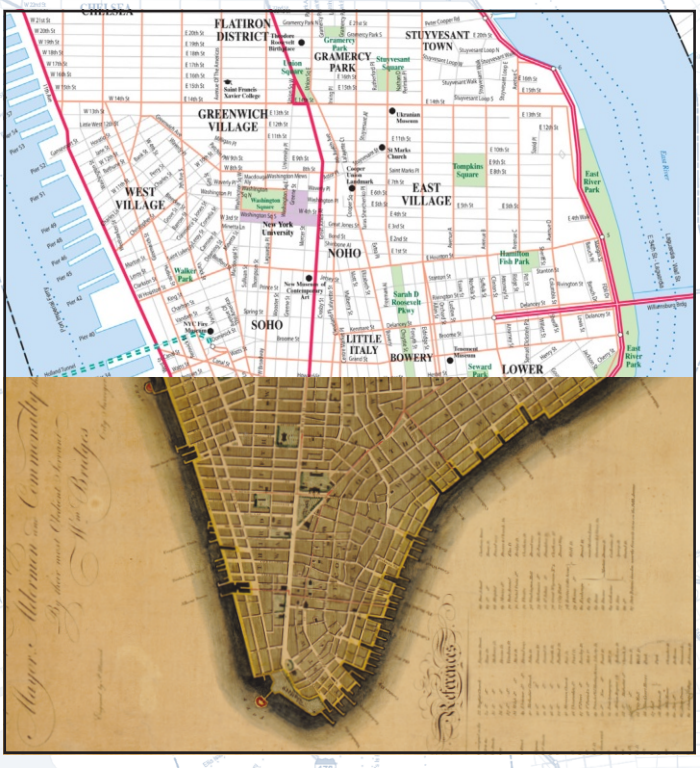
LAND USE *and* SOCIETY

Third Edition

Geography, Law, and Public Policy



RUTHERFORD H. PLATT

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Contents

TO JACK, ELIZABETH, LUCY, AND ELIOT

Grandchildren who are above average!

Acknowledgments

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Introduction

Geography, Law, and Landscape: Reflections from 30,000 Feet

To geographers and their fellow travelers, there are few greater treats than to fly a considerable distance over land on a clear day with a view unobstructed by the airplane wing. Let us imagine an idealized flight from San Francisco to Boston. Between the sourdough vendors and live lobster purveyors of those two airports stretch about 2,700 miles of air distance. Along the way, the route traverses a succession of geographic regions marked by vivid contrasts in terrain, vegetation, land use, and extent of urban development. Even the casual observer can scarcely fail to notice and perhaps wonder about the diversity of geographic landscapes, both *physical* features such as deserts, mountain ranges, and plains as well as *human* patterns of rural and urban land use. The window-gazer may attempt to annotate the passing scene with speculation about what accounts for the extreme variation in what is seen or imagined in the landscapes below. Such speculation is *thinking geographically*.

The aircraft ascends over the crowded East Bay cities of Oakland and Berkeley, where world-class scholarship and abject poverty coexist. The hills and flatlands are riddled with seismic faults that caused the Nimitz Freeway to collapse in the October 17, 1989, earthquake and where 3,300 homes burned in the hills two years later. Beyond the Coastal Range, we fly high above the geometric patterns of irrigated fields of the Central Valley, which like the Imperial Valley to the south is handsomely subsidized by the federal taxpayer. Next we hurtle over the high peaks and steep declivities of the Sierra Nevada, where wilderness defender John Muir battled Gifford Pinchot, the first director of the U.S. Forest Service, over damming the Hetch Hetchy Valley to supply water for San Francisco after the 1906 fire. (Muir lost that one, but proposals to undam Hetch Hetchy surface from time to time.) As of 2013, record-breaking drought in western states was shrinking

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mountain snowpack, reducing reservoir levels, and threatening water supplies for cities, irrigation, hydropower, recreation, fisheries, and aquatic ecosystems. We streak across the sandy wastes of the Great Basin, where early nuclear weapons were tested and a vast underground complex for storing nuclear wastes at Yucca Mountain remains unused due to endless political debate. Cities and irrigated agriculture reappear in the Mormon settlement region east of Great Salt Lake. The Wasatch Range, with its ski slopes and patches of clear-cutting in national forests, gives way to the upper Colorado River Plateau, another sparsely inhabited region of high desert, sagebrush, and spectacular landforms. Downstream on the Colorado River, the one-armed geologist and geographer John Wesley Powell made his epic journey through the Grand Canyon in 1869 that stimulated his proposals for large-scale irrigation projects in the arid West. We pass near Dinosaur National Park, where Echo Dam, one of Powell's proposed projects, was defeated by David Brower, who picked up Muir's antidam sentiment in the 1950s at the dawn of the modern environmental movement.

We cross the cloud-shrouded Rocky Mountains, scarred in many places by forest fires and insect infestation, yet more effects of the chronic drought. Along the eastern slope and foothills of the Rockies lies the Front Range urban corridor, a chain of cities extending from Greeley to Pueblo, Colorado, anchored by smog-bound Denver. We glimpse the glistening white "tent" of Denver International Airport, and the urban sprawl that is gradually filling up the brown nothingness between the airport and the rest of Denver.

For the next hour, we cross the vast checkerboard of the High Plains dominated by green *circles* of fields irrigated from groundwater distributed by rotating sprayers within the 160-acre *squares* ("quarter-sections") of the Federal Land Survey, a perfect illustration of geography, law, and technology interacting to create a distinctive landscape of industrial agriculture (Figure I-1). (On successive flights, it appears that the green circles are increasingly turning brown as irrigation is suspended due to high costs of pumping from the declining Ogallala Aquifer.)

We cross the Missouri River in the vicinity of the fabled north-south "100th Meridian" of longitude that roughly corresponds to the 20-inch average annual rainfall contour, where dryland irrigation begins to yield to rain-dependent farming. Towns begin to reappear as "beads on a string" along mainline railroad lines and old section-line highways. The rectangular farmscape increasingly gives way to rectangular cities, all interlaced by interstate highways leading to the really big midwestern cities like Kansas City, St. Louis, and Chicago (Figure I-2). The alternation of town and farm across the nation's heartland is a totally human-dominated landscape. Few natural or unused areas of land are observed until the Appalachian Upland is reached in Pennsylvania and New York State (where

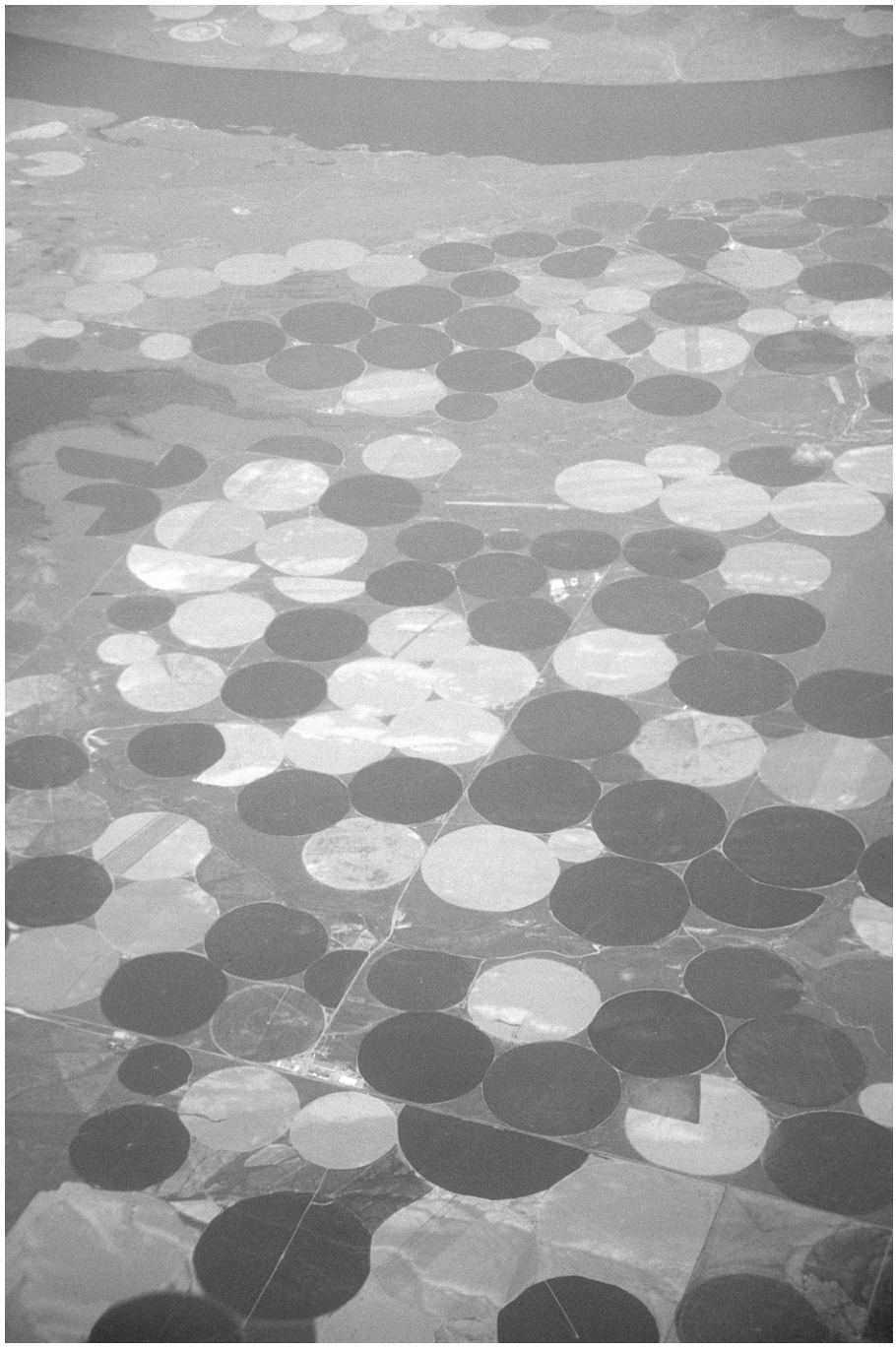

Figure I-1
The High Plains "checkerboard": circles of crops irrigated from center pivot wells, inside quarter-section squares laid out by the Federal Land Survey. Photo by author.

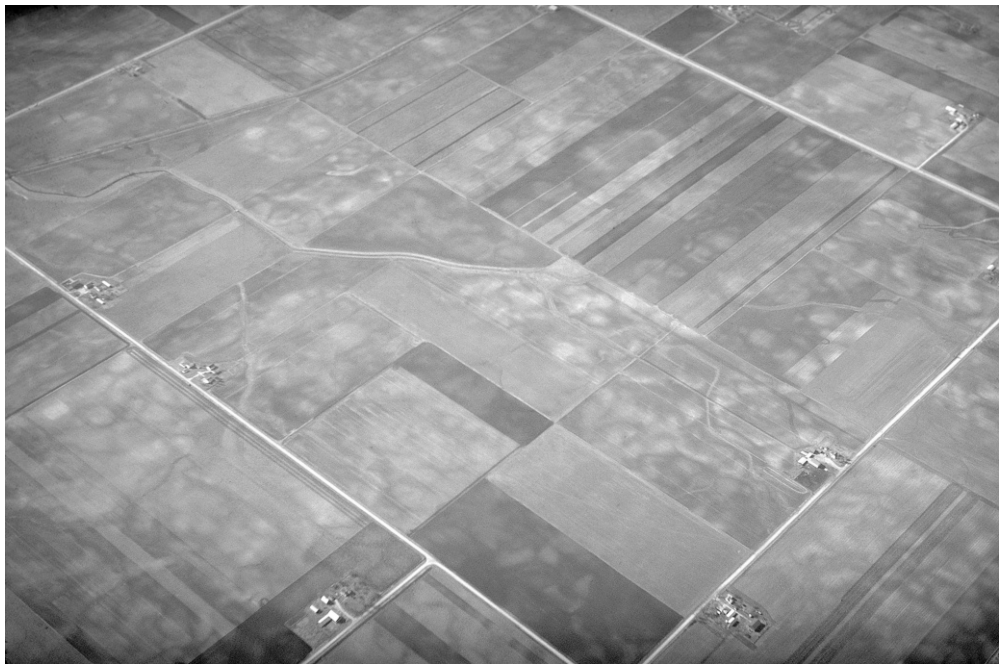

Figure I-2
Mosaic of the Midwest: Rectangular fields framed by section boundary farm roads (as described in Box 6-1). Photo by author.

hydraulic fracturing, or "hydrofracking," for natural gas is today a highly controversial political and scientific issue).

The aircraft descends in humid summer twilight over the northeastern urban complex named *Megalopolis* by the French geographer Jean Gottmann in 1961. This "stupendous monument erected by titanic efforts" (in Gottmann's laconic words) seems curiously dominated by forests and farmlands that still surround the metropolitan areas from Boston to Washington, D.C., and beyond (Figure I-3). The failing daylight permits a glimpse of Quabbin Reservoir, Boston's primary water supply, surrounded by an "accidental wilderness" resulting from the forced abandonment of farms and villages when the state purchased the watershed lands in the 1930s. The plane swings over Boston's version of Silicon Valley along Interstates 95 and 495, with its high-tech spin-offs from the labs of MIT, Harvard, and the University of Massachusetts. It banks over the densely built-up shoreline south of Boston and lands at Logan International Airport, which, like our departure point at San Francisco, is constructed on artificial landfill.

Each day, thousands of travelers pass over such landscapes without taking any notice whatsoever. To those who do observe the passing scene, it may seem to be a succession

Figure I-3
The Connecticut River Valley in west-central Massachusetts blends farms, forests, old industrial towns, vibrant college communities, and serious poverty and social distress. Photo by author.

of meaningless images, like the geometric patterns produced by a kaleidoscope. Patterns of human land use are by no means random, however. To one with geographic instincts, the variation in the landscape offers not only aesthetic but intellectual stimulation. The geographer seeks to discern order, process, and coherency in the seemingly haphazard sequence of images.

The perennial question of geography is, *Why* is this place the way it is, and like or unlike other places? The answer leads to additional questions: *What* benefits or costs arise from specific practices or ways of using land, air, and water, and to whom do they accrue? *How* can we better manage the use of land and other resources to promote the public welfare, however defined, and reduce social costs? *Who* should make the necessary decisions? These questions ultimately lead to the central question of our time: *How may global resources be managed to sustain a world population that has nearly tripled, from 2.5 billion in 1950 to 7 billion in 2013, as well as the planet's vast diversity of nonhuman life-forms?* Great challenges include widespread deforestation, rising levels of greenhouse gases in the atmosphere, decline of biodiversity, land degradation, food shortages, energy shocks, accumulating wastes, and surface and groundwater pollution.

Geographers, of course, do not claim any special monopoly on wisdom, nor do they offer ready solutions to these and other challenges, but they do offer the perspective on the *why* question. They seek lessons from the experience of the past and present, which may profitably be applied to the uncertainties of the future. If we can better understand how we got to where we are in our inhabitation of our planet, or portions of it that we label *regions*, *nations*, or *communities*, we may gain some valuable insights into how to deal with the challenges ahead.

Unlike more narrowly focused disciplines, geography embraces the big picture of human-Earth interaction, with major subfields concerned with physical, economic, political, cultural, and other sets of causative variables. From time to time, certain geographic theories have been enshrined as explanations of human settlement patterns and uses of resources. In the 1920s, the theory of environmental determinism sought to explain human actions in terms of the influence of climate and physical characteristics of regions. In the 1960s, central place theory and gravity models attributed the spatial organization of human settlements and activities to economic forces operating through the private land market. More recently, "political economy" has provided another framework for postmodern analysis of cities and land use.

Land Use and Society takes a different tack. Although not discounting the role of physical, economic, and other spatial variables, the primary focus of this book is the role of *law* as a major factor in the way humans use their resources and design their patterns of settlement. The connection between geography and law regarding land use is logical but, to some people, unexpected. Although geography addresses the *what* and the *why* questions, law responds to the *how* and the *who*. The influence of law and politics is ubiquitous as a driver of human interaction with the natural world. This book seeks to explore the role of law, broadly construed, as a critical variable in determining how societies use (and abuse) the natural bounty of land, water, biodiversity, and climate within their reach.

Of course, laws do not arise in a vacuum. Legal rules and policies are products of *institutions* (e.g., villages, tribes, dictators, legislatures, courts, government agencies) in furtherance of societal goals such as capitalist profit; job creation; resource self-sufficiency; international standing; a habitable environment; or prevention of disease, fire, flood, drought, famine, pollution, or crime. The rules for human activities established by law differ according to the rule maker's perception of opportunities, threats, or social values. The rules are often an imperfect, partial, or even counterproductive response to the actual problem. Powerful elites manipulate legal systems for their own benefit, as in resistance to banking reform in the United States since the global financial crisis of 2006. Furthermore, laws established to address one problem may compound others, and laws

have a habit of remaining in effect long after changes in circumstances have rendered them moot or even pernicious. (This discussion continues in Chapter 2 regarding the land use and society model.)

This book explores the influence of law over human use of land from the perspective of a writer trained in both geography and law. The specific rules, doctrines, and practices discussed are drawn from the American context, including its common-law roots in England, but the role of law as a factor in the shaping of urban and rural land use, for better or worse, is a phenomenon of global applicability.

Organization of the Book

This third edition of *Land Use and Society* updates and revises two earlier Island Press editions, published in 1996 and 2004. The book originated in a series of class handouts that I wrote at various times to fill gaps in available textbooks dealing with land use, cities, and environmental management. Specifically, both the geographic and legal literatures seemed to be totally clueless regarding the pervasive interaction between those disciplines in the real world. This book is my attempt to meet the need for such interdisciplinary treatment of land use and resource management in the United States.

