b>VN</b> Vancouver
<b>BM</b> Birmingham	<b>DS</b> Düsseldorf	<b>KU</b> Kuwait	<b>MT</b> Montréal	<b>RT</b> Rotterdam	<b>WC</b> Washington, DC
<b>BN</b> Bangalore	<b>DT</b> Detroit	<b>LA</b> Los Angeles	<b>MU</b> Munich	<b>RY</b> Riyadh	<b>WL</b> Wellington
<b>BR</b> Brussels	<b>DU</b> Dubai	<b>LB</b> Lisbon	<b>MV</b> Montevideo	<b>SA</b> Santiago	<b>WS</b> Warsaw
<b>BS</b> Boston	<b>DV</b> Denver		<b>MX</b> Mexico City	<b>SD</b> San Diego	<b>ZG</b> Zagreb
<b>BT</b> Beirut	<b>FR</b> Frankfurt		<b>NC</b> Nicosia	<b>SE</b> Seattle	<b>ZU</b> Zurich
<b>BU</b> Bucharest	<b>GN</b> Geneva		<b>ND</b> New Delhi	<b>SF</b> San Francisco	

**FIGURE 9.43** World cities most linked to Washington, D.C. The world cities listed as over linkage, mostly in North America, are most connected to Washington, D.C. The world cities listed as under linkages are least connected.

Source: Data from Atlas of Hinterworlds: Washington DC

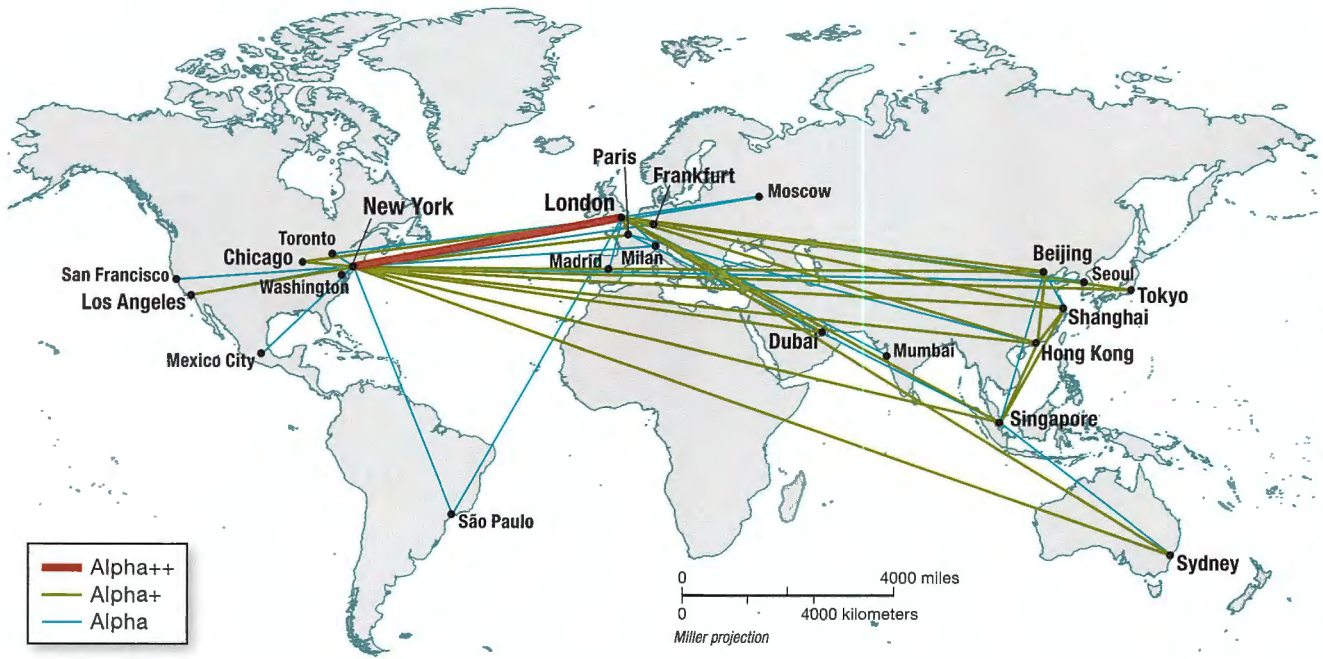




Source: Data from Atlas of Hinterworlds: Beijing

**FIGURE 9.44 Beijing, China.** The world cities listed as over linkage, mostly in Asia, Southeast Asia, and Europe are most connected to Beijing. The world cities listed as under linkages are least connected.





