

contemporary society. The area of influence of a city extends beyond legal boundaries and adjacent built-up jurisdictions. Therefore, we need another definition of urban settlement to account for its more extensive zone of influence. The U.S. Bureau of the Census has created a method of measuring the functional area of a city, known as the **metropolitan statistical area (MSA)**. An MSA includes the following:

- A central city with a population of at least 50,000
- The county within which the city is located
- Adjacent counties with a high population density and a large percentage of residents working in the central city's county

The MSAs are widely used because many statistics are published for counties, the basic MSA building block. One problem is that some MSAs include extensive land area that is not urban. The MSAs comprise some 20 percent of total U.S. land area, compared to only 2 percent for urbanized areas. The urbanized area typically occupies only 10 percent of an MSA land area but contains over 90 percent of its population. The census has also designated smaller urban areas as **micropolitan statistical areas**. These include an urbanized area of between 10,000 and 50,000 inhabitants, the county in which it is found, and adjacent counties tied to the city. About 10 percent of Americans live in a micropolitan statistical area. Metropolitan and micropolitan statistical areas together are known as **core based statistical areas (CBSAs)**. Recognizing that some of the have close ties, the census has combined them into **combined statistical areas (CSAs)**. The 124 CSAs, plus the remaining 187 MSAs and 406 micropolitan statistical areas not combined into CSAs together are known as **primary census statistical areas (PCSAs)**.

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#### **Local Government Fragmentation**

The fragmentation of local government in the United States makes it difficult to solve regional problems of traffic, solid-waste disposal, and construction of affordable housing. The large number of local government units has led to calls for a metropolitan government that could coordinate — if not replace — the numerous local governments in an urban area. Most U.S. metropolitan areas have a **council of government**, which is a cooperative agency consisting of representatives of the various local governments in the region. Strong metropolitan-wide governments have been established in a few places in North America. Two kinds exist:

- **Consolidations of City and County Governments.** Examples include Indianapolis and Miami. Government functions that were handled separately by city and county are combined into a joint operation in the same office building.
- **Federations.** Examples include Toronto and other large Canadian cities. Toronto's metropolitan government was created in 1953 through federation of 13 municipalities. A two-tier system of government existed until 1998, when the municipalities were amalgamated into a single government.

#### **Overlapping Metropolitan Areas**

Some adjacent MSAs overlap. A county between two central cities may send a large number of commuters to jobs in each. In the northeastern United States, large metropolitan areas form one continuous urban complex, extending from north of Boston to south of Washington, D.C.

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Geographer Jean Gottmann named this region Megalopolis, a Greek word meaning "great city," others have called it the Boswash corridor. Other continuous urban complexes exist in the United States: the southern Great Lakes and southern California. Among important examples in other MDCs are the German Ruhr, Randstad in the Netherlands, and Japan's

Tokaido. Within Megalopolis, the downtown areas of individual cities retain distinctive identities. But at the periphery of the urban areas, the boundaries overlap. Once considered two separate areas, Washington and Baltimore were combined into a single metropolitan statistical area after the 1990 census. However, that combination did not do justice to the distinctive character of the two cities, so the census again divided them into two separate MSAs after the 2000 census, but grouped them into one combined statistical area.

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### **The Peripheral Model**

North American urban areas follow what Chauncey Harris (creator of the multiple nuclei model) calls the peripheral model. According to the **peripheral model**, an urban area consists of an inner city surrounded by large suburban residential and business areas tied together by a beltway or ring road.

The peripheral model points to problems of sprawl and segregation that characterize many suburbs. Around the beltway are nodes of consumer and business services, called **edge cities**. Edge cities originated as suburban residences then shopping malls were built. Now edge cities contain manufacturing centers. Specialized nodes emerge in the edge cities: a collection of hotels and warehouses around an airport, a large theme park, a distribution center near the junction of the beltway and a major long-distance interstate highway.