This edition retains the historical flavor and approach of its predecessors while improving its flow and updating it to reflect the 2010 U.S. Census and my own evolving interests and learning process. As before, Part I, "Preliminaries: Land, Geography, and Law," considers the meanings of land and types of land uses in the United States (Chapter 1), followed by reflections on the disciplines of geography and law and their interaction with respect to land use (Chapter 2). The latter concludes with a general model, the land use and society model, that represents graphically the process of social adaptation to perceived deficiencies of land use practices through law and related institutions.

Part II, "From Feudalism to Federalism: The Social Organization of Land Use," traces the evolution of land use institutions in England and the United States in somewhat more compact form than in previous editions. Chapter 3, "Historical Roots of American Land Use Institutions," combines former Chapters 3 and 4 as a more succinct survey of the urban evolution in Europe and the United States from the Middle Ages up to the twentieth century. Chapters 4 and 5, "Building a Metropolitan Nation" and "The Polarized Metropolis," respectively, summarize the twentieth-century urban experience in the United States, with an emphasis on the influence of racism and social injustice in national policies that have driven urban sprawl and neglect of central cities.

Part III, "Discordant Voices: The Land Use Decision Process," turns to the nuts and bolts of land use decision making in the United States. Chapter 6, "Property Rights: The Owner as Planner," introduces that enigmatic hero or villain—the private property

owner—along with a summary of what the concept of ownership means. Chapter 7, "The Patchwork of Local Governments," examines the legal and geographic nature of municipal and county governments as the primary instruments of public oversight of land use in the United States. Chapter 8, "Zoning, Regionalism, and Smart Growth," summarizes the principal tools available to manage or at least influence land use through local zoning and subdivision regulations, regional collaborations, and smart growth strategies. Chapter 9, "Land Use and the Courts," reviews principles of constitutional law in relation to land use, particularly the ever-contentious takings issue. Little has been added to this discussion recently, with the U.S. Supreme Court being relatively (and perhaps mercifully) silent on land use issues since the 1990s. (This chapter is relatively freestanding and may be omitted by those who do not wish to delve into constitutional issues.) Chapter 10, "Congress and the Metropolitan Environment," reviews and updates selected federal environmental initiatives since the 1970s. Again, there has been a dearth of new congressional land use initiatives since the last edition of this book, but, subject to fiscal and political challenges, federal laws adopted since the 1960s largely remain in effect, often with beneficial results. The book ends on a note of cautious optimism inspired by the number of spontaneous local efforts to integrate nature and humans in urban settings across the United States.

Today, the nation and world are threatened on many fronts: political, economic, environmental, and public health. The great social upheavals of U.S. history, including abolition of slavery, labor reform, women's rights, civil rights, gay rights, and environmentalism, suggest that, despite setbacks, the clock does not revert to some earlier period of social evolution, despite claims to the contrary by those nostalgic for a mythic past. Social change is incremental and often painful, but as viewed over time, it moves inexorably in a positive direction. That, at least, is my belief as informed by progressive thinkers and doers whose contributions are acknowledged throughout this book: Frederick Law Olmsted, George Perkins Marsh, John Wesley Powell, John Muir, Gifford Pinchot, Jane Addams, Theodore Roosevelt, Franklin D. Roosevelt, Lewis Mumford, Aldo Leopold, Garrett Hardin, Barry Commoner, Rachel Carson, William H. Whyte, Jane Jacobs, John McPhee, Gilbert F. White, William Cronon, Bill McKibben, Barack Obama, . . . the list goes on.

The decade since the 2004 edition of *Land Use and Society* has seen a continuation of several trends in progress since the late 1990s: (1) growing influence of bottom-up grassroots initiatives in place of top-down, technocratic, expert-driven urban and metropolitan strategies; (2) reduction of federal and state funding and influence over land use practices; (3) diminishing reliance on "command and control" land use regulation in favor of market incentives, subsidies, and smart growth approaches; and (4) a broader focus on neighborhoods, social diversity, and nontraditional economic functions (e.g.,

urban farming and markets) in comparison with past preoccupation of planners with downtown and its largely white, male business establishment.

Social change does not happen easily. Reform in social policies and laws concerning land use is especially acrimonious: public interests clash with private rights, local governments rail against state and federal constraints, and "not in my backyard" interests oppose anything new in their "backyards." This book will inform those debates with an appreciation of past experience and the importance of understanding geographic and legal context of any land use dispute. Public intervention to control harmful externalities, protect the public health and welfare, remedy social injustice, and achieve a physically and emotionally healthy environment is not ideological; it is the purpose of an organized and mature society.

PART I

Preliminaries: Land, Geography, and Law

1.
Land Use and Society: Fundamentals and Issues

For the Lord thy God bringeth thee into a good land. A land of wheat, and barley, and vines, and fig trees, and pomegranates; a land of oil olive, and honey; a land wherein thou shalt eat bread without scarceness, thou shalt not lack any thing in it; a land whose stones are iron, and out of whose hills thou mayest dig brass.

Book of Deuteronomy 8:7–9

The Earth is given as a common stock for man to labor and live on. It is not too soon to provide by every possible means that as few as possible shall be without a little portion of land.

Thomas Jefferson, Letter to Rev. James Madison, 1785

From the Old Testament to the present, the subject of *land* has many meanings and arouses conflicting emotions: visions of hope and faith; source of wealth and social status; a sense of place and rootedness; joy at the view of a treasured landscape in different seasons; friction among family members who jointly inherit a parental home, vacation cottage, or farm; anxiety at a proposed shopping mall in the neighborhood; shock upon receiving a property tax increase; anger at an unsympathetic zoning board; grieving at the sale of a longtime home or its loss by fire or flood. "Land" is central to much of the human experience in one way or another. It is therefore appropriate at the outset of a book titled *Land Use and Society* to ask, What really is land, and how do we use it? This chapter will preview some of the topics to be considered in more detail later and will introduce some useful terminology (identified in *italics*).

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What Is Land?

Along with water, oxygen, carbon, nitrogen, sunlight, and other necessities, land is one of the key constituents of life on Planet Earth. Life is believed to have originated in aquatic environments and later gradually migrated ashore; an exhibit at Chicago's Field Museum of Natural History depicts ancient amphibians that flopped onto marine beaches propelled by fins that gradually evolved into legs, and much later, conveniently, into arms, hands, and fingers. Charles Darwin in *On the Origin of Species* postulated that life-forms evolve over time through what he called the "survival of the fittest." More recently, life scientists Lynn Margulis and James Lovelock, coformulators of the Gaia hypothesis, argue that early life evolved through endosymbiosis, or mutual interdependence of species, rather than through Darwin's perpetual struggle for supremacy. Whatever the origins of life, humans and their societies have certainly developed on dry land, not under water. Even though our planet is three-fourths covered by oceans and lakes, it is called Earth rather than Water because those who did the naming happened to stand on *terra firma*.

That is not to disregard the critical role of water, especially freshwater, in the productive use of land and the sustenance of terrestrial life in general. Ancient dryland societies in China and elsewhere were famously labeled "hydraulic civilizations" by German geographer Karl August Wittfogel due to the centrality of water management as the lynchpin of political authority. The history of the American West—from the Anasazi villages of northern New Mexico (Figure 1-1) to the great western dams inspired by John Wesley Powell's arid lands agenda (Figure 1-2)—has been a chronic struggle to capture water wherever it can be found and convey it to where it can be productively used to extract minerals, grow crops, support livestock, and sustain sprawling cities in the desert like Salt Lake City, Phoenix, and Las Vegas. Today, 80 percent of the water used in the United States is devoted to irrigated agriculture.[1] As recent crippling western droughts and catastrophic tropical storms like Irene and Sandy demonstrate, global warming is already disrupting weather patterns, subjecting hundreds of millions worldwide to threats of water scarcity punctuated by devastating floods and coastal storm surges.

Land use is thus inseparable from *water resource management*, especially in dry localities, but land is a very different commodity from water in many respects. Legally, a "water right" is a common form of private property in western states and other arid regions, but that term means what it says: legally protected access to water of a certain quantity or quality. Where water is scarce, "water rights" may be limited to particular uses such as irrigation, livestock watering, mining, or industrial uses. In wetter regions, water rights may be limited by quantity but not limited in use.

Legal access to water, however, does not mean actual ownership of the water itself, which remains a very fluid (pun intentional) substance, not easily reduced to personal

Figure 1-1
Remains of pre-Columbian Anasazi settlements based on primitive water management at Bandelier National Monument, New Mexico. Photo by author.

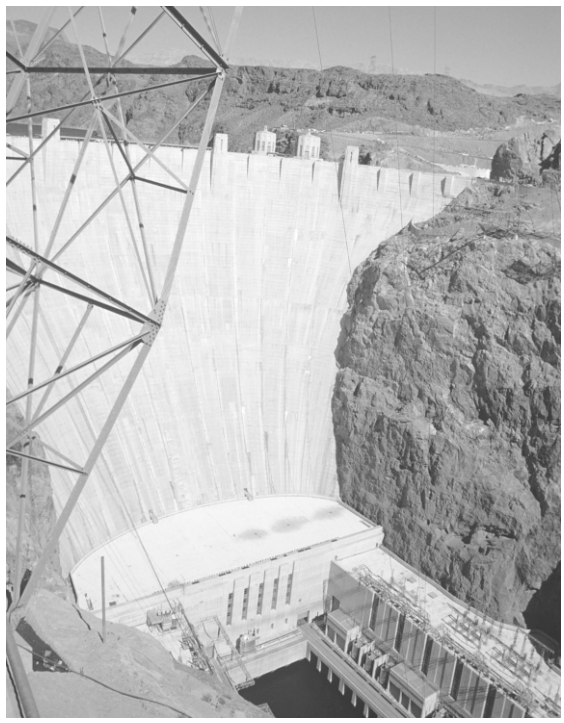


Figure 1-2
Hoover Dam on the Colorado River. Photo by author.

ownership. Tap water from public water utilities is increasingly metered and "sold" to system users, with rising costs serving to stimulate efforts to fix pipes and reduce wasteful uses of water. As with water rights in the American West, though, it is access to adequate clean water that is purchased, not ownership of the water itself.

In a physical sense, land cannot be summarized by a convenient chemical formula like H_2O. In fact, it is not easily summarized at all; it has various meanings and identities for different purposes. Consider the many possibilities.

First, land consists of the *physical* material of Earth's crust: its surficial geomorphology of soils, rock outcrops, sand and gravel deposits, and drainage systems and its subsurface geology of granite, gneiss, limestone, basalt, sandstone, other components of Earth's crust. From the ancient Phoenicians and Greeks to the Keystone XL pipeline, human societies have been clever—if often short-sighted and rapacious—at extracting, transporting, processing, and marketing the material wealth of the planet, such as diamonds, gold, silver, copper, lead, iron, coal, uranium, oil and gas.

Second, the idea of "land" includes the *flora and fauna* that it nurtures. The "pomegranates; . . . oil olive, and honey" mentioned in the chapter-opening epigraph were bounties of the biblical Promised Land. From earliest times, societies have exploited the living resources of accessible land masses, from Meso-America, to northern Africa, to the steppes of Asia, to the Mediterranean basin. Ancient civilizations like the Greek and Roman empires decimated available timber for shipbuilding, firewood, and building materials while overgrazing grasslands with livestock, leaving vast areas of depleted soils, eroded hillslopes, and silted harbors, a dreary process that continues in many parts of the world today.

The westward march of settlement across North America during the nineteenth century radically transformed natural landscapes from Maine to Oregon through deforestation, plowing of the prairies, drainage of swamps, mining, damming of rivers, and oil and gas extraction. The passenger pigeon was hunted to extinction and the buffalo nearly so. According to Stewart L. Udall: "The intoxicating profusion of the American continent . . . induced a state of mind that made waste and plunder inevitable. A temperate continent, rich in soils and minerals and forests and wildlife, enticed men to think in terms of infinity rather than facts, and produced . . . the Myth of Superabundance."[2]

Ill-founded government policies have often compounded the depletion and waste of the land's physical and living resources. The American Dust Bowl of the 1930s was a direct result of federal policies that encouraged farmers to plow the prairie grasslands to plant wheat, leaving millions of acres of soils unprotected from hot dry winds during a period of intense drought[3] (as poignantly related in John Steinbeck's *Grapes of Wrath* and Ken Burns's public television series *The Dust Bowl*). The degradation of the Aral Sea and loss of its valuable fisheries in central Asia was attributable to Soviet policies that

diverted tributary rivers to irrigate deserts for cotton production, causing an irreversible environmental disaster. Similarly, vast swathes of tropical rain forests have been the victims of national programs to promote lumber exports and agriculture, as in Brazil and Indonesia. Countless river valleys with their rich alluvial floodplains, ecological habitats, and cultural heritages have been drowned by government-sponsored water development projects, most famously by Egypt's Aswan High Dam in the 1960s and by China's Three Gorges Dam completed in 2012, a project that displaced 1.3 million people and their farms and villages.

Third, besides its physical characteristics and resources, the value of land for human use is enormously influenced by its potential for *site development* as a platform for the construction of homes, villages, shopping malls, skyscrapers, stadiums, casinos, and other structures. Development-based land uses rely less on the physical characteristics of the site and much more on its *location.* (The mantra of real estate agents is that the three most important factors in land value are "location, location, location.") As land is developed with buildings, roadways, parking lots, and other "site improvements," these changes become legally attached to the land as part of a combined parcel of "real estate" (also known legally as *real property*).

Fourth, whether used for resource or development purposes, land is a *capital asset* and a fundamental source of wealth in a capitalist, ownership society. The value of land as an object of investment is the expectation of realizing a flow of economic or other benefits from owning it over the foreseeable future. Thus in the resource-based context, a farm is expected to produce agricultural products, a quarry to produce building materials, a woodlot to produce marketable timber, a mountain slope to draw skiers, each, it is hoped, generating income in excess of costs and taxes. Likewise, in the development-based context, property buyers seek short-term revenue from residential or commercial use of the site (in the form of rent payments avoided for personal use by homeowners or businesses) plus the expectation of increased ownership value (*equity*) in a rising market. Before the housing collapse of the mid-2000s, rising homeowner equity was widely cashed in through "equity loans," often to pay for home improvements, college expenses, vacations, and new cars.

These investment "bets," of course, are fraught with risk, from economic fluctuations, demographic change, variations in regional housing markets, natural disasters, and fraudulent lenders. The collapse of the land development market, and the investments derived from it, brought about the bankruptcy and demise of the global financial giants Lehman Brothers and Bear Stearns in 2008, followed by the federal bailout of many other banks considered "too large to fail." The drop in real estate values nationwide caused millions of households to become "underwater" (i.e., owing more on their home than it was now

worth, or having "negative equity" in the home), often leading to foreclosure or abandonment of the premises. Thus real property and the pyramid of investments based on it can generate great wealth for a few and reasonable gains for many in times of prosperity, but can also inflict profound misery for millions of hopeful buyers who lose their homes, investments, and dreams when a housing bubble bursts.

Fifth, land held as *common property* or in *public ownership* is exempt from the roller coaster of the private market. The entire world, of course, is literally awash in common resources: the oceans, the atmosphere, large lakes and rivers, and land areas held in common by tribes, villages, and other social entities. In preindustrial societies, the organization of common resources—arable soils, water, fisheries, meadows, forests, wetlands, minerals, and living space—was (and still is in some places) based more on unwritten "custom" than on formal written laws.[4]

In contemporary urban life, land and buildings in housing subdivisions, condominium developments, and cohousing projects are shared in common by the members of the community. Outdoor spaces in subdivisions are administered as common spaces for the use of the residents, who in turn pay maintenance assessments to a homeowners' or renters' association. Similarly, the lobbies, roofs, elevators, fitness facilities, landscaping, parking facilities, and other amenities of condominium buildings are legally owned in common by the unit owners who share benefits and costs as provided in their purchase contracts.

Finally, the concept of "land" embraces a psychic or emotional dimension: *spirit of place* or *sense of place*. These terms refer to feelings of attachment, pride, affection, or safety associated with familiar or distinctive landscapes and cityscapes[5] or their opposites in places that instill fear or unhappy memories.[6] Spirit of place, by definition, is shared in common with whomever happens to be aware of places where they live, work, visit, or simply experience vicariously through postcards, photographs, works of art and literature, websites, or a vivid imagination.

Spirit of place defies representation in the computer graphics and jargon of professional planners. How does one capture the clashing moods of large and small places: belonging-alienation, excitement-tedium, safety-fear, exhilaration-depression? Rather, the "mood" and "feel" of landscape and cityscape are the province of the novelist, the artist, the photographer, the poet, the movie director, and sometimes the journalist. In the nineteenth century, the great Hudson River School paintings of Thomas Cole, Frederick Church, Albert Bierstadt, and others stirred nostalgia for "vanishing Nature" among wealthy patrons who themselves may never have stood alone on a Sierra peak or viewed Maine's Mount Katahdin from a canoe (art spares one the nuisance of mosquitoes). Many historic and cultural places exude a spirit of place, as with Civil War battlefields, the

National Mall in Washington, D.C., Boston Common, burial grounds of native peoples, or Ground Zero in downtown Manhattan.