Source: Data from GaWC City Link Classification 2018

**FIGURE 9.45 Networks of Alpha world cities.** Data from the Geography and World Cities Network shows the extent of connections among Alpha++, Alpha+, and Alpha world cities.

thousands of migrants do not even try to erect shelters. There and in many other cities, people live in the streets, under bridges, and even in storm drains. City governments do not have the resources to adequately educate, medicate, or police the growing populations, let alone provide even minimal housing for most.

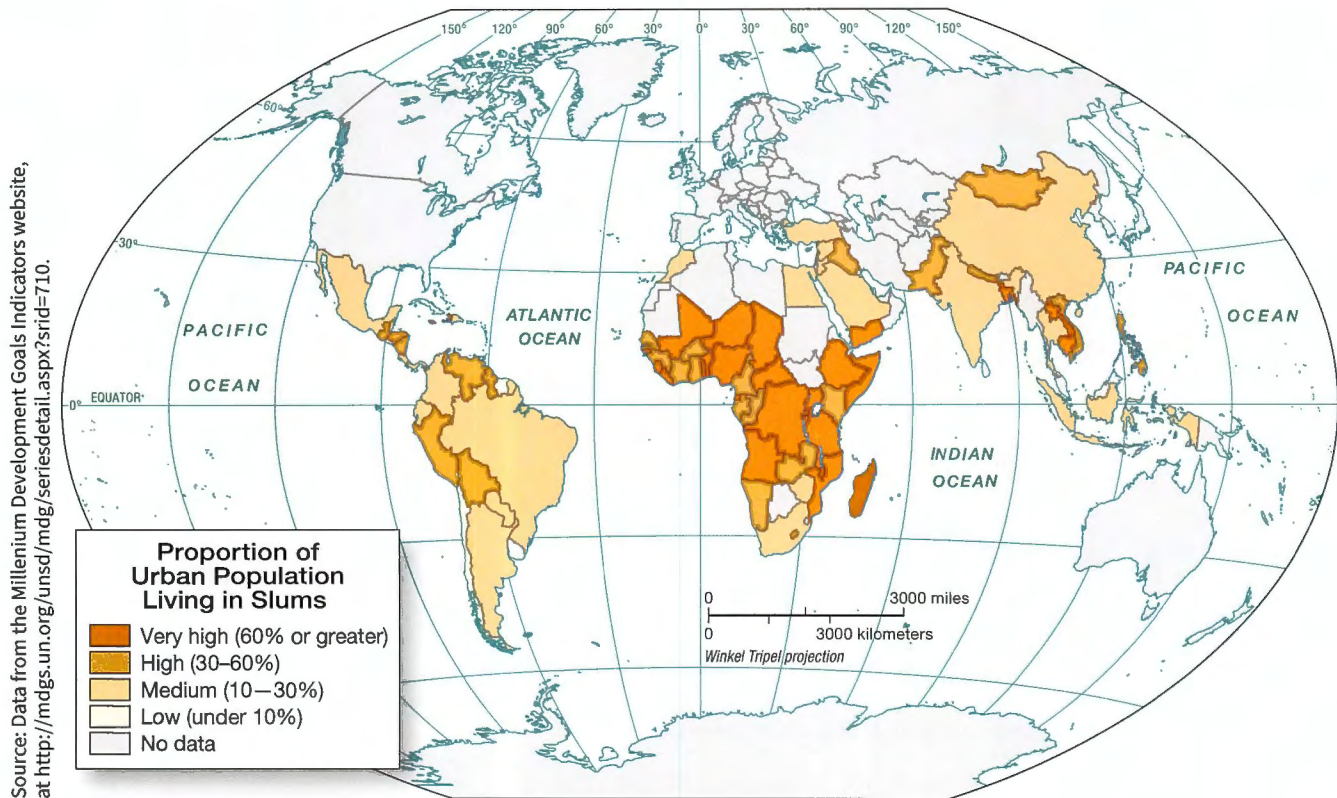
People living in most shanty settlements are not really squatters—they pay rent. When settlements expand outward from the central city, they occupy land owned by previous residents, families who farmed what were once the rural areas beyond the city’s edge. Some of the farming families were favored by the former colonial administration;



Media Drum World/Alamy Stock Photo

**FIGURE 9.46 Mumbai, India.** This bird’s-eye view of Mumbai shows the stark contrast between wealthy neighborhoods in the background and tent settlements and slums in the foreground.