### **Density Gradient**

As you travel outward from the center of a city, you can watch the decline in the density at which people live. This density change in an urban area is called the **density gradient**. According to the density gradient, the number of houses per unit of land diminishes as distance from the center city increases.

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Two changes have affected the density gradient in recent years:

- **Fewer People Living in the Center.** The density gradient thus has a gap in the center, where few live.
- **Fewer Differences in Density Within Urban Areas.** The number of people living on a hectare of land has decreased in the central residential areas through population decline and abandonment of old housing. At the same time, density has increased on the periphery through construction projects and diffusion of suburbs across a larger area.

The result of the two changes is to flatten the density gradient and reduce the extremes of density between inner and outer areas traditionally found within cities.

### **Cost of Suburban Sprawl**

U.S. suburbs are characterized by **sprawl**, which is the progressive spread of development over the landscape. Developers frequently reject land adjacent to built-up areas in favor of detached isolated sites, depending on the price and physical attributes of the alternatives. The periphery of U.S. cities therefore looks like Swiss cheese, with pockets of development and gaps of open space. Roads and utilities must be extended to connect isolated new developments to nearby built-up areas. Sprawl also wastes land. Some prime agricultural land may be lost through construction of isolated housing developments; in the interim, other sites lie fallow, while speculators await the most profitable time to build homes on them. The low-density suburb also wastes more energy, especially because the automobile is required for most trips. (429) The supply of land for construction of new housing is more severely restricted in European urban areas by designating areas of mandatory open space. London, Birmingham, and several other British cities are surrounded by **greenbelts**, or rings of open

space. New housing is built either in older suburbs inside the greenbelts or in planned extensions to small towns and new towns beyond the greenbelts. Restriction of the supply of land has driven up house prices in Europe.

Several U.S. states have taken strong steps in the past few years to curb sprawl, reduce traffic congestion, and reverse inner-city decline. Legislation and regulations to limit suburban sprawl and preserve farmland has been called **smart growth**. Oregon and Tennessee have defined growth boundaries within which new development must occur. New Jersey, Rhode Island, and Washington were also early leaders in enacting strong state-level smart-growth initiatives. Maryland enacted especially strong smart growth legislation in 1998. State money must be spent to “fill in” already urbanized areas.

### **Suburban Segregation**

Public opinion polls in the U.S. show people's strong desire for suburban living. It is no surprise then that the suburban population has grown much faster than the overall population in the United States. Suburbs offer varied attractions — a detached single family dwelling rather than a row house or apartment, private land surrounding the house, space to park cars, and a greater opportunity for home ownership. The modern residential suburb is segregated, and in two ways:

- **Segregated Social Classes.** Housing in a given suburban community is usually built for people of a single social class, with others excluded by virtue of the cost, size, or location of the housing.
- **Segregated Land Uses.** Residents are separated from commercial and manufacturing activities.

### **Residential Segregation**

The homogeneous suburb is a twentieth-century phenomenon. In older cities, activities and classes were more likely to be separated vertically rather than horizontally. Poorer people lived on the higher levels or in the basement, the least attractive parts of the building. Once cities spread out over much larger areas, the old pattern of vertical separation was replaced by territorial segregation. Large sections of the city were developed, appealing to people with similar incomes and lifestyles.

**Zoning ordinances**, developed in Europe and North America in the early decades of the twentieth century, encouraged spatial separation. They prevented mixing of land uses within the same district. The strongest criticism of U.S. residential suburbs is that low-income and minority people are unable to live in them because of the high cost of the housing and the unfriendliness of established residents. Legal devices, such as requiring each house to sit on a large lot and the prohibition of apartments, prevent low-income families from living in many suburbs. (430) In some metropolitan areas, the inner-city social and economic problems described earlier are found in older suburbs immediately adjacent to the central city. Inner suburbs become home to lower-income people displaced from gentrifying urban neighborhoods. Meanwhile, middle class residents move from the inner suburbs to newer homes on the periphery, and the inner suburbs are unable to generate revenue to provide for the needs of a poorer population.