Sense of place is also rooted in urban settings, from the grand to the humble. Some of our most emotive images of late-nineteenth-century Paris and London are paintings by Claude Monet, Camille Pissarro, Camille Corot, John Singer Sargent, and James McNeill Whistler, artists who portrayed both the spectacular and the humdrum elements of those cities and their surrounding villages and countrysides. Childe Hassam's World War I paintings of flags flying along Fifth Avenue stimulated pride in country and the city of New York. Meanwhile, the early-twentieth-century Ash Can School artists like John Sloan, Robert Henri, and George Bellows focused on New York's backstreets, its homeless, and its squalor. Edward Hopper, who would dominate midcentury modernist realism, added ennui and loneliness to the list of modern urban ills: disconsolate women sitting alone on hotel beds, in railroad cars, or in a theater or a diner or staring out windows at empty city streets. His iconic *Night Hawks* (l942) pictures a "broad" and two "stiffs" in fedoras, seeking refuge in a cheerless café from the anonymous darkness of the street outside.

Movies have portrayed cities from many perspectives. Woody Allen's 1979 film *Manhattan* opens with a black-and-white wander among the nooks and crannies of that city, whereas his *Midnight in Paris* (2011) begins with a homage to the spirit of Paris. The gritty streets and neighborhoods of Chicago have been the backdrop for films like *The Sting*, *The Blues Brothers*, and *The Fugitive*.

In literature, few contemporary writers can match the eloquent nostalgia expressed by Nobel Laureate Orhan Pamuk for his beloved Istanbul:

> I love the early evenings when autumn is slipping into winter, when the leafless trees are trembling in the north wind and people in black coats and jackets are rushing home through the darkening streets. I love the overwhelming melancholy when I look at the walls of old apartment buildings and the dark surfaces of neglected, unpainted, fallen-down wooden mansions; only in Istanbul have I seen this texture, this shading.. . . as I watch dusk descend like a poem in the pale light of the streetlamps to engulf these old neighborhoods,. . . the chiaroscuro of twilight—the thing that for me defines the city—has descended.[7]

How Is Land Used in the United States?

Gertrude Stein famously wrote: "In the United States there is more land where nobody is than where anybody is. This is what makes America what it is."[8] There is indeed a lot of "empty" land in the United States despite the daily sense of crowding in metropolitan areas. The total land area of the United States amounts to approximately 2.3 billion acres,

or 359 million square miles, excluding water bodies. Alaska accounts for about 375 million acres (16 percent) of this total, and the contiguous forty-eight states occupy approximately 1.9 billion acres of land. The federal government owns about one-fifth of that land area, or some 400 million acres, scattered across remote mountain ranges, deserts, timberland, and grasslands and covering sizable parts of several western states (Box 1-1).

Box 1-1. The Federal Lands: Policies in Conflict

Through its various agencies, the federal government of the United States owns about 730 million acres, or about one-third of the nation's total land and water area. This vast expanse—about equal to the land area of India today—is unevenly distributed spatially. Alaska alone accounts for about 313 million acres of federal land, or about 96 percent of the entire state. The balance of federal lands occupy vast swathes of mountains and deserts of the western states, along with national forests, parks, and other facilities scattered across the rest of the nation (Figure 1-3).

Federal lands (also known as the "public domain" in the West) originated with the transfer by seven of the original Atlantic coastal states of their "western reserves" between the Appalachian Mountains and the Mississippi River to the national government

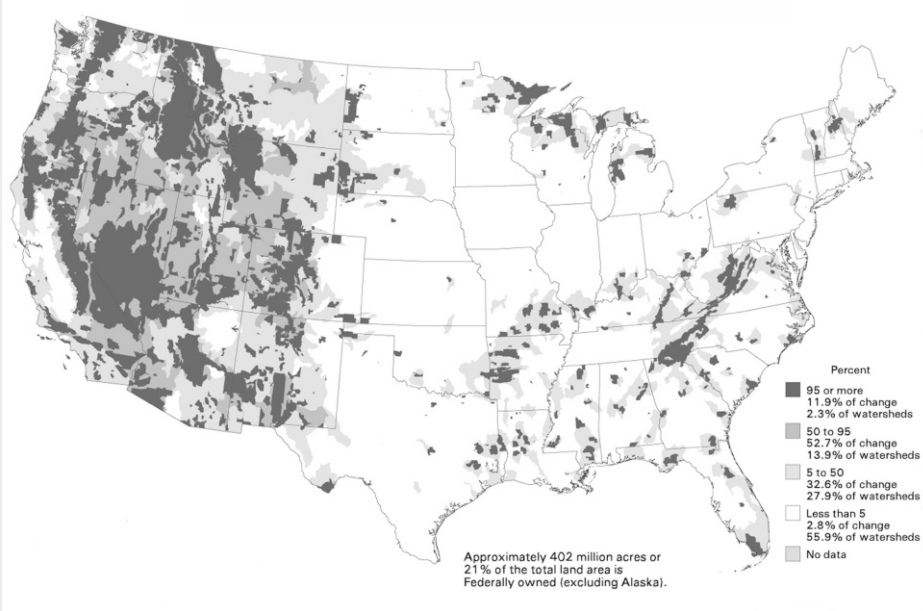


Figure 1-3
Percent of land in federal ownership, 1997. From Natural Resources Conservation Service, *1997 National Resources Inventory* (Washington, DC: U.S. Department of Agriculture, 2000).

between 1784 and 1786.[1] President Thomas Jefferson's Louisiana Purchase from France in 1803 added another 831,000 square miles, extending the nation's territory to the western boundary of the Mississippi-Missouri drainage system (the Continental Divide).[2] Later acquisitions of territory from other nations further extended the United States from coast to coast and to Hawaii and Alaska.

The disposal of more than 1,100 million acres was the dominant feature of federal land management until the late nineteenth century. Transfer of federal lands to encourage settlement was facilitated by the Federal Land Survey, established by the Land Ordinance of 1785. This federal survey grid eventually covered most of the nation from the Ohio River to the Pacific. (The Federal Land Survey is described in Box 6-1.)

Disposal of land from the public domain began with grants to encourage settlement in the "Northwest Territories" (Ohio, Indiana, Illinois, Michigan, Wisconsin, and Minnesota). During the Civil War, the northern states remaining in Congress adopted the Homestead Act in 1862, which granted 160 acres (one "quarter-section") to anyone settling on it for at least five years. Almost 300 million acres of federal land was gradually transferred to private settlers under the Homestead Act, which remains in effect today. The results, however, were not always ideal. Contrary to the enticements of railroads and other boosters of western settlement, rainfall did not "follow the plow." A quarter-section was simply insufficient to support a family in the arid West without access to irrigation.[3]

By the 1860s, squandering of the nation's natural resources was becoming unsustainable. The lumber industry moved rapidly westward, stripping forests and causing soil erosion, which clogged streams and lakes. In the Rocky Mountains and California, mining fever drew thousands of fortune seekers from the East. Mining ravaged landscapes, leaving abandoned "boomtowns," denuded hillslopes, and polluted streams. Oil and gas extraction devastated many parts of the Southwest.

In 1864, George Perkins Marsh, an erudite and well-traveled Vermonter, in his classic book *Man and Nature: Or, Physical Geography as Modified by Human Action*,[4] documented the effects of deforestation, soil erosion, loss of biodiversity, and alteration of rivers and estuaries.[5] Marsh's book complemented romantic nostalgia for a vanishing America, as expressed in paintings by Thomas Cole, Frederick Church, John James Audubon, and others; the poetry of William Cullen Bryant, John Greenleaf Whittier, and Henry Wadsworth Longfellow; and the essays of Henry David Thoreau and Ralph Waldo Emerson.[6]

The establishment of Yellowstone National Park by Congress in 1872 marked a turning point in federal land policy from the prevalence of *disposal* toward a new era of *retention* and *preservation*.[7] Yellowstone was soon followed by establishment of "forest

continued on next page

reserves" in the 1890s, marking the advent of the national forests that today amount to 187 million acres. In 1903, President Theodore Roosevelt designated Pelican Island in Florida as a "national refuge," the first unit of the National Wildlife Refuge System that today includes more than 90 million acres in more than 400 refuges. The National Park Service, established in 1916, now manages about 84 million acres (including 30 million acres in Alaska).

The shift toward *retention* of federal lands rather than divesting them posed new management issues. Two contrasting voices were those of John Wesley Powell and John Muir. Powell, a geologist, geographer, and explorer, argued in his 1878 *Report on the Lands of the Arid Region*[8] that federal policies must reflect scientific appraisal of the physical limitations of western land, especially aridity.[9] Muir, the wilderness polemicist and founder of the Sierra Club in 1891, passionately disagreed with the "wise use" policy of Powell and later progressives like Gifford Pinchot, the first director of the U.S. Forest Service.[10] The debate crystallized over the pristine Hetch Hetchy Valley within Yosemite National Park where a dam and reservoir were proposed to provide a water supply to San Francisco after its 1906 earthquake and fire. Muir famously declaimed: "Dam Hetch Hetchy! As well dam for water-tanks the people's cathedrals and churches, for no holier temple has ever been consecrated by the heart of man."[11]

In 1913, President Woodrow Wilson decided to dam the "cathedral," and Hetch Hetchy was sacrificed. According to historian Roderick Nash, however, "The preservationists had lost the fight for the valley, but they had gained much ground in the larger war for the existence of wilderness."[12] Five decades later, Congress adopted the Wilderness Act of 1964[13] under which about 9 million acres of federal lands were designated as wilderness with limitations on mining, water development, recreation, and livestock grazing.[14] For other federal lands that are not designated as national parks, wilderness areas, or wildlife refuges, Congress has directed that they be managed in accordance with the doctrine of "multiple use" to achieve a balance of economic, environmental, and social benefits.[15]

More than four-fifths of the contiguous states is devoted to three forms of rural land cover and usage: cropland, forestland, and grassland or range (Table 1-1). Each of these categories represents a potential for productive economic use, although the more remote forests and more arid grazing lands may seldom be exploited and are left relatively untouched by human activities. About 109 million acres of federal forestland, desert, and mountainous lands are now designated as *wilderness areas* under the 1964 Wilderness Act. Other portions of the undeveloped land resources are managed for specialized purposes, including endangered species habitat, water resource protection, recreation, and scenery.

Table 1-1. Categories of Land Use for the 48 Contiguous States (including federal lands), 2007

	Millions of acres	Percent of total
Cropland	408	21%
Forestland	576	31%
Grassland and range	612	32%
Special uses (defense, parks, transportation, etc.)	169	9%
Urban areas	60	3%
Other miscellaneous uses	68	4%
Total (48 contiguous states)	1,893	100%

Source: Cynthia Nickerson, Robert Ebel, Allison Borchers, and Fernando Carriazo, *Major Uses of Land in the United States, 2007*, Economic Information Bulletin 89 (Washington, DC: U.S. Department of Agriculture Economic Research Service, 2011), Table 1, http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib89.aspx.

At the opposite end of the development spectrum, a small but important percentage of land in the contiguous states is devoted to urban uses (estimates vary from one source to another), including housing, offices, shopping malls, factories, educational and religious institutions, and transportation. Most of this book is concerned with urban and metropolitan areas. First, though, let's look at the big picture with a summary of the *rural* as well as *urban* forms of land use.

Cropland

Cropland is the most sensitive and valuable of the nation's rural land resources. The protection of the cropland base, especially those portions of it deemed *prime land*, has been the subject of lively discussion and debate since the early 1980s, both among scholars and in the public media.[9] By 2007, total cropland in the United States had declined to its lowest level since record keeping began in 1949, having shrunk by 34 million acres just since 2002 (Table 1-2). Harvested cropland, a more significant indicator, was only 10 percent below its 1949 level, having fluctuated considerably in the intervening years. The fluctuations in the harvested cropland figures are functions of weather, market prices, government subsidies, and changing methods of measurement, in addition to farmland conversion to other uses.

Table 1-2. U.S. Cropland Resources: 1949–2007 (in millions of acres)

Year	Total cropland	Harvested acreage	Irrigated acreage
1949	478	352	26
1959	458	318	31
1974	465	361	—
1982	469	347	49
1992	460	338	—
2002	442	340	—
2007	408	335	57

Source: Cynthia Nickerson, Robert Ebel, Allison Borchers, and Fernando Carriazo, *Major Uses of Land in the United States, 2007*, Economic Information Bulletin 89 (Washington, DC: U.S. Department of Agriculture Economic Research Service, 2011), Table 6, http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib89.aspx.

The level of U.S. farm output more than doubled between 1948 and 2011, growing at an average annual rate of 1.49 percent.[10] This increase, despite declining harvested acreage, reflected a huge increase in productivity per acre, achieved partly through the massive use of fertilizers, pesticides, irrigation water, and genetic research (the "green revolution").

Despite the rosy picture painted by the U.S. Department of Agriculture (USDA), there is a downside. According to the American Farmland Trust, between 1982 and 2007 some 21 million acres of agricultural land—an area the size of Indiana—were converted to "developed uses." About 8.7 million acres of that total were classified as "prime agricultural land." Not surprisingly, the bulk of land conversions were in rapid-growth Sun Belt states: Texas (2.8 million acres), California (1.7 million acres), Florida (1.5 million acres), and Arizona (925,000 acres). Between 2002 and 2007, about 7.5 million acres of "rural land" were converted to other purposes, including 4 million acres of cropland, pasture, rangeland, and other agricultural land.[11]

Soil erosion is another source of concern about the future adequacy of the nation's cropland base. The United States has experienced two periods of severe soil erosion that have prompted very different public policy responses. During the Dust Bowl of the 1930s, millions of acres were scoured by hot, dry winds, driving Great Plains farmers to migrate to California's Central Valley, as immortalized by John Steinbeck's novel *The Grapes of Wrath*. With clouds of particulates literally overshadowing the nation's capital, Congress in 1935 created the Soil Conservation Service, which launched a crusade to promote

such conservation practices as contour plowing, windbreaks, and strip-cropping on erosion-prone farmland.[12] In the 1970s, high world farm prices stimulated farmers to plant "fencerow to fencerow," which started a new bout of soil erosion, estimated to reach 3 billion tons of lost topsoil in 1982. This time, Congress established the Conservation Reserve Program, under which farmers are paid by the USDA to convert marginal cropland to grass or forest. Within five years, this program resulted in more than 30 million acres of erodible land being retired from production.[13] Globally, soil degradation is a worsening crisis, especially in the face of widespread droughts due in part to global warming. The causes of soil degradation are both physical and social, with cultural practices such as deforestation, farming on steep slopes, overuse of irrigation, and intensive cultivation of marginal soils all contributing to the problem.[14]

Digging a bit deeper into the complex problem of cropland adequacy, we find that the bulk of crops harvested are used for livestock feed rather than direct human consumption. Four major grain crops—corn, soybeans, alfalfa hay, and wheat—make up 80 percent of total crop acreage, and all but wheat are largely used to fatten livestock in feedlots or for export abroad. Changes in diet away from meat would make more efficient use of grain stocks for direct human consumption and might make us healthier. Apart from disciples of tofu and vegan cuisine, however, such changes are unlikely, and the exploding middle classes of China, India, and other developing countries are increasingly craving meat in place of their traditional rice staple.[15]

Biofuel demand has also diverted increasing shares of corn production in the United States and other grain-producing countries. According to futurist Lester Brown, after Hurricane Katrina caused oil prices to spike by disabling wells and refineries along the Gulf of Mexico coast, the demand for biofuels soared. Writes Brown, "Suddenly investments in U.S. corn-based ethanol distilleries became hugely profitable, unleashing an investment frenzy that will convert one fourth of the 2009 U.S. grain harvest into fuel for cars." The tradeoff between consuming grain (directly or indirectly) and using it as an energy source is bleak, says Brown: "The grain required to fill an SUV's 25-gallon tank with ethanol just once will feed one person for a whole year. . . . Should grain be used to fuel cars or feed people?"[16] World corn prices depend in part on oil prices: when the latter rise due to rising demand, natural disasters, or political turmoil in oil-producing nations, biofuel production is likely to preempt more of available corn production, thus threatening food security for the world's poor. In 2013, however, there were indications of a collapse in the biofuel industry in the United States due to chronic drought and a decline in miles driven.[17]

As cropland is eroded or diverted from food production to urban development or biofuel usage, other rural land must be adapted for crop production to meet both domestic and foreign demand. The U.S. population is forecast to grow by another hundred

million by 2050 if current estimates of immigration, birth rates, and longevity hold.[18] Such growth would increase domestic demand for grain by one-third over 2000 levels (when the U.S. population was 318 million). Replacement land, however, is likely to be less productive—too dry, too wet, too hilly, less fertile, or too isolated—than prime land diverted to purposes other than food production. Historically, drainage of wetlands in the upper Midwest, Florida, and the Central Valley of California was a major source of new cropland, but past national policies that favored "swampland reclamation" during the nineteenth and early twentieth centuries have now been replaced with federal and state laws to protect remaining wetlands as natural habitats and flood buffers. Wetland drainage is thus no longer a feasible means of expanding the supply of cropland.

Today, *irrigation* is the primary means of raising productivity of marginal land, drawing water either from surface sources like the Colorado, Rio Grande, or Columbia River systems or from groundwater aquifers like the famous Ogallala Formation that underlies the Great Plains from the Dakotas to Texas. In 2007, irrigated agricultural land in the United States reached a record level of 57 million acres, accounting for 19 percent of all harvested cropland and yielding nearly half of the value of all crops sold that year.[19] Irrigation accounts for 80 percent of all water usage in the United States (Figure 1-4).

