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The Urban Environment: Creating Livable and Sustainable Cities

Chapter Objectives

This chapter will help students:

- Describe the scale of urbanization
- Assess urban and suburban sprawl
- Outline city and regional planning and land use strategies
- Evaluate transportation options
- Describe the roles of urban parks
- Analyze environmental impacts and advantages of urban centers
- Assess urban ecology, green building efforts, and the pursuit of sustainable cities

Lecture Outline

- I. Central Case: Managing Growth in Portland, Oregon
 - A. Oregon's law required comprehensive land use plans, including an urban growth boundary (UGB), separating urban and rural areas.
 - B. The intent was to revitalize city centers, prevent suburban sprawl, and protect farmland, forests, and open landscapes around the edges of urbanized areas.
 - C. The Metropolitan Service District, or Metro, focused growth on existing urban centers and on building communities where people can walk or take mass transit between home, work, and shopping.
 - D. To many Portlanders today, the UGB remains the key to maintaining quality of life in city and countryside alike.

- E. Opponents of Ballot Measure 37, requiring that landowners be compensated if the value of their land is decreased by government regulation, challenged the law and a new ballot initiative passed, called Ballot Measure 49, in 2007.
- F. In 2010, Metro finalized a historic agreement with representatives and citizens of its region's three counties to determine where urban growth will and will not be permitted over the next 50 years. Metro and the counties apportioned over 121,000 ha (300,000 acres) of undeveloped land into "urban reserves" open for development and "rural reserves" where farmland and forests would be preserved, precisely mapping the boundaries. The hope is that this agreement will give clarity and direction for landowners and governments alike for half a century.

II. Our Urbanizing World

- 1. The shift from rural to urban living, or urbanization, may be the single greatest change our society has undergone since we went from a nomadic hunter-gatherer lifestyle to a sedentary, agricultural one.
 - A. Industrialization has driven the move to urban centers.
 - 1. Urban populations are growing for two reasons: The human population overall is growing (Chapter 8), and more people are moving from farms to cities than are moving from cities to farms.
 - 2. Agriculture and industrialization bred further technological advances that increased production efficiencies, both on the farm and in the city. This process of positive feedback continues today.
 - 3. Since 1950, the global urban population has grown almost five-fold, whereas the rural population has not quite doubled.
 - 4. In developed nations, urbanization has slowed because most people already live in cities, towns, and suburbs, the smaller communities that ring cities.
 - 5. Most fast-growing cities today are in the developing world, and in some places, population growth often exceeds economic growth. The result is overcrowding, pollution, and poverty.
 - 6. Across the world today, 21 "megacities" are each home to 10 million residents or more.
 - B. Environmental factors influence the locations of urban areas.
 - 1. Environmental variables such as climate, topography, and the configuration of waterways influence whether a small settlement will become a large city. Successful cities tend to be located in places that give them economic advantages.
 - 2. Powerful technologies and cheap transportation enabled by fossil fuels have allowed cities to thrive even in resource-poor regions.

C. Cities grew, and then suburbs grew.

1. American cities grew rapidly throughout the 19th and early 20th centuries, as a result of immigration from abroad and increased trade as the nation expanded westward. The bustling economic activity of downtown districts held people in cities despite crowding, poverty, and crime.
2. However, by the mid-20th century, many affluent city dwellers were choosing to move outward to the cleaner, less crowded, and more park-like suburban communities.
3. Several factors enabled people to move to suburbs in the mid- and late 20th century. The rise of the automobile was one, together with an expanding road network and inexpensive and abundant oil.
4. Since then, technology has reinforced the spread of urban and suburban areas.
5. By allotting more space to each person, suburban growth has spread human impact over more of the landscape than urban and rural areas have.

III. Sprawl

1. Sprawl is a term that has become laden with meanings. It refers to the spread of low-density urban or suburban development outward from an urban center.
 - A. Urban areas spread outward.
 1. As urban and suburban areas grow in population, they also grow spatially.
 - B. Sprawl has several causes.
 1. Human population is growing.
 2. Per capita land consumption has increased.
 3. Better highways, inexpensive gasoline, and technologies such as telecommunications and the Internet, all have fostered movement away from city centers by freeing businesses from dependence on the centralized infrastructure a major city provides, and by giving workers greater flexibility to live where they desire.
 4. As growing numbers of people feel the negative effects of sprawl on their lifestyles, they have begun to question the mantra that all growth is good.
 - C. What is wrong with sprawl?
 1. Transportation—sprawl limits transportation options.
 2. Pollution—sprawl increases pollution by promoting automobile transportation.

3. Health—driving cars largely takes the place of walking, so sprawl promotes physical inactivity.
4. Land use—more land is developed while less is left as forests, fields, farmland, or ranchland.
5. Economics—sprawl drains tax dollars from existing communities and funnels them into infrastructure for new development on the fringes of those communities.