### **Suburbanization of Businesses**

Businesses have moved to suburbs — manufacturers because land costs are lower, and service providers because most of their customers are there.

### **Suburbanization of Retailing**

Since the end of World War II, downtown sales have not increased, whereas suburban sales have risen at an annual rate of 5 percent. The low density of residential construction discourages people from walking to stores, and restrictive zoning practices often exclude shops from

residential areas. Retailing has been increasingly concentrated in planned suburban shopping malls of varying sizes. Corner shops have been replaced by supermarkets in small shopping centers. Malls have become centers for activities in suburban areas that lack other types of community facilities.

### **Suburbanization of Factories and Offices**

Factories and warehouses have migrated to suburbia for more space, cheaper land, and better truck access. Modern factories and warehouses are spread over a single level. Industries increasingly receive inputs and distribute products by truck. Offices that do not require face-to-face contact increasingly are moving to suburbs where rents are much lower than in the CBD.

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### **Transportation and Suburbanization**

Urban sprawl makes people more dependent on transportation for access to work, shopping, and leisure activities. More than half of all trips are work-related. Shopping or other personal business and social journeys each account for approximately one-fourth of all trips. Historically, the growth of suburbs was constrained by transportation problems. People lived in crowded cities because they had to be within walking distance of shops and places of employment. Cities then built street railways and underground railways. Many so-called streetcar suburbs built in the nineteenth century still exist and retain unique visual identities.

### **Motor Vehicles**

The suburban explosion in the twentieth century has relied on motor vehicles rather than railroads, especially in the United States. Rail lines restricted nineteenth-century suburban development to narrow ribbons within walking distance of the stations.

Motor vehicle ownership is nearly universal among American households, with the exception of some very poor families, older individuals, and people living in the centers of large cities. Outside the big cities, public transportation service is extremely rare or nonexistent. The U.S. government has encouraged the use of cars and trucks by paying 90 percent of the cost of limited-access high-speed interstate highways and by policies that keep the price of fuel below the level found in Europe.

The motor vehicle is an important user of land in the city. An average city allocates about one-fourth of its land to roads and parking lots. (432) European and Japanese cities have been especially disrupted by attempts to insert new roads and parking areas in or near to the medieval central areas. Technological improvements may help congestion by increasing road capacity or by reducing the demand to drive on them.

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### **Public Transit**

Because few people in the United States live within walking distance of their place of employment, urban areas are characterized by extensive commuting. As much as 40 percent of all trips made into or out of a CBD occur during four hours of the day — two in the morning and two in the afternoon. **Rush hour**, or peak hour, is the four consecutive 15-minute periods that have the heaviest traffic.

**Advantages of Public Transit.** In larger cities, public transportation is better suited than motor vehicles to moving large numbers of people. Public transportation is cheaper, less polluting, and more energy-efficient than the automobile. Motor vehicles have costs beyond their purchase and operation: delays imposed on others, increased need for highway maintenance, construction of new highways, and pollution. In most cities around the world, extensive networks of bus, tram, and subway lines have been maintained, and funds for new construction have been provided in recent years. Smaller cities have shared the construction

boom. In France alone, new subway lines have been built in Lyon and Marseille, and hundreds of kilometers of entirely new tracks have been laid between the country's major cities to operate a high speed train.

**Public Transit in the United States.** In the U.S., public transit is used primarily for rush-hour commuting by workers in and out of the CBD. But in some cities, public transit service is minimal or nonexistent. Early in the twentieth century, U.S. cities had 50,000 kilometers (50,000 miles) of street railways and trolleys that carried 15 billion passengers a year, but only a few hundred kilometers of track remain. The one exception to the downward trend in public transportation is rapid transit. Cities such as Boston and Chicago have attracted new passengers through construction of new subway lines and modernization of existing service. The federal government has permitted Boston, New York, and other cities to use funds originally allocated for interstate highways to modernize rapid transit service instead. Subway ridership in the United States increased from 2 billion in 1995 to 3 billion in 2006. The trolley, now known as fixed light-rail transit, is making a modest comeback in North America. California, the state that most symbolizes the automobile-oriented American culture, leads in construction of new fixed light-rail transit lines. Los Angeles — the city perhaps most associated with the motor vehicle — has planned the most extensive new light-rail system.