Irrigation, though, is not a panacea to offset the diversion of prime cropland to nonagricultural purposes. In the first place, unless irrigated land is properly drained, salts in irrigation water will contaminate the soil zone ("salinization"), leading to destruction of the land's fertility, as has occurred in parts of the Colorado River basin and in other dry regions around the world.[20] Furthermore, water is a scarce and valuable commodity in the West, and irrigation must compete with rising demand from the fast-growing cities and suburbs of the Sun Belt. Agricultural water rights (measured in "acre-feet," the quantity of water that covers 1 acre to a depth of 1 foot) are increasingly being sold by agricultural users to urban water suppliers in the Southwest. In 2003, San Diego bought the rights to 200,000 acre-feet per year from farmers in the Imperial Valley, thus removing that water from irrigation use in, according to Brown, "the largest farm-to-city water transfer in U.S. history."[21] Irrigated cropland in California shrank 10 percent between 1997 and 2007 due to water transfers to cities. Likewise, the Denver Water Board and other urban water authorities along Colorado's Front Range are buying up water rights from farmers in eastern Colorado to augment supplies already diverted from the upper Colorado River via the Big Thompson tunnel through the Rocky Mountains.

Drought associated with global warming is an existential threat to the economic feasibility of irrigation as well as to rain-based agriculture.[22] In 2012, drought ranging from "severe" to "exceptional" blanketed most of the nation between the Mississippi River and the Sierra Nevada, with the plains states from South Dakota to Oklahoma mired in

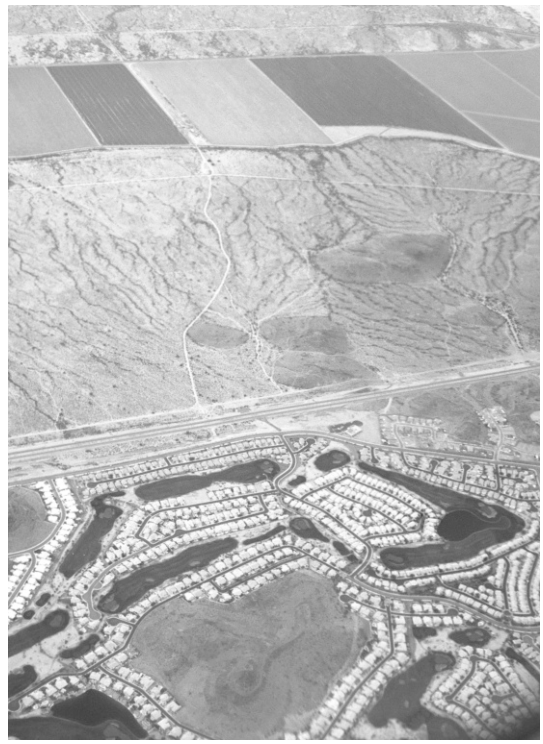


Figure 1-4
Shifting uses of scarce irrigation water from agriculture (top) to golf courses and urban development (bottom). Photo by author.

the "exceptional" category.[23] According to the USDA, "The most severe and extensive drought in at least 25 years seriously affected U.S. agriculture, with impacts on the crop and livestock sectors and with the potential to affect food prices at the retail level."[24]

Crop losses due to drought in the rain-based Corn Belt (Ohio, Indiana, Illinois, Iowa, and Missouri) is placing greater pressure on irrigated cropland in the West to offset those shortfalls. Western rivers, however, are fed primarily by melting snowpack in the Rockies and other mountain ranges. Declining snowfall and warming temperatures are conspiring to reduce runoff to western river systems exactly when more irrigated land is needed. As Al Gore documented in his book and film *An Inconvenient Truth*, the world's alpine glaciers are shrinking; Glacier National Park, for instance, is expected to have no glaciers left by 2030. Concurrently, reduced flows through the great hydropower dams like Grand Coulee and Hoover will make electricity more expensive, thus raising the cost of pumping water to irrigation projects. Drought and overpumping ("mining") of groundwater are also lowering water levels in aquifers, thus requiring more electrical energy to bring water to the

surface and apply it to fields. Even apart from drought, continued expansion of irrigated land in the United States is doubtful because new groundwater and surface water supplies are increasingly scarce and are expensive to develop.[25]

Forestland

According to the U.S. Forest Service (USFS), total forestland remained fairly steady over the twentieth century at about 300 million hectares (700 million acres) or one-third of the coterminous United States.[26] This total, of course, masks regional gains and losses, such as reforestation of abandoned farmlands in New England and the upper Midwest and conversion of forestland for urban uses in the Pacific Northwest. Some forestlands were returned to cropland, as happened on a small scale in rural New England. Still other forestland was converted to water bodies, highways, and urban development. The exact extent of these conversions is unknown.

The hazard of wildfires in the American West has been exacerbated by chronic drought, fuel accumulation due to past fire suppression, insect damage, and development in what is called the urban-wildland interface. As homes and businesses proliferate within and near forests, the frequency, magnitude, and costs of wildfires are soaring (Figure 1-5).

Figure 1-5
Wildfire threatening private residence near Colorado Springs, Colorado. Photograph by Captain Darin Overstreet, Colorado National Guard.

During the nineteenth century, vast tracts of public and private forestlands accessible to loggers were cleared without consideration of adverse effects such as soil erosion, forest fires, and loss of regeneration capability. To maintain adequate forests for the nation's future needs, Congress adopted the Forest Reserve Act of 1891, which authorized the president to establish forest reserves from timber-covered public domain land. The National Forest System thus established was greatly enlarged by President Theodore Roosevelt, who heartily embraced the progressive concept of "wise use of natural resources," as urged by Gifford Pinchot, founder of the Yale School of Forestry. To manage the national forests, the USFS was established in 1905, with Pinchot appointed by Roosevelt as its first director.[27] In addition to some 230 million acres of national forests administered by USFS, which is a unit of the USDA, other federal forestlands are managed by the Bureau of Land Management and the National Park Service (NPS), both units of the U.S. Department of the Interior. Aside from national parks or areas designated as wilderness areas, the nation's federal forestlands are managed to ensure a sustained yield of forest products while serving other public needs such as water supply, natural habitat, recreation, and mining. Federally owned forestlands are located predominantly in the West, although some of the most heavily visited national forests are in Appalachia. Other forestlands in the Northeast, South, and Midwest are predominantly owned by states, local governments, nonprofit organizations, and timber companies. Large portions of the Adirondack and Catskill Mountains in New York State have been protected as state forest preserves since the nineteenth century.

Forestry practices on federal and private lands alike encounter controversy regarding cutting of old-growth stands, protection of endangered species, and the construction of access roads in previously inaccessible areas. In Oregon and northern California, cutting of old-growth timber has been opposed by wildlife activists, invoking the federal Endangered Species Act of 1973 to protect natural habitat for the northern spotted owl and other species.

Grasslands

Grasslands are the prevalent land cover of the semiarid plains between the Missouri River and the Rocky Mountains, covering some 600 million acres. Grasslands include two subclasses: cropland used for pasture and rangeland. Although the former makes up only 10 percent of total grasslands, it yields a very large share of total forage production.[28] Rangeland is substantially located in the mountain and High Plains states in areas that receive average rainfall of 10 to 20 inches annually.[29] Such semiarid lands produce very little forage, thus encouraging reliance on livestock feedlots and fodder crops grown on better-quality land. Ownership of western rangelands is split among the federal government,

states, and private owners. Federal grasslands total about 160 million acres, of which 130 million acres are administered by the Bureau of Land Management (BLM); the remainder are administered by the U.S. Forest Service.

Grazing in the West has always involved joint usage of both private and public lands by ranchers. Before 1934, private use of federal range was generally unregulated, illegal, and the source of disputes among competing stakeholders. A rousing chorus in the musical *Oklahoma!*, for instance, proclaimed: "The farmer and the cowboy should be friends!" which historically they were not. Neither were cattlemen and sheep raisers. The Taylor Grazing Act of 1934 authorized the establishment of federal grazing districts and required permits from the General Land Office for private grazing rights on such lands, bringing a semblance of order to the prior chaos.[30]

Recreation Land

In 2011, the NPS administered 84 million acres in 397 parks, national monuments, recreation areas, battlefields, and other facilities (of which 30.5 million acres are in Alaska and virtually inaccessible). Additional federal lands administered by the BLM and the USFS provide hiking trails, campgrounds, picnic areas, and other recreational activities. Similarly, water resource projects of the U.S. Army Corps of Engineers, the Tennessee Valley Authority, and the Bureau of Reclamation usually incorporate recreation facilities, in part to bolster the public support and economic benefits of such projects.

Park administrators attempt to measure "visitor user-days" as a rough indicator of benefits conferred by public recreation facilities, but such data are notoriously imprecise and incomplete. Some parks are backcountry wilderness areas where usership is intentionally limited by permits. Others are high-volume iconic attractions, crowded and commercialized like Old Faithful in Yellowstone, El Capitan in Yosemite, and the South Rim of the Grand Canyon. Some recreation pursuits, such as white-water rafting, kayaking, and roaming in off-road vehicles through deserts, national forests, or public beaches, are not site specific. Much of the social value of parks is nonquantifiable and vicarious, as in memories of family camping trips or simply the pleasure of knowing that one *could* explore remote backcountry without actually doing so. Economic benefits of national and large state parks include both direct expenses of entrance fees and purchases within the park as well as the costs of lodging, meals, gasoline, and equipment paid to businesses within or near a park facility. Urban parks benefit their surrounding communities through microclimate moderation, enhancement of property values, and in many cases, fostering a sense of place and shared experience with other park users.

State park systems total about 13.8 million acres, with county and regional parks adding about another 5 million acres. According to a 2012 study by the Trust for Public Land,

the nation's one hundred most populous cities contain a total of about 1.5 million acres of park space (with another 10 million acres of land owned and managed by city park systems outside the political boundaries of the city proper).[31] A large but unquantifiable amount of private land is devoted to commercial recreation. These lands include intensive-use facilities such as golf courses, ski resorts, tennis clubs, and private campgrounds as well as more extensive facilities such as private nature sanctuaries and membership camping and hiking parks. Schools and colleges provide additional recreational land on their grounds.

Acreage data, of course, do not adequately measure the potential value of a recreational site. Location, site design, amenities, and natural characteristics are usually more important than merely size in determining the functional utility of recreational land. For example, Central Park in midtown Manhattan attracts some thirty-five million visitors a year, the highest number in the country, to a tract of land covering 843 acres, or just 1.5 square miles. Meanwhile, millions of acres in western national parks and forests are relatively untouched by humans.

Wetlands and Floodplains

Wetlands are an important subset of the total land and water resources of the United States. They are generally characterized by (1) the presence of water at or close to the surface, (2) a predominance of saturated hydric soils, and (3) a prevalence of vegetation adapted to wet conditions.[32] Depending on their physical nature, size, and location, wetlands perform various natural functions, such as providing habitat for birds, fish, and other wildlife; flood storage; concentration of nutrients; buffering of coastlines from storm waves; recharge of groundwater aquifers; and scenic beauty.

The National Wetlands Inventory, conducted by the U.S. Fish and Wildlife Service, estimated total wetlands in the early 1980s to be about 99 million acres nationally.[33] The average annual loss of wetlands due to dredging, filling, drainage, and conversion to agricultural or urban purposes was estimated to be about 290,000 acres. Between the mid-1970s and the mid-1980s, agricultural drainage accounted for 54 percent of the total loss of 2.6 million acres of freshwater and coastal wetlands during that period, with the other 46 percent due to urban development and other land uses.[34]

Coastal Louisiana has been losing extensive areas of estuarine and freshwater wetlands annually due in part to land subsidence related to agriculture as well as to sea level rise. Much of this loss has been attributed to the reduction of sediment transported by the Mississippi River due to levees and dams to control floods and ensure navigability as well as land subsidence as a result of the withdrawal of oil and gas from subsurface strata. The Atchafalaya basin just west of the Mississippi's main stem in Louisiana has incurred huge wetlands losses due to flood control, agriculture, and urban development.[35] In 2002, the

Southern Governors' Association proposed a multi-billion-dollar federal-state program to reverse or at least slow the rate of coastal wetland loss in Louisiana. Hurricane Katrina in 2005 prompted additional proposals to preserve or restore coastal wetlands in the Mississippi delta.

The Florida Everglades, once one of the largest freshwater marshes in the world, is now considered one of the most threatened ecosystems.[36] In its natural state, the Everglades was a vast grassland extending south from Lake Okeechobee in central Florida about 100 miles to the Gulf of Mexico. Its unique ecosystem of sawgrass marsh, cypress hummocks, waterfowl, and crocodiles was dependent on the overflow of freshwater from the lake. This flow has been greatly diminished by flood control projects, navigation canals, and projects to divert water to agriculture and cities. Those changes in turn have displaced vast areas of grasslands, reducing the Everglades by about half. Under pressure from environmentalists across the nation, Congress in 2000 created a long-term restoration program for the Everglades, to be jointly conducted by federal and state authorities at a total cost of $7.8 billion, the largest environmental restoration project in U.S. history.

Many wetlands double as *floodplains*, low-lying areas bordering coasts, rivers, lakes, or ponds that are occasionally inundated by high water levels due to storms, rapid snowmelt, or other causes. Coastal and inland floods affect about 6 to 8 percent of the land area of the contiguous states, threatening millions of homes and businesses within their reach. The rising toll of climate-related flood disasters was tragically demonstrated by Superstorm Sandy in October 2012, which inflicted an estimated $65 billion in overall losses, of which about $30 billion was covered by the international insurance industry.[37] (Wetlands and floodplains are discussed further in Chapter 10.)

Urban Land

With its vast open spaces devoted to agriculture, forests, grasslands, and wilderness, the nation's land area is still predominantly *rural*, yet the American people have been predominantly *urban* since the 1920s. More than 80 percent of the U.S. population today lives in metropolitan areas, including downtown condominiums, older neighborhoods of modest homes and apartments, postwar bedroom suburbs, gated luxury enclaves, former farm villages, and mobile home parks.

Population growth since 1960 has been highly skewed toward the newer Sun Belt urban regions of the West and South, which have greatly outpaced the older Frost Belt cities of the Northeast and Midwest (Figure 1-6 and Table 1-3). This shift reflects in part the flows of retirees from colder to warmer climates, the growth of high-tech and military-related industries in the Sun Belt states, and high rates of immigration from Latin America and Asia into the Southwest and West Coast states.

Figure 1-6
Las Vegas, Nevada, from 30,000 feet. Photo by author.

Table 1-3. U.S. Population and Growth Rates by Region, 1960–2010

	Population (in millions)						Growth rate	
Region	1960	1970	1980	1990	2000	2010	1960–2000 change	2000–2010 change
Northeast	44.6	49.0	49.1	50.8	53.6	55.3	20.0%	3.2%
Midwest	51.6	56.5	58.8	59.7	64.4	66.9	24.6%	3.9%
South	54.9	62.8	75.3	85.4	100.2	114.6	82.5%	14.3%
West	28.0	34.3	43.1	52.8	63.2	71.9	125.3%	13.8%
Total	179.3	203.3	226.5	248.7	281.4	308.7	56.7%	8.7%

Source: Compiled by the author from U.S. Census data.

It is difficult to measure actual changes in urban land because the metropolitan landscape is such a patchwork of built and unbuilt areas, fragmented among myriad ownerships and units of local government. Rural lands—farming, forestry, grazing, and barren lands—tend to occur in large, relatively homogeneous spatial units that are easy to identify, although they may shift from one category to another over time. Also, because a large proportion of rural land is publicly owned, it is mapped and managed by federal, state, or local land agencies. The urban landscape, by contrast, is a vast mosaic of buildings, paved areas, parks, vacant land, private yards, and even residual agriculture and natural areas. How much of this crazy quilt of land use is "urban"?

National-level data on urban land usage is unavailable for the United States. Unlike European countries, which have very precise national land inventories, the United States considers land use to be largely a state, local, and private concern. Federal agencies use remote sensing and geographic information systems to track changes in rural lands relevant to their program missions. National-level data on urban land use, however, is much more spotty, with different agencies using various definitions and measurement techniques to measure "urban America." (Urban land use and sprawl are considered in more detail in Chapter 5.)

What Are Cities?

As Lewis Mumford wrote in 1937, "The city in its complete sense . . . is a geographic plexus, an economic organization, and institutional process, a theater of social action, and an esthetic symbol of collective unity."[38] Cities are humanity's most visible and important artifacts. Since their earliest origins in midlatitude alluvial valleys—the Tigris-Euphrates ("Fertile Crescent"), the Nile, the Indus, and their counterparts in China and Mesoamerica[39]—cities have outwardly reflected a society's needs, capabilities, aspirations, level of organization, and form of governance. Beyond meeting basic needs for food, shelter, and water (which might be more reliably available in traditional village or tribal settings), cities reflect the economic, spiritual, technological, and cultural attributes of the societies that build and transform them over time. The demand for *markets and trade* is a fundamental urban function that in the Mediterranean world dates at least to Bronze Age[40] sea and land linkages between the early cities of the Mediterranean and western Asia, as exemplified by Ephesus. Cities also have long served as centers of *ecclesiastic and secular administration*, as reflected in the cathedrals, mosques, and temples alongside agoras and civic structures that adorn the centers of ancient and medieval cities. *Defensibility* against invaders was yet another urban function attested by the city walls, moats, palisades, gates, and other fortifications surrounding urban strongholds from antiquity to the twentieth century.