IV. Creating Livable Cities

- A. City and regional planning help to create livable urban areas.
 1. City planning (or urban planning) is the professional pursuit that attempts to design cities to maximize their efficiency, functionality, and beauty.
 2. In today's world of sprawling metropolitan areas, regional planning has become as important as city planning.
- B. Zoning is a key tool for planning.
 1. Zoning is the practice of classifying areas for different types of development and land use.
- C. Urban growth boundaries are now widely used.
 1. The UGBs sought to revitalize downtowns; protect farms, forests, and their industries; and assure urban dwellers some access to open space near cities.
- D. “Smart growth” aims to counter sprawl.
 1. Proponents of smart growth want municipalities to manage the rate, placement, and style of development so as to promote healthy neighborhoods and communities, jobs and economic development, transportation options, and environmental quality.
- E. The “new urbanism” is now in vogue.
 1. A school of thought called the new urbanism seeks to design neighborhoods on a walkable scale, with homes, businesses, schools, and other amenities all close together.
 2. New urbanist neighborhoods are generally connected to public transit systems. In transit-oriented development, compact communities in the new urbanist style are situated along stops on a major rail line, enabling people to travel most places they need to go by train and foot alone.
- F. Transportation options are vital to livable cities.
 1. A key ingredient for improving the quality of urban life is making multiple transportation options available.

2. Mass transit options are cheaper, more energy efficient, and cleaner than automobiles, and also ease traffic congestion.
3. The United States lags behind most nations when it comes to mass transit.
4. Establishing mass transit is not always easy.
5. To make urban transportation more efficient, governments can raise fuel taxes, tax inefficient modes of transport, reward carpoolers with carpool lanes, encourage bicycle use and bus ridership, and charge trucks for road damage.

G. Parks and open space are key elements of livable cities.

1. Natural lands, public parks, and open space provide greenery, scenic beauty, freedom of movement, and places for recreation. These lands also keep ecological processes functioning by regulating climate, producing oxygen, filtering air and water pollutants, and providing habitat for wildlife.

H. Parklands come in various types.

1. Large city parks, greenbelts, and greenways are all important.

V. Urban Sustainability

A. Urban resource consumption brings a mix of environmental impacts.

1. It would seem that urban living necessitates greater consumption of resources; however, there is a complex mix of consequences.
 - a. Resource sinks—cities and towns must import from widespread sources nearly everything they need to feed, clothe, and house their inhabitants. Cities also export wastes.
 - b. Efficiency—cities should be able to minimize per capita consumption by maximizing the efficiency of resource use and delivery of goods and services.
 - c. More consumption—the ecological footprints of cities are much greater than their actual land areas.

B. Urbanization preserves land.

C. Urban centers suffer from and export pollution.

1. Noise pollution is undesired ambient sound. Excess noise degrades one's surroundings aesthetically, can cause stress, and at intense levels (such as with prolonged exposure to the sounds of leaf blowers, lawn mowers, and jackhammers) can harm hearing.
2. The glow of light pollution from city lights obscures the night sky, impeding the visibility of stars.

3. This urban heat island effect results from the concentration of heat-generating buildings, vehicles, factories, and people. It also comes from the way that buildings and dark paved surfaces absorb heat and then release it slowly, warming the air and interfering with patterns of convective circulation that would otherwise cool the city.
- D. Urban centers foster innovation.
 - E. Urban ecology helps cities take steps toward sustainability.
 1. Researchers in the field of urban ecology hold that cities can be viewed explicitly as ecosystems.
 - F. Green buildings are a key step toward sustainable cities.
 1. Today there is a thriving movement in architecture and construction to design and build green buildings, structures that incorporate various means of reducing the ecological footprint of a building's construction and operation.
 2. The U.S. Green Building Council promotes these efforts through its Leadership in Energy and Environmental Design (LEED) certification program. Buildings (either new buildings or renovation projects) apply for certification, and depending on their performance, may be granted silver, gold, or platinum status.
 - G. Steps toward livability enhance sustainability.

VI. Conclusion

- A. As half the human population has shifted from rural to urban lifestyles, the nature of our impact on the environment has changed.
- B. Limiting the waste of those resources by making urban and suburban areas more sustainable will be vital for the future.
- C. Transportation options must include accessible mass transit.
- D. Adequate park lands and green spaces must be available.

Key Terms

city planning
 green buildings
 Leadership in Energy and
 Environmental Design
 (LEED)
 light pollution
 new urbanism
 noise pollution

regional planning
 smart growth
 sprawl
 suburbs
 transit-oriented development
 urban ecology
 urban growth boundary (UBG)
 urban heat island effect