**FIGURE 9.47 Urban Population Living in Slums by Country.** Sub-Saharan Africa and Southeast Asia have the highest proportion of city-dwellers living in slums.

they moved into the cities but continued to own the lands their farms were on. As shanty developments encroached on their lands, the landowners began to charge people rent for living in the dilapidated housing the new residents built on the land. After establishing an owner-tenant relationship, the landowners steadily raise rents, threatening to destroy the flimsy shacks if residents fail to pay. In this way, powerful long-term inhabitants of the city exploit the weaker, more recent arrivals.

In the vast slums, barrios, and favelas, residents are not idle. Everywhere you look, people are at work, inside or in front of their modest habitats, fixing things, repairing broken items for sale, sorting through piles of garbage for salvageable items, or trading and selling goods from makeshift stands. **Hutment factories** are centers of entrepreneurship where slum residents sew clothing, recycle plastic and cardboard, build products, and provide services (**Fig. 9.48**). Dharavi, a slum in Mumbai, India, is home to 20,000 hutment factories, where according to one hutment owner, “Every unit, big or small, has workers coming from all over the country” (*Guardian* 2014). He continued that the workers “have nothing in mind but work. All they think of is of working the whole day and night to earn livelihood for their family back home. All they require is a small space to work and sleep and a television set in the corner of the room” (*Guardian* 2014).

While the fabric garments and leather belts and bags sewn in hutment factories are sold in name-brand stores around the world, the hutment factories are part of the informal economy of India. If you have heard the statistic that 3 billion people live on less than \$2.50 a day, you have probably wondered how. The answer is the informal economy. The **informal economy** is not taxed and is not counted toward a country’s gross national income (GNI). Work in the informal economy fills the gap between the job that is hoped for in the formal economy and the reality of providing for yourself and your family.

Tent cities and temporary housing are not confined to countries in the global periphery and semi-periphery. The high cost of housing in Silicon Valley, California, and the large number of jobs available in the region have created a class of working poor who cannot afford housing. The streets of Palo Alto, California are lined with RVs (recreational vehicles) that are either owned by the residents or owned by landlords who rent the RVs to low-income residents. The Palo Alto police have tried to crack down on RVs being parked for too long on streets, but landlords who are renting RVs worry less about residents being towed or ejected and more about earning rent.

Other cities in the United States are starting to look more like pockets of Mumbai. These are not large slums like Dharavi, but green spaces on boulevards, between neighborhoods, and





Bloomberg/Getty Images

**FIGURE 9.48 Dharavi, Mumbai, India.** Workers operate sewing machines and sew by hand in one of 20,000 hutment factories in the Dharavi slum.



AP Images/Jae C. Hong

**FIGURE 9.49 Honolulu, Hawai'i.** Tent settlements like this one in the Kakaako district of Honolulu are increasingly common in cities in the global core because of the high cost of housing. Hawaii News Now reports that Hawai'i has the largest gap between cost of rent and average salary in the country. The average renter wage is \$15.64, but the average hourly wage needed to rent a two-bedroom apartment in Oahu is \$32.50.

near bridges where residents put up tents for dwellings. San Francisco, Los Angeles, Washington, D.C., and Honolulu have housing prices that make living in the cities unaffordable to low-income residents. As a result, tent settlements are dotting these landscapes (**Fig. 9.49**).

### Thinking Geographically

Think through the challenges to the state presented in Chapter 8 and predict whether and under what circumstances world cities might replace states as the basic and most powerful form of political organization in the world. What arguments can be made for and against this proposition?



# Summary

## 9.1 Describe the Sites and Situations of Cities.

1. At the global scale, most people live in cities. In Japan, the United States, Canada, and western Europe, four out of five people now live in cities or towns. China is mostly urban, with a little over 50 percent of Chinese living in cities, but India is mostly rural, with 70 percent of Indians living in rural areas.
2. The idea of living together in cities originated in six different hearths and diffused globally from there. The six hearths include, in chronological order: Mesopotamia, Nile River Valley, Indus River Valley, Huang He and Wei valleys, Mesoamerica, and Peru.
3. Two concepts in urban geography help us get the overall picture of any city we study: urban morphology and functional zonation. The urban morphology of a city is the layout of the city, including the sizes and shapes of buildings and the pathways of infrastructure. The functional zonation is the division of a city into different regions (e.g., residential or industrial) by use or purpose (e.g., housing or manufacturing). Understanding the zones in a city and the functions of each zone helps us imagine how power and wealth were distributed in ancient cities and gives us insight into what people in power value in modern cities.
4. Sites are the unique descriptors that explain where a city is located. For example, several major cities on the east coast of the United States are located on the fall line, where rivers are no longer navigable. The cities were natural locations for trade involving river-transported goods and land-transported goods. Situation is the relative location of a place based on its context in the larger region around it. The situation of a place changes over time. For example, Fredericksburg, Virginia, is sited on the fall line of the Rappahannock River. The situation of Fredericksburg has changed. During the Civil War, it was located halfway between the capital of the North and the capital of the South. Today, it is one of the farthest southern suburbs of Washington, D.C., or the farthest northern suburbs of Richmond, Virginia.