Most important to many scholars, however, has been the role of cities as *centers of innovation and diffusion of ideas*. According to Gideon Sjoberg: "The [ancient] city acted as a promoter of change in several ways. Many of the early cities arose on major transportation routes; new ideas and inventions flowed into them quite naturally, . . . [which] encouraged innovation, not only in technology but also in religious, philosophical and scientific thought."[41] Transcendent Western cities like Athens in the age of Pericles, Augustinian Rome, Constantinople as capital of the Byzantine and Ottoman Empires, Florence under the Medicis, and Paris during its *Belle Epoque* of the late nineteenth century nurtured the formulation and exchange of ideas. Eminent historian Will Durant viewed Greek city-states in the Golden Age of Pericles (ca. 480–400 BC) as incubators of civilization:

> One by one these colonies took form, until Greece was no longer the narrow peninsula of Homeric days, but a strangely loose association of independent cities scattered from Africa to Thrace and from Gibraltar to the eastern end of the Black Sea. . . . Through these busy centers of vitality and intelligence the Greeks spread into all of southern Europe the seeds of that subtle and precarious luxury called civilization, without which life would have no beauty, and history no meaning.[42]

Cities rise and fall in response to many variables, such as physical geography, technology, war, politics, religion, and climate change. To cite one famous example, the ancient port city of Ephesus in today's western Turkey was the largest city of the Roman Empire other than Rome itself at the time of Jesus's birth. Saint Paul's Letter to the Ephesians was addressed to the growing community of Christians there in the first century AD. Today, Ephesus is one of the world's most important archeological sites, but it has vanished as a city where people live and work. The city's early prosperity was due to its fine harbor, which made it a key trading port connecting the Mediterranean world with overland trade routes from Asia Minor, Persia, and beyond. That harbor gradually silted up due to soil erosion in the hilly country around the city. Today, Ephesus sits 2 miles from the coast, devoid of urban functions except as a center of research on its glorious past and a stop for tour buses.

Even the world's largest cities experience relative and absolute change in population size and wealth over time. Table 1-4 compares the world's ten largest cities in 1900 and metropolitan regions in 2006 (no metro-level data exist for 1900). Note that New York is the only "western" city to appear on both lists, joined by its "eastern" counterpart, Tokyo. Otherwise, the top ten city-regions shifted from North America and Europe in 1900 to Asia, Africa, and South America a century later. Rapid population increase in less

Table 1-4. World's Ten Largest Cities (1900) and Metropolitan Areas (2006)

	Ten largest cities, 1900		Ten largest metropolitan areas, 2006	
Rank	City	Population (in millions)	City	Population (in millions)
1	London	6.5	Tokyo	35.5
2	New York	4.2	Mexico City	19.2
3	Paris	3.3	Mumbai	18.8
4	Berlin	2.7	New York	18.6
5	Chicago	1.7	Sao Paulo	16.6
6	Vienna	1.7	Delhi	16.0
7	Tokyo	1.5	Calcutta	14.7
8	St. Petersburg, Russia	1.4	Jakarta	13.6
9	Manchester, U.K.	1.4	Buenos Aires	13.5
10	Philadelphia	1.4	Dhaka	13.0

Sources: Lester Brown, *Eco-Economy* (New York: W. W. Norton, 2001), Table 9-4; Neal R. Peirce and Curtis W. Johnson, *Century of the City: No Time to Lose* (New York: Rockefeller Foundation, 2008), 26–27.

developed countries and the unplanned growth of the world's largest cities are interconnected challenges to the sustainability of human society in coming decades. The world is currently gaining 80 million people a year, the equivalent of *adding eighty cities the size of Dallas, Texas, every year*! Ninety-seven percent of this population increase will occur in less developed countries and regions of Asia, Africa, and Latin America.[43]

Most cities past and present scarcely compare with Athens, Florence, Constantinople, Paris, New York, or Tokyo, but countless urban places of lesser size and renown have arisen, prospered, and languished over time in response to changing economic, political, and social dynamics. In the United States, some of them became New York, Boston, Chicago, Atlanta, Dallas, Los Angeles, San Francisco, and Seattle, vital hubs in the global economy and centers of excellence in education, health care, culture, and creativity and, not coincidentally, the homes of major league sports teams. Several hundred others became midsize cities like Worcester, Scranton, Peoria, Emporia,

Modesto, and Spokane, regional centers of finance, industry, mining, or agriculture that are struggling today to reinvent themselves.[44] Countless "boomburbs,"[45] "edge cities,"[46] and their smaller suburban neighbors have erupted like mushrooms over the past century along the rail and highway sinews of expanding metropolitan areas. And scattered across rural America are thousands of villages and small towns, many of them dead or dying and the subject of myth, folklore, and parody, like Sinclair Lewis's "Gopher Prairie, Minnesota," Marshall Dodge and Bob Bryan's "East Vassalboro, Maine,"[47] or Garrison Keillor's "Lake Woebegon."

In good times, at least, cities and towns represent economic opportunity, education, health care, culture, and entertainment not readily available in rural society. Cities have historically fostered great wealth for the fortunate and opportunity for many others (but by no means all) of those who inhabit them. Higher population densities allow public services to be provided more efficiently than in nonurban areas. Cities proverbially enrich life through art, music, libraries, sports, parades, public festivals, and sociability. As Samuel Johnson famously declared, "When a man is tired of London, he is tired of life; for there is in London all that life can afford."[48]

Cities are also crucibles of discontent and protest, "theaters of social action" in Mumford's phrase. Political discourse has flourished in urban settings such as the Agora in Athens, the Roman Forum, London's Hyde Park Corner, Boston's Faneuil Hall, New York's Union Square, and the National Mall in Washington, D.C. Revolutions begin with urban unrest as with the English Civil War that began in London, the American Revolution in Boston and Philadelphia, the French Revolution in Paris, and the Russian revolts of 1905 and 1917 in St. Petersburg. Modern urban uprisings have included the 1989 Tiananmen Square demonstrations in Beijing, the "Arab Spring" and subsequent demonstrations in Cairo's Tahrir Square, Taksim Square demonstrations in Istanbul, and the "Occupy Wall Street" encampments in Lower Manhattan and other U.S. cities.

There is a hefty price to pay for the benefits of cities as wealth generators, idea stimulators, sources of public services and amusement, and venues for political movements, however. Human settlements amass and consume vast quantities of resources: food, minerals, timber, energy, land, and water, extending their literal and ecological footprints over much of Earth's accessible land and water surfaces. To gain more arable or buildable space, cities and their satellite villages have leveled hills, terraced mountainsides, drained wetlands, cleared forests, and channelized and dammed rivers.[49] Urban wastes are dumped into available waterways, city streets, landfills, and the atmosphere.

As cities and their suburbs overwhelm their local ground and surface water supplies, they seek more distant sources of freshwater, often at the expense of local rural users, such as in California's Owens River Valley, which was desiccated in the early 1900s for

the benefit of real estate developers in Los Angeles 220 miles to the south.[50] Cities disrupt ecological systems and degrade biodiversity. As they spread into hazardous terrain, they suffer rising costs of natural calamities such as floods, hurricanes, typhoons, wildfires, earthquakes, and volcanic eruptions.[51] Fossil fuel combustion for urban purposes generates vast quantities of carbon dioxide and other greenhouse gas emissions that warm the planet, disrupt weather patterns, and raise sea level. These environmental threats in turn affect economic, social, and political conditions—including housing and jobs, health care, and social inequity—leading to political instability and conflict.[52]

Cities have transformed the planet into a vast hive wherein much of the human race, like bees or ants, lives, works, plays, and dies. Unlike insects, however, humans have not mastered the art of making their hive sustainable. As demographer Kingsley Davis wrote in 1973, "Although cities came into existence and eventually spread over the world because of what they could do for people, they represent a radically new kind of habitat

Box 1-2. Policy Issues Related to Urban and Rural Land Use

Inefficient Use of Land

- Development of prime agricultural land
- Loss or pollution of wetlands
- Overextension of public services
- Visual blight

Energy Waste

- Traffic congestion
- Decline of public transportation
- Heating and air-conditioning of small structures

Water Supply and Wastewater Treatment

- Adequate quantity and quality of drinking water
- Conservation and protection of existing water sources
- Efficient irrigation practices
- Relating development to available infrastructure

Affordable Housing

- Exclusionary zoning
- Inadequate public financing
- Conversion of rental units to condominiums
- Deterioration of older housing

Natural Hazards

- Urban flooding
- Seismic risk
- Soil and slope instability
- Coastal storm hazards

Habitat Modification

- Deforestation
- Soil erosion
- Climate change: flooding and drought
- Loss of biodiversity
- Species extinction

Solid Wastes

- Rising volume of wastes
- Shortage of landfill capacity
- Siting of new landfills and incinerators

not yet adjusted to either man's biological nature or his cultural heritage."[53] To Davis's insight we would now add the failure of humans to adjust their hives to the biophysical environment on which they depend. Some of the needed areas of adjustment are summarized in Box 1-2. The next chapter takes a closer look at the geographic and other factors behind urban rise and decline.

2.

Shaping the Human Landscape: The Interaction of Geography and Law

I cannot count upon the enjoyment of that which I regard as mine, except through the promise of the law which guarantees it to me. It is law alone which permits me to forget my natural weakness. It is only through protection of law that I am able to enclose a field, and to give myself up to its cultivation with the sure though distant hope of harvest.

John Locke, *Second Treatise of Government*, 1689

The chief function of government is to protect and preserve private property.

Thomas Jefferson, Letter to Thomas Paine, 1789

When a talkative seatmate on a long flight asks me, "What do you do?" I respond that I am both a geographer *and* a lawyer, which usually earns a blank stare. At first glance, geography and law may seem to have as much in common as astronomy and neurology, or mathematics and poetry. As applied to problems of managing land and water resources, however, the two fields are logical and necessary allies, with much to contribute to the understanding and resolution of land use problems like those listed at the end of Chapter 1.

For purposes of this book, *land use geography* is defined as the study of spatial organization of human activities and the interactions among them. "Spatial organization" refers to the physical patterns of land use and nonuse—rural, industrial, urban, cultural, or natural—that may be observed, measured, and mapped. "Interactions" refers to the effects of particular uses of land (or water) on other land users, on the public in general, and on the environment.

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_3,

Land use law is concerned with managing those impacts: encouraging desirable land use interactions and suppressing unwanted or harmful effects. Geography focuses on the *substance* of what we do with the bits and pieces of the earth that happen to fall under the ownership or concern of "stakeholders" (e.g., individuals, companies, nonprofit organizations, or governments). Law is concerned with the *process* by which those stakeholders are permitted to engage in various uses while minimizing adverse effects on each other or the wider public.

John Locke, as quoted in the epigraph for this chapter, succinctly stated the fundamental interdependence of geography and law: Without the protection of law, the productive or beneficial use of land would be moot. Locke, a seventeenth-century English political philosopher, profoundly influenced John Adams, Thomas Jefferson, and other framers of the U.S. Constitution with his views on law, government, and property. In essence, Locke and his American disciples recognized that *a primary purpose of an organized social order is to use law to facilitate the efficient and productive use of land*.

Law thus confirms and protects property rights in a capitalist society and thereby seeks to encourage profitable uses of land. If Locke had lived two centuries later, he would surely have mentioned the additional role of law as a means to control adverse impacts on the regional or global environment, effects such as soil erosion, deforestation, toxic substances, water misuse, or carbon emissions. Thus law seeks on the one hand to encourage "good" land use practices and on the other to restrain harmful ones. To walk that tightrope is a challenging balancing act.

To make it even more interesting, land use law must reflect the physical and economic geography of the land in question. As discussed in Chapter 9, the constitutional validity of land use regulations depends on whether they are "reasonable" in light of the geographic characteristics of particular land. Essentially, it is a "chicken and egg" problem: Geography and law jointly influence the use of land and, to some extent, each other.

To borrow the familiar clichés of journalism, we may pose five fundamental questions about land use: (1) *What* is a tract of land like (its "site")? (2) *Where* is it located with respect to other places or land uses (its "situation")? (3) *Why* is it used in a particular way? (4) *How* can it be better used to avoid harmful impacts and promote favorable ones? (5) *Who* has the authority to cause or influence changes in land use practices? The first two questions restate the traditional geographic perspectives on land use discussed in Chapter 1. The third question bridges both geography and law, involving judgments based on the natural and social sciences as well as on cultural norms and political ideology. The fourth and fifth questions lie emphatically in the domain of law.

Furthermore, we may note that law is both a *dependent* variable, shaped by the real world of the geographer, and an *independent* variable that itself shapes the human environment

in sometimes unexpected ways. A model that describes this interactive relationship is discussed later in this chapter. First, however, we survey respectively the geographic and legal "landscapes" and note some important overlaps and contrasts between them.

The Geographic Landscape

The field of geography is inherently holistic. Its two major branches, physical geography and human geography, are subdivided into a number of subfields that collectively describe Earth and its human and nonhuman attributes. The physical geography world includes geomorphology (landforms), hydrology (water), biogeography (plants and animals), and climatology. Human geographers in turn view the world through the lenses of urban, political, economic, cultural, and social phenomena.

It has been said that geographers have more in common with their colleagues in other related disciplines (e.g., geology, economics, political science, urban planning) than they do with one another. Indeed, geographers used to worry about whether they have a field of their own. Playing devil's advocate, noted geographer Richard Hartshorne once wrote, "Defined not in terms of a particular set of facts, but in terms of causal relationships presumed to exist, [the field of geography] could have but a parasitic character."[1] Hartshorne went on to argue, however, that geography's unique interest in such "causal relationships" explaining observed spatial distributions of various phenomena (the perennial "why?") distinguishes it as a separate discipline.

Certain organizing themes, models, and concepts characterize the geographic perspective and method. For purposes of this book, the following concepts are briefly summarized: spatial organization, scale, function, and externalities.

Spatial Organization

A common denominator that traditionally unites geographers is a fundamental concern with *spatiality*: the spatial organization or discernible patterns of physical and human phenomena as diverse as water resources, agriculture, banking institutions, language and religion, housing markets, ski resorts, poverty, and wealth.[2] Spatiality is to geographers what spirituality is to the ministry and health is to the physician.

In particular, geographers seek to identify, to delineate, and to interpret spatial patterns of diverse phenomena, notably including land use and landscape. To *identify*, spatial data are derived from field surveys, interviews, government reports, remote sensing, and other sources. To *delineate*, geographers use maps, photographs, and computer-generated graphics to represent spatial patterns and relationships. To *interpret* spatial patterns requires analysis and inference, including such tools as statistical analysis, digital geographic information systems, field research, modeling, historical knowledge, and

scholarly intuition. As a simple example, the pattern of large green circles within square fields visible when flying over the West can be explained in terms of the interaction of the Federal Land Survey (which accounts for the squares) and the application of center-pivot groundwater irrigation (the circles) (see Figure I-1 in the Introduction). Thus the geographer interprets an unusual human landscape in terms of the interaction of multiple sets of data, in this case those relating to climate, groundwater, soils, legal context, and technology.

After the causes of a particular spatial phenomenon are discerned, the land use geographer turns to issues and problems for public policy. To carry the previous example a step further, it may be observed that many of the circles are brown during the growing season. This browning implies that irrigation of some fields has been suspended for any of a number of possible reasons, such as drought or inadequate groundwater, high cost of electrical power to pump the water, low commodity prices, a federal land conservation program, or soil restoration.

Spatial patterns of land use may be broadly analyzed in terms of the interaction of three overlapping categories or layers of spatial data. These layers consist of physical phenomena, human (socioeconomic and cultural) patterns of land use, and patterns of ownership and political authority affecting the use of specific land.

The *physical geography* of a particular site, locality, or region may be described and interpreted in terms of its patterns of bedrock and landforms, soils, hydrology, natural vegetation and wildlife (biogeography), and climate. The geographer draws on the findings of the appropriate field to the level of detail necessary to resolve the problem under consideration.

The *human geography* of land use includes systems of rural activities—agriculture, forestry, and mining—as well as urban settlements ranging from hamlets to metropolitan regions. Some human landscapes primarily reflect the influence of *past* economic activities, such as degraded coal mining regions of Pennsylvania and West Virginia or old paper and lumber mill towns of the Kennebec and Penobscot river valleys in Maine. Other landscapes may reflect the economies of the *present* (e.g., Silicon Valley or the Dulles Toll Road outside Washington, D.C.) or even the *future* (wind-turbine "farms," reuse of closed landfills and brownfields). Other human landscapes possess deep cultural roots and meanings (Indian burial sites, battlegrounds, cemeteries, "Ground Zero" in Lower Manhattan).

Both economic and cultural landscapes comprise fragments of larger spatial systems. Spatial analysis of these systems involves (1) the identification of *nodes* or points of activity (e.g., mines, factories, power plants, sacred or historical sites) and (2) *linkages* or connections between nodes (e.g., transportation corridors, pipelines, communications networks, migration pathways, routes of historic military maneuvers). Such linkages serve

as conduits between activity nodes for a variety of dynamic commodities, including materials, nutrients, energy, goods, information, people, capital, and pollution.

The geography of *legal and political authority* can be described as a series of jurisdictional templates overlying land, representing the layers of authority that collectively influence the use of land in the United States. Depending on the peculiarities of different states, they may include local governments, counties, regional authorities, states, and the federal government (Figure 2-1).

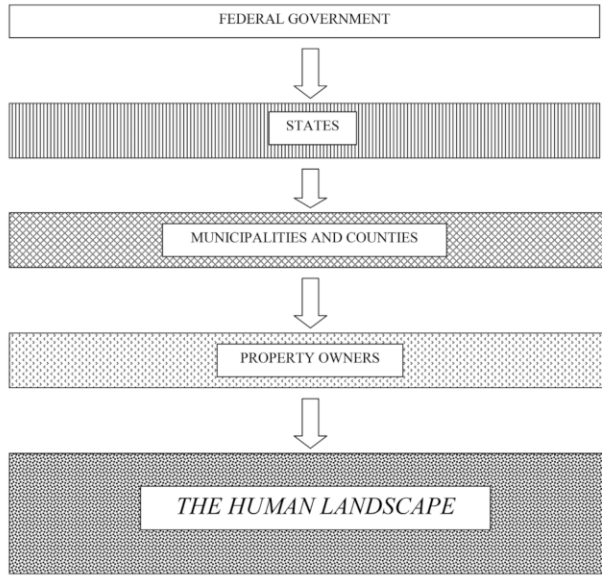


Figure 2-1
Diagram of layers of government and private ownership that collectively shape the human landscape.