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Low-income people tend to live in inner-city neighborhoods, but the job opportunities are in suburban areas not well served by public transportation. Despite modest recent successes, most public transportation systems are caught in a vicious circle, because fares do not cover operating costs. As patronage declines and expenses rise, the fares are increased, which drives away passengers and leads to service reduction and still higher fares. The United States does not fully recognize that public transportation is a vital utility deserving of subsidy to the degree long assumed by European governments.

### Key Terms

Annexation (p. 424)	Multiple nuclei model (p. 412)
Census tract (p. 412)	Peripheral model (p. 427)
Central business district (CBD) (p. 406)	Public housing (p. 420)
City (p. 424)	Redlining (p. 433)
Combined Statistical Area (CSA) (p. 425)	Rush (or peak) hour (p. 433)
Concentric zone model (p. 410)	Sector model (p. 411)
Core based statistical area (CBSA) (p. 425)	Smart growth (p. 429)
Council of government (p. 426)	Social area analysis (p. 412)
Density gradient (p. 427)	Sprawl (p. 428)
Edge city (p. 427)	Squatter settlement (p. 417)
Filtering (p. 419)	Underclass (p. 421)
Gentrification (p. 420)	Urban renewal (p. 420)
Greenbelt (p. 429)	Urbanized area (p. 424)
Metropolitan statistical area (MSA) (p. 425)	Zoning ordinance (p. 429)
Micropolitan statistical area (p. 425)	

### **Test Prep Questions**

- 1) What types of activities are generally NOT found in CBDs?
  - A) retailers with a high range
  - B) manufacturing industries
  - C) retailers with a high threshold
  - D) face-to-face business services
  
- 2) The concentric zone model sees the city structured as a series of what?
  - A) nodes
  - B) wedges
  - C) rings
  - D) regions
  
- 3) The three models of urban structure all agree on one thing:
  - A) There are five major zones in a city.
  - B) Most people tend to prefer to live near others who have the same characteristics.
  - C) Cities and suburbs make up a functional region.
  - D) The models apply to cities all over the world.
  
- 4) Where do the poor generally live in European cities?
  - A) in the basements and attics of inner city buildings
  - B) in housing projects in the inner city
  - C) in single family homes in the suburbs
  - D) in housing projects in the suburbs
  
- 5) What was a common feature for cities in LDCs during the colonial period?
  - A) standardized plans
  - B) squatter settlements
  - C) concentric patterns
  - D) religious hierarchies
  
- 6) Drawing lines on a map to identify areas in which banks refuse to loan money is known as:
  - A) gentrification
  - B) filtering
  - C) urban renewal
  - D) redlining
  
- 7) When a city faces an eroding tax base, it can:
  - A) increase services
  - B) raise tax revenues
  - C) use federal funds to offset the loss
  - D) none of these

8) What definition of an urban settlement is most useful for gathering statistical data about the functional region?

- A) city
- B) metropolitan statistical area
- C) megalopolis
- D) urbanized area

9) How are North American Suburbs segregated?

- A) according to land use
- B) by social class
- C) through the use of zoning ordinances
- D) all of these

10) What is the exception in the downward trend in public transportation?

- A) rapid transit
- B) busses
- C) automobiles
- D) high-speed rail

**Short Essay**

1) Explain what kinds of services are found in North American CBDs and why they are located there, and what kinds of activities are excluded from the CBD and why.

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2) Identify the three basic issues that cause inner cities to face distinctive challenges and the particular problems associated with them.

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3) Explain the three ways in which cities are defined, and discuss the usefulness of each definition.

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