## 9.2 Analyze the Distribution of Cities and Their Relative Size.

1. Every city has a trade area. The largest city has a large trade area, and then nested within that trade area are next smaller cities with their own trade areas. Urban geographers have created several ways to measure the hierarchy, relative size, and spacing of cities. The rank-size rule says the population of each city in a rank will be lower than the one above it in a predictably proportional way. When a country has a primate city, one city is quite large and all the other cities are much smaller in comparison.
2. Walter Christaller's central place theory predicts that cities will be distributed in an urban hierarchy. The smallest units are hamlets; then come villages, then towns, and finally cities. Each city will have a hexagonal hinterland, or trade area. Towns, villages, and hamlets will be nested inside each hexagon in a regularly spaced pattern.

## 9.3 Explain the Internal Structure of Cities and Models.

1. Urban geographers have developed models of cities to explain the historic, spatial, economic, cultural, and political processes that shaped cities in each world region. Models show us a snapshot after the fact, after the city has gone through growth and distinct areas have developed. Models are not great at predicting change, but they do give us a lens to understanding the history of change in a city.
2. Models of North American cities include the Burgess concentric zone model, the Hoyt sector model, and the Harris-Ullman multiple nuclei model. Access to personal cars and construction of ring roads and interstates after World War II led to rapid suburbanization, especially around transportation corridors. Suburban downtowns called edge cities developed with more office and retail space than housing. Edge cities offer suburbanites office space, shopping areas, leisure activities, and all the other elements of a complete urban environment, making trips into the central city less necessary. Models of North American cities drawn after World War II, including the multiple nuclei and galactic city models, account for suburbs and edge cities.
3. Geographers have created models for cities in different world regions. The Latin American city model, also known as the Griffin-Ford model, highlights a commercial sector stretching out from a central business district (CBD). Another notable feature is a zone of peripheral squatter settlements that rings the outskirts of the city. In Latin America, this zone is often home to newer migrants from rural areas. The African city model, created by geographer H. J. de Blij, has a distinct colonial CBD surrounded by a traditional CBD and a market zone. The Southeast Asian city model, known as the McGee model, is centered on a port zone that is flanked by a western commercial core.

## 9.4 Analyze How Political and Economic Policies Shape Cities.

1. Governments shape cities through zoning laws that designate what kinds of buildings and businesses can be built and what functions those buildings can have in different parts of the city. Cities may have strict or loose zoning laws. How strictly a city enforces zoning laws varies in part based on the resources the city designates to enforcement.
2. In the United States, cities have a history of racial segregation. Before the civil rights movement of the 1960s, banks engaged in redlining. They would draw red lines on a map around neighborhoods they considered to be "risky"—often predominantly black neighborhoods—and refuse to offer loans to anyone purchasing a house in those neighborhoods. Demand for housing in the redlined areas fell, and housing values fell, which made it difficult for homeowners to access loans or tap into equity to upkeep homes.
3. Gentrification is the renewal or rebuilding of lower-income neighborhoods into middle- to upper-class neighborhoods.



Gentrification began in the 1960s and slowed in the 1990s but is increasing again. Changing family structures in the United States, where couples are choosing not to have children or have only one child, are making living near the central city in a gentrified neighborhood more attractive.

### 9.5 Explain What World Cities Are and Describe How They Shape and Reflect Globalization.

1. Through globalization, cities are taking over in ways we barely understand. Most data about economic activity are collected by countries and reported as one statistic representing an entire

country. Some of the most important processes in globalization happen between cities and are difficult to track. Geographers created the Globalization and World City network to create, gather, and analyze data about world cities.

2. The two Alpha++ world cities are the most important nodes in the world economy: New York and London. These two cities have remained at the top in terms of influence in the world economy since the Globalization and World Cities group began collecting data. The three largest banks in the world as of 2019 are all located in China, and the number of Chinese world cities that have attained Alpha+ status has grown significantly since 2000.