Units of authority at each level in the hierarchy are bounded by precise, if irregular, territorial limits that define the geographic reach of their legal power over land. Moreover, units at different levels in the hierarchy influence the use of land within their jurisdictions in different ways according to their respective legal, political, and fiscal capabilities. The use of individual parcels of land thus reflects a complex interaction among the various levels of land managers who share jurisdiction over a given site.

Legal and political boundaries, of course, are often invisible to observation unless marked by a sign, fence, or other visual indicator. The presence of boundaries may often be inferred, however, from observing abrupt changes in land use patterns, as from a high-end, low-density elite residential district adjoining an area of dilapidated housing, abandoned storefronts, and visual blight. The capricious location of legal and political

boundaries—the result of often-forgotten historical reasons—strongly influences land use patterns, sometimes with bizarre results. For instance, O'Hare International Airport "belongs" to the city of Chicago by virtue of a tentacle of the city limits that extends along a freeway to the airport.[3] Conversely, the IBM research complex in the mid-Hudson River valley is located in the *Town* of Poughkeepsie just outside the *City* of Poughkeepsie to avoid higher taxes and social costs of the latter.[4] International boundaries often are marked by sharp contrasts in land usage, as between the irrigated fields of the Imperial Valley in California directly across the border from the industrial complex in Mexico (Figure 2-2).

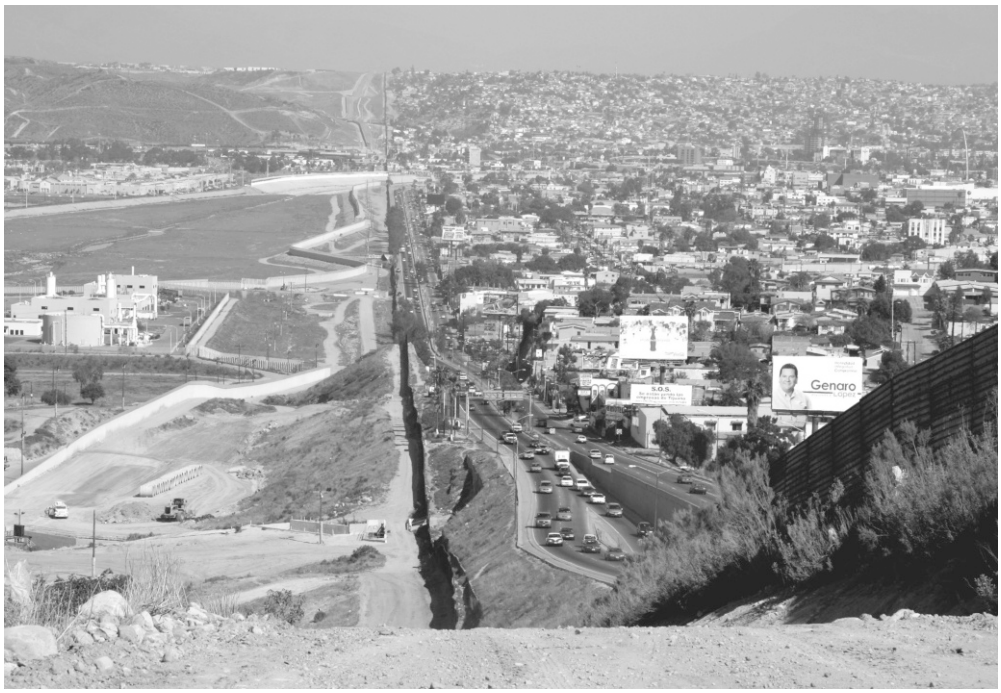


Figure 2-2
Abrupt contrast in land use on each side of border between the United States (left) and Tijuana, Mexico (right). Photograph by Sgt. 1st Class Gordon Hyde, accessed via Wikimedia Commons.

Legal and political boundaries are both causes and results of broader regional patterns of demography, wealth, and political ideology. Many postwar suburbs were established as havens of racial and income homogeneity in defiance of regional demand for affordable housing and accessible jobs. The often oddly shaped boundaries of such local governments both reflect and reinforce patterns of segregation by race and income. (The geography of municipal governments in the United States is further examined in Chapter 7.)

Scale

Scale or "hierarchy" is fundamental to geographic analysis of spatial organization. Physical, economic, and legal/political systems each may be viewed as nested subsets of smaller units within larger ones. A river drainage system, for instance, is physically organized into a hierarchy of main stem, major tributaries, subtributaries, and tiny source streams, each with its associated watershed (area of surface drainage) (Figure 2-3). For purposes of land planning and water management, the position of a tract of land in relation to this hierarchy of drainage is significant in terms of quality and quantity of surface flow past the site as well as the level of flood risk to which it is exposed.

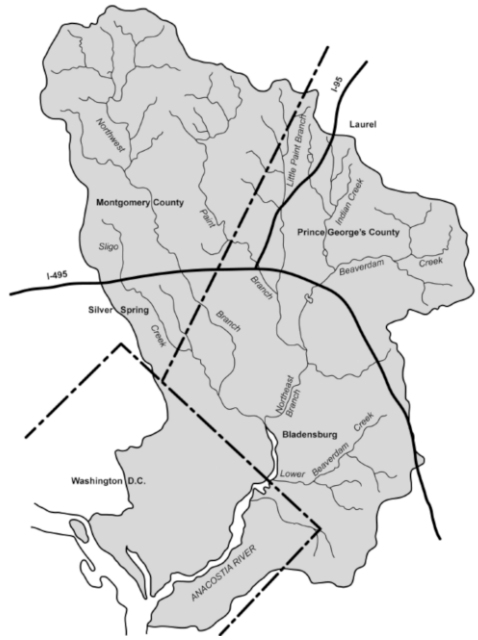


Figure 2-3

Hierarchy of a drainage basin: the Anacostia River watershed in Maryland and the District of Columbia showing tributary creeks that are fed by smaller subtributaries (not shown).

Patterns of economic activity and human settlement are also hierarchical. Commercial centers may be classified in terms of size and complexity, for example:

1. Primary city downtown (e.g., Midtown New York, Chicago Loop)
2. Superregional mall (e.g., Mall of America in Bloomington, Minnesota, or "Destiny USA" near Syracuse, New York)
3. Regional shopping center

4. Medium-sized city center
5. Neighborhood shopping center or mini-mall
6. Traditional village center
7. Crossroads gas pump and convenience store

The status of a particular commercial center in this hierarchy is not accidental. Geographers have developed numerous theories and models to account for the spatial organization of urban and economic systems.[5] In particular, *central place theory* relates the size and spacing of commercial centers to the distance consumers are willing to travel to obtain certain goods and services. Thus gas, beer, bread, and milk are normally purchased from the nearest neighborhood or convenience store, whereas one travels farther for a full-scale supermarket or specialty outlets such as an organic food market. New cars and banking, legal, and health services are obtained from larger ("higher-order") centers, whereas rare art objects, major corporate financing, and open-heart surgery are likely to be sought in a major city like Boston, Denver, or Seattle. Commercial centers at each higher level thus provide a wider array of goods and services to consumers from a broader geographic area or *hinterland* than the centers below. Concomitantly, the size and diversity of a commercial center is limited by its proximity to competing centers of the same or higher order.[6]

Location with respect to the hierarchy of governmental and ownership authority profoundly influences land use outcomes and human-dominated landscapes. The "stratigraphy" of public- and private-sector authority collectively plays a major role in the shaping of land use patterns, subject to physical, economic, and other geographic variables as well. (The functions of each level of authority over land use in the United States are examined more closely in Part III.)

The geographic location of a tract of land in relation to the hierarchy of urban and economic systems—as with its position in a drainage system—bears an important relationship to its suitability for particular uses. The history of land settlement in the United States is rife with examples of places that failed to achieve prominence because they were overshadowed by a better-situated rival that attracted population and commerce. New Haven, Connecticut, for instance, has always been overshadowed by nearby New York City, just as Portland, Maine, plays second fiddle to Boston.

In the commercial retail context, a similar phenomenon determines the fate of shopping malls that become redundant as newer, larger, and flashier regional complexes usurp their customer base. Park Forest, Illinois, a planned postwar suburb outside Chicago, originally boasted the first shopping center in its area. Subsequent development of much larger malls in the vicinity forced the Park Forest center to close (although it later was

"reinvented" as economical space for certain specialty businesses and services). Route 9 in Hadley, Massachusetts (near the University of Massachusetts Amherst), is lined with big-box retail premises in various stages of rise, decline, and redemption.

Function

The concepts of scale and function are two sides of the urban coin. Cities and towns rise and fall according to the economic functions they provide and the size of the population that depends on them for particular needs (in geographic-speak, the prosperity of the "central place" or *core* depends on the size and wealth of the *hinterland* whose needs it serves). New York City became the largest U.S. city due in part to the opening of the Erie Canal in 1825, soon followed by rail lines that made it the cheapest port for shipping midwestern grain abroad. In the past century, New York's dominance as a world center of finance, fashion, the arts, entertainment, education, and medicine ensured its continued status at the pinnacle of the U.S. hierarchy of urban places (Table 2-1). Buffalo, by contrast, was the tenth largest American city in 1910 with 423,000 residents, but by 2010 it ranked number seventy-two with 251,000 residents, due in part to its loss of industry and

Table 2-1. Ten Largest U.S. Cities, 1910 and 2010 (by population size)

	1910		2010	
Rank	City	Population	City	Population
1	New York	4.7 million	New York	8.2 million
2	Chicago	2.1 million	Los Angeles	3.8 million
3	Philadelphia	1.5 million	Chicago	2.8 million
4	St. Louis	687,000	Houston	2.2 million
5	Boston	670,000	Philadelphia	1.5 million
6	Cleveland	560,000	Phoenix	1.4 million
7	Baltimore	558,000	San Antonio	1.3 million
8	Pittsburgh	533,000	San Diego	1.3 million
9	Detroit	465,000	Dallas	1.2 million
10	Buffalo	423,000	San Jose	0.9 million

Source: New York Times Almanac 2009 (New York: Penguin, 2008), 250.

its difficulty competing with other cities for tourism and conventions (not to mention its discouraging climate).

As displayed in Table 2-1, all ten of the largest American cities in 1910 were industrial powerhouses in the Northeast or upper Midwest. A century later, only New York, Chicago, and Philadelphia remained on the top ten list, which otherwise consisted of upstart Sun Belt cities that barely existed, if at all, at the dawn of the twentieth century. Cities like Dallas and San Diego thrived with the proliferation of air-conditioning, air travel, and retirement of northerners to milder climes. The Cold War also was kind to Sun Belt cities as centers of aircraft and missile industries and defense bases. Even in the Sun Belt, however, reliance on a single dominant function can prove wobbly. For example, Silicon Valley, centered in San Jose, California, stumbled with the dot-com collapse of the early 2000s. Meanwhile, older "smokestack cities" like Pittsburgh, Cleveland, and Milwaukee have been developing new postindustrial functions as centers of culture, higher education, software development, and urbane living. Smaller industrial cities like Dayton, Ohio, and Muncie, Indiana, also offer a wider range of affordable housing and accessible amenities than power centers like the Bay Area, Boston, Chicago, and New York.[7]

An urban place without real economic functions is a virtual nullity, regardless of what laws or promoters may say. Colonial legislatures of Virginia and Maryland attempted to encourage the growth of towns by laying out sites adjoining rivers and granting them special port privileges. Each plantation, however, shipped its products directly from its own river landing, and port towns were therefore unneeded. In the pithy words of Thomas Jefferson, a geographer among his many talents, "The laws have said there shall be towns; but nature has said there shall not, and they remain unworthy of enumeration."[8]

Jefferson's insight could be beneficially applied to contemporary proposals to locate industrial parks, shopping centers, second home communities, airports, or other major investments without analysis of geographic context. For instance, in the 1970s the state of Maine proposed to build a container port at Sears Island at the head of Penobscot Bay, but container commerce in New England was already dominated by the port of Boston. After a long legal battle, the project was scrapped. Similarly, LA/Ontario International Airport was greatly expanded during the 1990s only to lose most of its passenger service to the region's dominant hub at Los Angeles International Airport (LAX), only 38 miles to the west.

Urban functions evolve over time with changes in technology, economics, demographics culture, politics, and "image." Jane Jacobs in 1970 argued that cities rise and fall according to their functions in production and as marketplaces.[9] Six years later, sociologist Daniel Bell identified the rise of a "postindustrial society" whose dominant economic function would be information based.[10]

The notion of function applies not only to urban places but also to individual tracts of land. Each unit of land may be viewed as functioning within larger physical and human systems. Ecologically, land in its natural state supports biological diversity, stores and releases surface water and groundwater, transmits moisture and carbon dioxide to the atmosphere through evapotranspiration, concentrates energy through photosynthesis, and supports the formation of soils. Within the agricultural system, land use functions include cropland, pasture, fallow, horticulture, woodlot, and farmstead. Urban land functions as building sites for homes, business, industry, institutions, and transportation while, it is hoped, some unbuilt land is retained to function as parkland and ecological preserves.

Function is thus related to, but not synonymous with, the term *land use*. Function refers to the relationship between a parcel of land and the wider physical and socioeconomic spatial systems to which it belongs. Even a vacant lot may have no productive economic use but may function beneficially as a visual amenity, a perceptual buffer between neighborhoods, a play space for children, an informal parking area, or a habitat for wildlife. Negatively, it may serve as a dumping site for trash, junk cars, or hazardous wastes or as a refuge for drug abusers or other various illicit activities.

Externalities

No parcel of land is an island unto itself. Land use functions, by definition, generate impacts that affect surrounding areas or a broader public (Figure 2-4). Such *externalities* can be either beneficial or harmful. The former may include jobs created in the surrounding community or region from a new industrial plant or commercial firm. An attractively landscaped site or an attractive home benefits neighbors aesthetically and may increase the values of nearby property. Although society seeks to encourage such *positive* externalities from the use of land, *negative* or harmful externalities are a far greater concern.

Adverse externalities arise from the failure of land use managers at various scales (e.g., property owners, corporations, municipalities, states, nations) to recognize the negative impacts of their site-based actions on places and people outside their immediate area of control. Such effects may be either physical or socioeconomic in nature, or both. Adverse *physical* externalities take such forms as air and water pollution, flooding, natural habitat degradation, water supply depletion, littering and dumping of wastes, noise, visual blight, and climate change.

Negative *socioeconomic* impacts are often described as “beggar thy neighbor” or “do unto others before they do unto you.” Thus local and state governments compete with their peers for jobs, tax revenue, federal grants, and “prestige” accruing from the location of private and public facilities like industrial plants, corporate headquarters, colleges, or

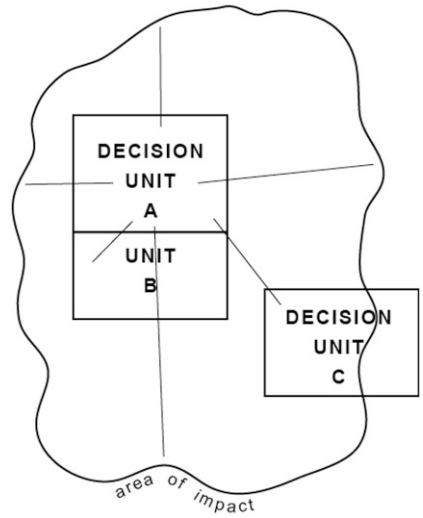


Figure 2-4
Diagram of spatial impacts of externalities on adjacent and nonadjacent geographic "decision units" (e.g., private properties, towns, states, nations).

defense bases. Relocation of economic activities to outer suburbs causes the loss of jobs and tax revenue to older, more central jurisdictions while generating traffic congestion and air pollution in areas traversed by highways.[11]

The nature, extent, and economic consequences of externalities may vary widely by type and magnitude of effects, yet the fundamental problem is the same: How can favorable externalities be encouraged and adverse externalities be suppressed or mitigated? Furthermore, some externalities, such as flagrant air pollution and hazardous waste dumping, are serious enough to justify higher-level governmental intervention. Others are simply left for the victims to endure, as with a noisy party next door or loss of tax revenue and jobs due to a new mall in the next town. The determination of which is which, and what if anything should be done about it, poses legal and political questions. Having thus framed the problem, geographic analysis yields to the legal system to provide solutions.

The Legal Landscape

The legal landscape is very different from that of the geographer. Whereas the *geographic* landscape model identifies spatial systems of cores (central places), hinterlands, linkages, flows, hierarchies, and functions, the *legal* landscape may best be described as a battlefield on which private property interests struggle against one another (the *private law* context) as well as against governmental constraints (the *public law* context). This landscape is criss-crossed with the fortifications of entrenched stakeholders, such

as property owners, tenants, public agencies, neighbors, housing advocates, and civic and environmental groups. The battlefield is littered with the shell craters of past legal salvos and is fraught with anxiety about assaults of clever lawyers representing developers, Wal-Mart, wind farms, natural gas hydrofracking, and other agents of community and regional change.

The adversarial and pragmatic perspective of law contrasts with the interpretive orientation of geography. Land use and development patterns in the legal world are the collective result of contracts, statutes, administrative regulations, court decisions, or negotiation (not to mention the occasional altercation). Geography's concern with the meaning and *substance* of land use contrasts with the law's emphasis on *process* of conflict resolution, such as compliance with planning and zoning laws, required technical documents, public notice and hearings, and conflicts of interest.

It is, of course, inefficient and unpredictable to govern land use and urban development strictly through conflict resolution *after* disputes arise. To head off potential clashes between stakeholders, local governments in the United States are widely vested by state laws with land use planning and regulatory powers. As is considered in Chapter 7, these two functions are closely intertwined, with the legitimacy of the latter, such as land use zoning and wetland restrictions, dependent on their basis in an objective "master planning" process.

This overlap suggests an important nexus between geography and law regarding the legitimacy or *constitutionality* of public land use restrictions applied to private property without compensation to the owner. Courts often declare that a disputed public land use regulation must be "reasonable" to pass constitutional muster.[12] The "reasonableness test" involves a balancing of the necessity or *public purpose* of the measure against its *economic burden* on affected property owners.

Lo and behold, we are back in the geographic landscape. "Public purpose" is analyzed in terms of how effectively the regulation protects the *public health, safety, and welfare*. Such protection often involves serious threats to members of the public, not just "desirable" goals. Thus regulation of building heights and density, industrial plant location, and sources of traffic congestion may be judicially acceptable (results vary from state to state and court to court), whereas "protecting scenery" may be viewed as a frivolous use of the regulatory power. Analysis of "public purpose" is inherently a geographic exercise: What physical, social, or economic externalities are serious enough to justify public regulation to avoid or mitigate them? Likewise, the opposite side of the balancing test—"economic burden"—involves weighing the costs of public land use measures on private property owners, the local workforce, consumers, and local tax base, yet another geographic task.

So, externalities that represent friction among components in the geographer's *macro*

view of the land economy are in fact a major concern, along with procedural issues, of the lawyer's *micro* view. If there were no externalities among land use management units, there would be little or no need for land use law. *A central problem of land use law is that of externalities, and that problem is fundamentally geographic*.

A Short Digression: The Legal Process

Before proceeding further, it is important that the nonlawyer reader understand how the American law of land use is articulated in the United States. What is loosely referred to as "the law" is a complex mosaic of rules and principles expressed in various documentary forms, including:

1. *Constitutions* (federal and state)
2. *Legislative acts* (also known as *statutes* or *legislation*)
3. *Judicial decisions* in court cases (also known as *case law*)
4. *Administrative regulations* issued by regulatory agencies

To simply list the major sources of legal authority is scarcely to convey the complexity of the relationships among them. Clearly, the starting point is the Constitution of the United States, which was stated by the nation's founders to be "the Supreme Law of the Land."[13] The U.S. Constitution established the overall balance of powers among the executive, legislative, and judicial branches of the federal government. The nature and extent of individual rights, including the right to own property, are set forth in the Bill of Rights (the first ten amendments passed in 1791) and later amendments. State constitutions perform essentially the same functions as the federal constitution and are subordinate to it (notwithstanding the long-standing rhetoric of "states righters"). Of particular importance to the land use context, the Fifth Amendment to the U.S. Constitution declares: "No person shall be . . . deprived of life, liberty, or property without due process of law, nor shall private property be taken for public use without just compensation." (This troublesome "takings clause" is discussed in more detail in Chapter 9.)

Legislation—laws adopted by Congress and state legislatures—must be consistent with the U.S. Constitution, as ultimately determined by the courts. The Constitution was in fact silent on the power of courts to overrule legislative acts thought to be contrary to the Constitution. This authority was asserted in the famous 1803 U.S. Supreme Court decision by Chief Justice John Marshall in *Marbury v. Madison*.[14] This case established the principle of *judicial review*, under which courts may determine the constitutionality of federal, state, and local laws in cases in which that issue is presented.

In deciding cases presented to them, courts customarily draw on *precedent*, namely

previous rulings by courts in cases presenting issues similar to the one now to be decided. Lower courts normally defer to the prior decisions of higher courts, but often there is precedent on both sides of a dispute from diverse prior decisions. Much of the legal process involves reconciling inconsistent decisions from diverse courts and contexts. Law students are taught how to present their cases to resemble precedents that support their clients and to distinguish other precedents that lean the other way. In politics, it is called "spin"; in law, it is called earning your fee!

Finally, administrative agencies are created and authorized by federal and state legislation to adopt and enforce *administrative regulations* to carry out specific programs and purposes. Such agencies are creatures of legislation and may not exceed the express or implied powers delegated to them by the authorizing law. Administration regulations are, of course, subject to review by courts to determine their constitutionality and/or consistency with the applicable legislation.

In the United States, there are two parallel systems of courts: the federal court system and the court systems of each state. Both sets of court systems are hierarchical, with trial courts at the base, appellate courts in the middle, and the U.S. Supreme Court as the pinnacle of both the federal and state court systems. Land use cases are usually brought to the courts of the state in which the land is located. Cases may be initiated in, or transferred to, the applicable federal court when a federal constitutional issue or statute is involved (federal question jurisdiction) or when the parties are located in different states (diversity jurisdiction). In either case, threshold levels of economic harm must be involved for a case to be accepted in the federal courts.

Congress has deferred to the states on most land use matters, and the states in turn have generally delegated planning and zoning authority to local governments. Most legal disputes over land use regulation are filed in the state courts against a local government (or occasionally a state agency). In a typical such case, the court is asked by the plaintiff to resolve whether a challenged statute or regulation is "constitutional" and fairly applied to the *plaintiff* by the *defendant* unit of government. In such cases, the plaintiff asks the court to nullify the measure, and the defendant seeks to have its action upheld. Many cases, however, are decided on procedural grounds without reaching the merits of the case.

Relatively few land use disputes actually reach the courts at all, with the parties sometimes agreeing to an out-of-court *settlement* or simply abandoning a lawsuit when it appears too expensive or hopeless. Of those cases that are decided by trial courts, even fewer are appealed by the losing party to an appellate court. Very rarely, cases of major significance are submitted for review by the U.S. Supreme Court, which is very selective in the cases it accepts. Only about a dozen land use decisions have been issued by the U.S. Supreme Court since 1980. State supreme courts collectively account for most significant

decisions in this field. Their decisions apply directly only to the state in which they arise but are disseminated nationally to provide guidance to courts considering similar cases elsewhere. State court decisions on matters of state law are "precedent" within the state in which they are issued (unless overruled). In other states, they have persuasive value in similar cases but are not necessarily treated as controlling precedent.

Land use case law in both the state and federal court systems comprises a rich archive of judicial perspectives on the relationship of law and geography. Judicial opinions apply legal authorities (e.g., prior case law, statutes, treatises) to the facts of the case. It is the role of the attorneys for each party to portray applicable legal authority and the facts of the case favorably to their respective positions. The court in turn forms its own opinion of the state of the law and the facts of the case and reaches a decision accordingly. The legal outcome therefore reflects in part the court's perception of the geographic context.

Judges, being human, do not necessarily view the circumstances of a land use issue in the same way. Judicial disagreement may arise in several ways: (1) among individual judges on a multijudge court (as expressed in dissenting opinions), (2) between a lower and higher court reviewing the same case, (3) between courts in different states or federal jurisdictions reviewing similar cases, and (4) between courts considering a similar issue at different points in time. The last category is particularly important in weighing the role of geographic perspective in the judicial process. Law is a flexible and dynamic institution. The adjudicative process permits reinterpretation of legal principles over time in response to actual or perceived changes in society and its needs. As stated by the U.S. Supreme Court in *Village of Euclid v. Ambler Realty Co*: "While the meaning of the constitutional guarantees never varies, the scope of their application must expand or contract to meet the new and different conditions which are constantly coming within the field of their operation."[15] Leading decisions on similar land use issues over time may thus reflect shifts of legal response to "new and different conditions," among which geographic circumstances loom large.

Law and Urban Form

Visitors to Edinburgh, Scotland, who view the city from its castle's parapets may observe the influence of law in shaping urban landscapes in striking grandeur. Close at hand is the city's picturesque Old Town, with dark, narrow, medieval streets winding from the castle gates between rows of irregular stone buildings to Holyrood Cathedral and the market spaces around it. Just beyond lies Edinburgh's New Town, an orderly and fashionable district of straight, tree-lined streets bordered by rows of townhouses and shops. The New Town was designed by James Craig in 1766 as a "modern" city district where the nobility and wealthy could (and still do) live in elegance and relative safety from the

noxious miasmas of the crowded Old Town. No one planned the Old Town; it just happened over the course of the Middle Ages through individual choices of its inhabitants. Although charming to tourists today, in its heyday it was dark, noisy, crowded, unhealthy, and ridden with crime. It is no wonder that the aristocracy desired a New Town designed according to a uniform code of building standards as prescribed by the 1766 Craig Plan and, importantly, *enforced by law*.

Urban geographer James Vance distinguished between *organic* cityscapes like Edinburgh's Old Town and *preconceived* or planned urban districts like Craig's New Town.[16] The "organic" cityscape is relatively unplanned, shaped over time by the forces of commerce and individual preferences. On the other hand, "preconceived" urban places are by definition the products of deliberate planning, as translated into building codes, land use regulations, and other legal constraints on land use, development, and occupancy.

The relative influence of the organic and the preconceived in the evolution of cityscapes differs greatly from one urban place to another, from one historical period and social order to another, and among different districts within the same city. Organic or vernacular cityscapes sometimes are replaced with planned districts if the former prove hazardous. In Lisbon, for example, the colorful "organic" Alfama district overlooks the elegant city center that replaced the old city core after it was destroyed by the 1755 earthquake.[17] London was substantially replanned after its Great Fire of 1666 (see Box 3-1 in the next chapter). Venice is renowned for its St. Mark's Square, a masterpiece of preconceived Renaissance design, only steps from a labyrinth of narrow organic backstreets (Figures 2-5 and 2-6).

Most New England towns evolved organically, much to the delight of tourists and dismay of motorists today. A village common, a church, a school, a marketplace, and a burial ground were their main community features. An exception was the nine-block core of New Haven, Connecticut, that resulted from agreement of the first settlers in 1638 to adopt a rectangular plan of streets and building lots surrounding a central common (today's New Haven Green). William Penn's 1686 checkerboard plan for Philadelphia, James Oglethorpe's 1733 plan for Savannah, and the 1820 Mount Auburn subdivision in Boston similarly reflected "preconceived" planning.[18]

Washington, D.C., was planned as the nation's capital by French engineer Pierre L'Enfant at the invitation of George Washington (Figure 2-7). The 1791 L'Enfant Plan for the future "Capital of the Free World" ironically was modeled on Louis XIV's Versailles Palace, the seventeenth-century showcase of power and autocracy (*"L'état, c'est moi"*)! The District of Columbia was further "francophiled" by the 1901 McMillan Commission, which replanned the city center in imitation of nineteenth-century Paris.[19]

New York City in the early nineteenth century was a bustling organic settlement

Figure 2-5
St. Mark's Square, Venice, Italy, a famous and beloved example of "preconceived" Renaissance city planning (as modified by Napoléon in the early nineteenth century). Photo by author.

Figure 2-6
Only steps from St. Mark's Square, Armani and laundry share an "organic" medieval street in Venice, Italy. Photo by author.

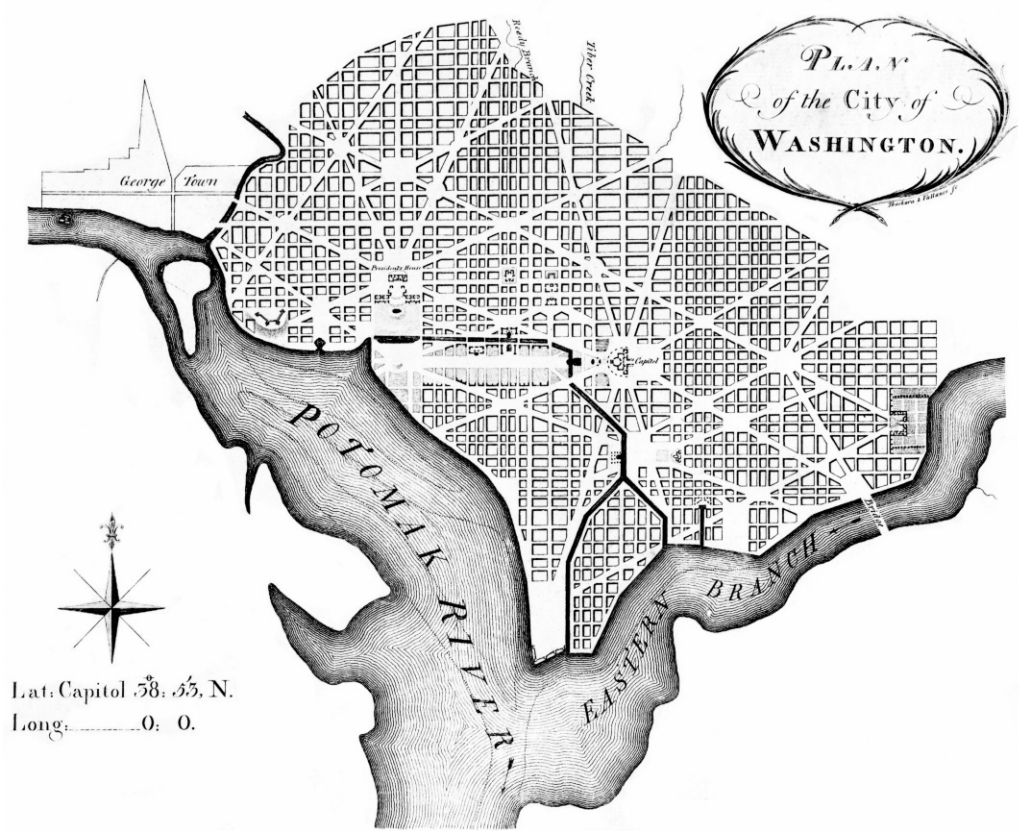


Figure 2-7
The original plan for the future Washington, D.C., drawn by Pierre L'Enfant in 1791.

clustered at the lower end of Manhattan Island.[20] As streets and buildings oozed northward, a state-commissioned master plan adopted in 1811 established the rectangular grid of north-south avenues and east-west streets that today dominates Manhattan north of Greenwich Village and Soho (which today are treasured remnants of the earlier organic era).[21]

The pervasive rectangularity of rural and urban land use in the United States west of the Appalachians results from one of the first sovereign acts of the new national government, the Land Ordinance of 1785. This ordinance initiated the federal rectangular land survey, which eventually covered much of the country west of the Appalachians (see Figure I-2 in the Introduction). Even near the East Coast, evidence of early rectangular surveys are found in many cities and in rural parts of northern New England and western New York State.

The landscape-shaping role of law and the political system, however, is broader than

just the influence of land use planning, regulation, and conflict resolution. Both rural and urban landscapes are also affected by public *spending* and *taxation* policies. For instance, federal and state water development projects determine the allocation of irrigation water and thus the geographic patterns of agriculture in arid and semiarid regions. Federal farm subsidies influence choices by farmers and agrobusinesses among crops such as cotton, corn, soybeans, and wheat, and as discussed in Chapter 1, between crops for food and for biofuel production. Spending on "public infrastructure"—highways, bridges and tunnels, sewer and water systems, airports, mass transit, public schools and colleges, and defense installations—all influence to various degrees the hierarchy of urban central places, and the location of commerce, industry, and recreation development.

The 46,000-mile federal Interstate Highway System profoundly shaped the postwar landscape of the United States, including the devastation of inner-city neighborhoods and the spread of suburban sprawl. As described by Stephen B. Goddard: "The interstates were the cathedrals of the car culture, and their social implications were staggering. Within a decade, they would alter beyond recognition where and how Americans lived, worked, played, shopped, and even loved. Watershed changes loomed in politics, agriculture, and land economics."[22]

Tax policies and government loan programs also encouraged postwar suburban sprawl and racial polarization between cities and suburbs. Federal loan policies discriminated in favor of white families while denying housing loans to African Americans and other minorities. Thus the "separate and unequal" geography of black inner cities and white suburbs was legally reinforced by federal housing policies until overturned by Congress in the 1968 Fair Housing Act (in law but not necessarily in reality, as the real estate market continued to practice racism through indirect means).[23]

In addition to interstate highways and federal housing loan guarantees, suburban sprawl was further encouraged by federal and state tax subsidies. The federal income tax code provides three major deductions for home ownership costs not available to renters: interest on mortgage loans on principal or second homes, property taxes paid to local governments, and "points" paid to lenders at the time of purchase.[24]

Other public laws produce more desirable effects on the shape of human rural and urban communities. For instance, the proliferation of curb cuts, wheelchair ramps, spacious restrooms, and self-opening doors are but a few improvements in the design of public spaces and buildings resulting from the Americans with Disabilities Act of 1990. Affordable housing, solar panels, rain barrels, separation of wastes, recycling, hybrid cars, high-occupancy-vehicle lanes are all products of legal mandates or incentives, and the list goes on.

As landscape critic Grady Clay observed: "No true secrets are lurking in the landscape,

but only undisclosed evidence, waiting for us. No true chaos is in the urban scene, but only patterns and clues waiting to be organized."[25] In that spirit, we must "read the city" and the entire human landscape to discern the patterns and clues of law and public policies—together with economic, technological, cultural, and physical factors—that shape the human environment.

The Land Use and Society Model

As discussed, the use and development of land involves complex interactions among several systems of spatial phenomena: physical geography, economics, technology, social and cultural factors, and the legal and political systems. The players in the land use game include private stakeholders of many types and public authorities from the local level to the federal level. The players interact with one another (usually) within the rules of the game established by the legal and political process. Some of these interactions are acrimonious and adversarial, as with administrative appeals and lawsuits. Others are more amicable, as in negotiated contracts and governmental grants, loan guarantees, and incentives (handouts). Still others may be cozy and corrupt, as with bribery and kickbacks to public decision makers.

How can we wrap our minds around this complicated, clumsy, and sometimes infuriating land use game? How can this Rube Goldberg contraption be reduced to a (deceptively) simple descriptive construct? The land use and society (LUS) model depicted in Figure 2-8 attempts to do exactly that.