## Self-Test

### 9.1 Describe the sites and situations of cities.

1. The majority of people live in cities in all of the following countries except:
  - a. India.
  - b. China.
  - c. United States.
  - d. United Kingdom.
2. Before the first urban revolution, people lived in agricultural villages. One defining characteristic of agricultural villages that made them different from cities was that:
  - a. the leadership class was female.
  - b. the government did not tax or charge tribute.
  - c. everyone was employed in agriculture or agricultural trades.
  - d. irrigation had not been invented.
3. Unlike in Mesopotamia, cities in the Nile River civilization did not have walls for all of the following reasons except:
  - a. walls would have blocked access to the river, which was needed for irrigation.
  - b. walls on the sides of cities away from the river were unnecessary because of the vast desert.
  - c. cities along the Nile were all controlled by the same leader, so they did not need to protect themselves from each other.
  - d. cities on the Nile were not really cities; they were agricultural villages, so they did not need walls.
4. When Europeans colonized Africa, they built railroad lines primarily to:
  - a. connect cities with one another.
  - b. build up existing towns on trade routes in the interior.
  - c. transport resources from the interior to ports.
  - d. enable market produce to make it from the ports to the interior.

### 9.2 Analyze the distribution of cities and their relative size.

5. The populations of the four largest cities in Belgium are: 1) Brussels 1.78 million people; 2) Antwerp 940,000 people; 3) Liege 633,000

people; 4) Ghent 416,000 people. This pattern best follows which theory of urban hierarchy?

- a. primate city
  - b. rank-size rule
  - c. central place
  - d. urban morphology
6. Central place theory was developed by \_\_\_\_\_, who believed that cities, towns, villages, and hamlets would:
    - a. Christaller / each have their own trade area, with cities having the largest and hamlets the smallest.
    - b. Christaller / each have their own trade area, with cities having the smallest and hamlets the largest.
    - c. Harris / each have hexagonal trade areas nested inside each other.
    - d. Harris / each have circular trade areas nested inside each other.
  7. One of the shortcomings of central place theory is that the author made several assumptions. All of the following are assumptions behind central place theory except:
    - a. people will travel the shortest possible distance to get a product.
    - b. the landscape is relatively flat with no physical barriers.
    - c. each city has an exclusive trade area in which it has a monopoly on the sale of certain goods.
    - d. trade areas of cities will overlap.

### 9.3 Explain the internal structure of cities and models.

8. Suburbanization happens when lands once outside the urban area become urbanized. Thinking geographically, you can infer that one outcome of suburbanization will be:
  - a. gentrification of the central business district.
  - b. removal of farmland around the outskirts of a city from production.



- c. an increase in the population density of the city.
  - d. a rise in the average age of people living in the city.
9. The Burgess model of the North American city is best known for having:
- a. edge cities.
  - b. sectors.
  - c. multiple nuclei.
  - d. concentric zones.
10. The Latin American city model, also known as the Griffin-Ford model, includes a commercial sector stretching out from the central business district. Both sides of the commercial sector are lined by:
- a. an elite residential sector.
  - b. the zone of peripheral squatter settlement.
  - c. a zone of maturity.
  - d. an industrial zone.

#### 9.4 Analyze how political and economic policies shape cities.

11. Portland, Oregon, is considered the best-planned city in the United States for all of the following reasons except that it:
- a. offers free transportation in the central city to discourage the use of cars.
  - b. is a compact city with office buildings and residential zones in close proximity.
  - c. has designated bike lanes throughout the city to encourage biking.
  - d. has wealthy residential zones located next to industrial zones.
12. In the United States before the civil rights movement, banks practiced redlining in cities. Major consequences of redlining included all of the following except:
- a. lower demand for houses in redlined areas.
  - b. lower housing values in redlined areas.
  - c. gentrification of redlined areas.
  - d. increasing racial segregation in the city.
13. One major consequence of gentrification is:
- a. displacement of lower-income residents from the gentrified neighborhood.
  - b. decreased housing values in the gentrified neighborhood.
  - c. lower property taxes in the gentrified neighborhood.
  - d. decreased cost of goods and services provided in the gentrified neighborhood.

#### 9.5 Explain what world cities are and describe how they shape and reflect globalization.

14. Many of the most important processes of globalization take place between world cities. The two most influential world cities are:
- a. New York and Los Angeles.
  - b. Paris and Shanghai.
  - c. New York and London.
  - d. Paris and London.
15. Megacities are large cities with populations over 10 million. People migrate to megacities in hopes of finding work. Work that is not taxed by government is considered part of the:
- a. formal economy.
  - b. informal economy.
  - c. trade economy.
  - d. barter economy.
16. People live in tents and recreational vehicles in cities in the core when:
- a. the cost of housing is unaffordable.
  - b. they are snowbirds.
  - c. the city is growing too fast.
  - d. gentrification has been banned.