The three circles of the LUS model represent three sets of spatial data for any given tract or parcel of land: (1) its physical characteristics and its location, (2) the legal and political entities (both private and public sector) that collectively determine how that tract may or may not be used, and (3) its existing land use status within the larger human landscape. The square on the right side of Figure 2-8 represents nonspatial societal factors that influence the land use decision makers in circle 2.

The model's vectors represent the interrelationships between the sets of spatial data. In particular, circle 2 decision makers are potentially influenced by three sources of data:

1. *Environmental and scientific data* concerning circle 1, including the environmental impacts of existing land use practices
2. *Economic and social data* concerning circle 3, including the impacts of natural hazards and resource depletion on prevailing land use practices
3. Other societal factors, including economics, technology, culture, and political ideology

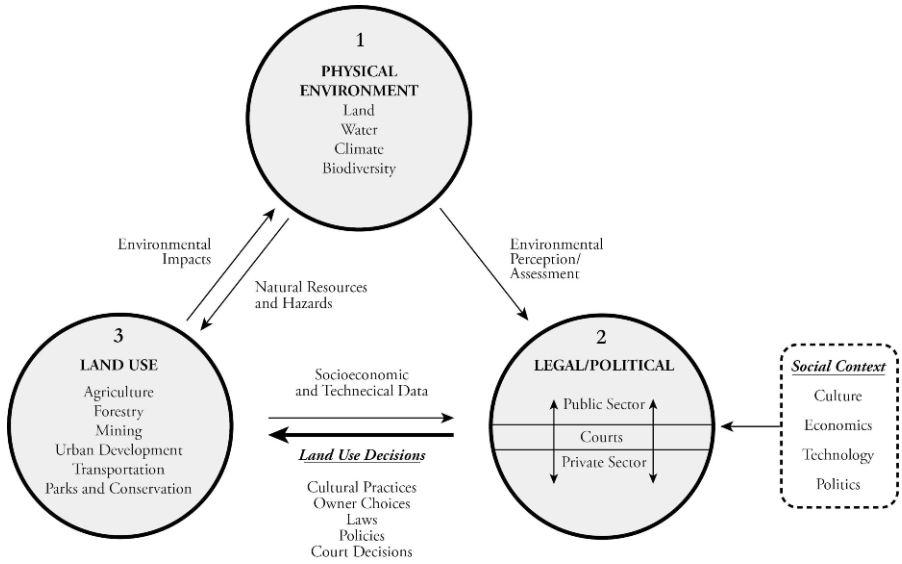


Figure 2-8
The land use and society model (devised by the author as the foundation of this book).

The *environmental impact* vector represents the modification of the physical environment by human activities, at either the macro- or microscale. In the agricultural context, row cropping on hilly terrain hastens soil erosion and causes sedimentation and pollution of downstream water bodies; irrigation may lead to salinization of the soil mantle or, where drawing from groundwater, to lower aquifer levels. Such practices, if continued unchecked, may lead to a loss of productivity in the areas affected and eventually to a destruction of the physical resource. If and when the harm of existing practices is perceived by government, new laws and regulations may modify the way the land use activity is conducted. Or, perhaps a well-informed private owner (individual or corporation) may institute more sustainable land use practices for economic or public relations reasons, as in the much-touted use of selective harvesting by timber companies rather than clear-cutting or the reclamation of land surfaces after strip mining by coal companies (possibly in response to governmental mandate).

The *socioeconomic and social* vector of the LUS model represents the profitability of current land use to private owners, the tax revenue accruing to local governments, and other elements of income and costs to the various stakeholders for a given tract. Social indicators include noneconomic benefits or detriments to occupants of the property and its neighbors, as in the case of noise or health hazards. Natural hazards, of course, inflict both economic and social effects on site occupants, owners, and local governments. Changes in land use and building practices following a natural disaster to reduce future

vulnerability is a desirable outcome of the LUS decision process, as represented in the recovery of London from its 1666 fire. The repair and expansion of flood control facilities in New Orleans after Hurricane Katrina in 2005 is another such response. Today, coastal areas of New York, New Jersey, and Connecticut, including metropolitan New York and Long Island, are starting to recover from Superstorm Sandy in October 2012, with new attention to rebuilding more resiliently.[26]

The bottom line of the LUS model is the *land use decisions* vector that represents the collective output of the entire bundle of circle 2 stakeholders sharing decision-making authority over the tract in question. As already discussed, for any particular tract of land circle 2 can be a battleground, it can be amicable, or it can be somewhere in between. Certainly not every public and private stakeholder gets riled up over any and all proposed changes in land use. Much of the human landscape just happens through the routine operation of private market decisions. Beyond land use decisions per se, however, the LUS model helps describe social decision making in many contexts, such as energy development (e.g., the Keystone pipeline, oil and gas drilling in Alaska, hydrofracking, wind farms); transportation (hybrid vehicles, light rail, bike paths), housing (home offices, mixed-use development, cohousing, ecovillages), waste management (separation and recycling, trash-to-energy projects, biodegradable containers), and building standards (LEED green building standards, water reuse, historic preservation).

Private and public decision makers weigh environmental and socioeconomic information very differently according to their specific objectives, and their priorities change over time. Until the 1960s, economic profitability prevailed over concerns about environmental impacts, resource degradation, and social implications of decisions affecting land use and broader economic activity. With the rise of the environmental movement in the late 1960s, the *environmental-perception* vector gained added weight in the United States (it barely existed before that), but its influence fluctuates with changing political administrations and the state of the economy. During economic downturns, as after 2006, local public authorities were more oriented to tax base and jobs than to "smart growth"—a mantra of the 1990s and early 2000s—and environmental factors received less, if any, consideration than in more prosperous times. In highly charged debates over threats like climate change, political ideology may override environmental science input altogether, at least for certain states and public officials.

Diverse agencies and levels of government may differ in their goals. For instance, a long-debated plan to renourish the beach at Fire Island, New York, pits two federal agencies against each other: the U.S. Army Corps of Engineers (which would oversee the project) advocates the plan to protect property and the local economy, whereas the U.S. Fish and Wildlife Service opposes the project due to its possible harm to the piping plover, an

endangered species.[27] Likewise, property owners fight with their town or county governments, and often with their neighbors, over land use issues. The resulting outcome—which may be no action at all—ensues from playing out the land use game. Whatever the name of the game, circle 2 of the LUS model represents the playing field, or the field of battle.

The LUS model thus depicts a dynamic feedback process whereby a particular land use activity (circle 3) may be modified by a new set of resource-management signals from circle 2 in response to new awareness of the environmental impacts of existing practices on the biophysical environment (circle 1) and socioeconomic impacts (circle 2). This new awareness may result from a single dramatic catastrophe, which leads to immediate revision of the prevailing rules as in the case of London's 1666 fire, or it may result from a change in social values regarding an existing state of affairs that, after being either acceptable or ignored, becomes intolerable and leads to legislative reform. Thus the sanitary reforms of the 1840s and the American progressive movement in the early twentieth century focused public attention on conditions of urban squalor and overcrowding, stimulating the adoption of sanitary codes and zoning laws (see Chapters 3 and 4). The "environmental decades" of the 1960s through the 1980s witnessed a proliferation of new environmental laws and programs in response to growing perception of environmental deterioration as documented by such seers as Rachel Carson, Barry Commoner, Ian McHarg, Lester Brown, Paul Ehrlich, Gilbert White, and others.

Today, the feedback loop of the LUS model is laboring to formulate legal responses to the growing recognition of new threats to the biosphere in the form of climate change, stratospheric ozone depletion, and deforestation. The "legal circle" must expand geographically to embrace multiple nation-states and international institutions. A major success at that level was the 150-nation Montreal Protocol of 1989 to ban the use of chlorofluorocarbons that destroy the ozone layer. The fate of the 1997 Kyoto Agreement on reducing greenhouse gases has long remained in limbo for lack of U.S. adoption and support, however.

Over time, specific legal institutions and measures have thus emerged in response to the prevailing coalescence of political, social, and economic objectives regarding land use. As societal conditions and expectations changed, however, the broad legal concepts did not necessarily vanish, although specific applications may have been superseded. Like the woodstove and the windmill, the legal approaches of earlier eras remain available for subsequent rediscovery. Earlier practices, laws, and perceptions, however, may also impede social adaptation to new research findings. We must continually adapt our institutions for managing the use of land, air, and water at all scales so as to better respond to new knowledge and threats.

PART II

From Feudalism to Federalism: The Social Organization of Land Use

3.
Historical Roots of American Land Use Institutions

The common bell called the commons to the town from the common streets and the green commons to the common hall and in common hall assembled a common seal to release their common land, for which a fine is paid into their common chest. All is common; nothing is public.

Frederick W. Maitland, *Township and Borough*, 1898

And did the Countenance Divine
Shine forth upon our clouded hills?
And was Jerusalem builded here
Among these dark Satanic mills?

William Blake, 1809

Concepts of property rights and land use law in the United States owe much to the legal systems of the countries of origin of settlers in various regions. The English common law, based heavily on prior judicial decisions, or precedent, was implanted in New England and mid-Atlantic settlements. Elements of civil law, based on administrative codes like the Napoleonic Code, were imported to settlements by migrants from France and Spain, as in Florida, Louisiana, Texas, New Mexico, Arizona, and California.

Both the common-law and civil-law traditions were derived in part from ancient Greek, Roman, and Byzantine precedents such as the Emperor Justinian's Code of the sixth century AD. General notions of preconceived town plans for colonial settlements in North America also date back to the Roman Empire, especially to the *Ten Books of Architecture*

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_4,

written by Vitruvius in the first century BC. Ancient principles of town planning and property law were revived during the Renaissance and incorporated into legal codes for colonial settlements, most importantly the Law of the Indies, which prescribed design standards for Spanish settlements in the New World.

Inherited legal concepts from antiquity and medieval Europe in turn have blended with native land rights, religious laws, and local customs that vary from one region to another. This chapter (and book) focus primarily on the Anglo-American tradition of common law that prevails in most of the United States today, subject to local variations based on other legal traditions. Most important to this narrative is the ability of our legal and political system to adapt to diverse geographic conditions, changing economic and social conditions, and new knowledge about the state of our human habitats and (more recently) the global environment. For example, as settlement moved westward, legal doctrines were devised or modified to adapt to different geographic environments, as with the "prior appropriation" water rights doctrine that evolved in arid regions during the nineteenth century to ensure scarce water for mining and agriculture. As the nation became more urban, new legal powers and functions of government were devised, as with the development of sanitary regulations, public water systems, and large city parks.

Private ownership of land is fundamental to modern capitalism, the dominant economic system in most of the developed world today. It is rampant even in countries like China and Vietnam, which still purport to be communist "People's Republics." Capitalism, according to *Webster's New Universal Dictionary*, is "an economic system marked by open competition in a free market, in which the means of production and distribution are privately or corporately owned." In terms of land, capitalism involves the fragmentation (or "parcelization") of land resources among multiple ownership units of diverse size and function. *Ownership* implies freedom to use land as the owner wishes, subject to minimum legal constraints imposed by society to limit harmful externalities. A further attribute of capitalism is *social inequity*, whereby a small fraction of the population owns or controls most of the land (and wealth derived therefrom) while the rest of the population owns little or nothing.

Modern capitalism is a relatively modern institution, dating to the English Age of Enlightenment during the seventeenth and eighteenth centuries. In *The Wealth of Nations* (1776), Scottish political economist Adam Smith provided a theoretical foundation for capitalism based on his theory of the "invisible hand" of private markets in optimizing wealth and social well-being. His views drew on those of John Locke in the previous century and influenced the framers of the U.S. Constitution (see the Locke and Jefferson epigraphs at the beginning of Chapter 2).

The Feudal Commons: Sustainability in the Dark Ages

Before capitalism emerged from its urban seedbeds to scatter across entire nation-states, *feudalism* was the dominant social order and system of land use in traditional societies. Although it withered in the face of private market forces by the eighteenth century in England and western Europe, it persisted in Japan into the nineteenth century and in Russia until the overthrow of the Romanov dynasty and the execution of Czar Nicholas II and his family in 1917.

Under feudalism, land was not privately owned in the modern sense; rather, it was "held" by the ruling monarch or emperor by virtue of inheritance, marriage, or conquest. In England, the "realm" was divided among the monarch's chief followers (*overlords*) who in turn divided their respective regions into local geographic areas (*fiefdoms*), subject to the oversight of lesser nobility (lords). The fiefdoms were further divided among diverse *manors* under the oversight of barons. Supporting this pyramid of barons, lords, overlords, and Crown were the *commoners* (also known as *peasantry* or *serfs*), who actually tilled the soil, herded livestock, harvested grain, made bread, brewed grog, and otherwise did all work needed to wrest food, fiber, and other necessities of life from the land. They also served as foot soldiers in wars waged by their aristocratic "betters" (who wore armor and rode horses into battle while the serfs slogged through the mud into hails of arrows and spears).

Like organized crime syndicates, feudalism depended on the upward flow of "tribute" in exchange for the downward flow of "protection." Tribute included a substantial share of the agricultural produce of the manor beyond that needed to sustain the commoners at a subsistence level. Thus the local baron would claim the "tribute portion" of manorial products (grain, meat, leather, wool, wine, etc.), keeping some to maintain his baronial hall and household and transmitting the rest to the next level of nobility and so on up to the royal court. The upward rendition of "tribute" sustained the entire edifice of aristocracy, including the royal family and courtiers, in idle pleasure and political intrigue.

Although the commoners as the foundation of the feudal superstructure were assured a minimum level of food and shelter, the system was unquestionably oppressive. Like worker ants in an ant colony, the peasantry were bound to the land and sentenced to short lifetimes of labor, tedium, darkness, and ignorance, lightened only by visions of redemption offered by the church and copious consumption of grog.

The local manor was the key institution of land resource management under English feudalism. A manor typically consisted of a sizable tract of rural countryside with a small village as its socioeconomic core. The village consisted of a cluster of dwellings huddled near the baron's hall, a parish church, a water-powered mill, and a central outdoor space used for markets and socializing, comparable to today's farmers markets.[1]

At the level of local manors and villages, feudalism was a commons-based society, as described by English historian Frederick Maitland in the epigraph at the opening of this chapter. Figure 3-1 portrays a hypothetical tract of land under common tenure and private ownership, respectively. Under the former system, commoners share access to available land and water resources, with individual allocations limited largely by social custom and threat of exhaustion of the productive capacity of the common resources. Under an ownership system, the land is divided (unequally) among the landed "haves," while the landless "have-nots" must survive as best they can.

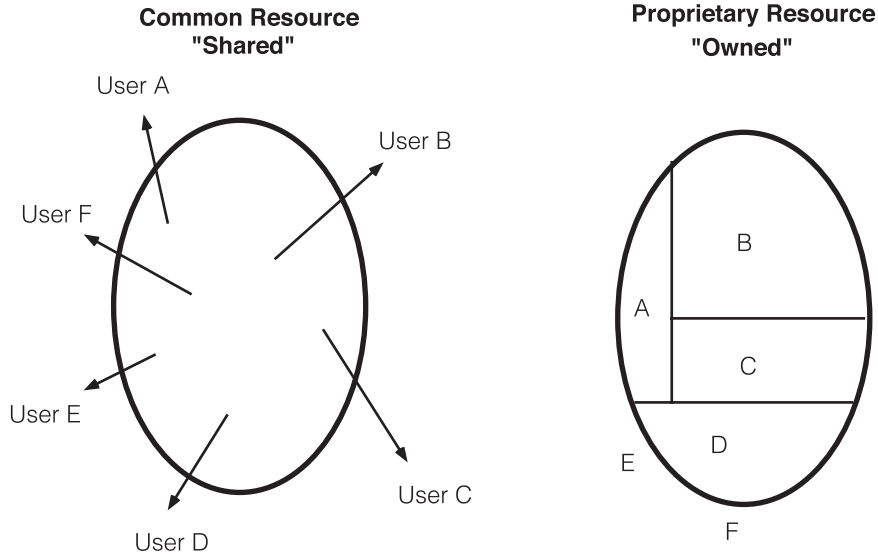


Figure 3-1
Diagram of common versus proprietary systems of land tenure.

The peasantry or serfs dwelled in primitive cottages surviving on what they were allowed to keep from their own labors. Trade between manors and with the diminished towns (compared with earlier Roman times) was practically nonexistent under medieval feudalism. Manorial lands surrounding the village were loosely allocated into three general categories according to fertility, slope, drainage, and other physical parameters: (1) *arable* or cropland; (2) *green common* or pasture for grazing; and (3) *waste,* including woods, ponds, wetlands, and uplands. The peasantry were thus vested with the right to grow grain on certain strips of the arable land; to graze livestock on the green common; and to collect firewood, fish, hunt, cut ice, and otherwise benefit from forests, uplands, swamps, and other resources of the "waste" areas of the manor.

The feudal manor in its ideal form thus represented a balance between population

and resources. Sustainability of the system required the exercise of social control among the commoners in their exploitation of available land resources. The necessary control was derived not from higher authority but from the long-standing "custom" of feudalism dating back to Roman times. It amounted to a state of legal equilibrium in which all parties—commoners and nobility alike—were bound by social understanding as to the use of manorial resources. It is simply how things were done.

Under feudalism, cropland (arable land) was usually divided into three large open fields, which were rotated annually among wheat, oats, and fallow. In its fallow year, a field was grazed by livestock to restore its soil nutrients, and "night soil" (human waste) was regularly deposited on all the fields. This cycle allowed the soil to restore itself every third year to ensure long-term productivity.

Each open field was internally divided into small strips of approximately one acre each. Commoners were each allotted certain strips scattered across the open field to provide their own families with food and fiber and to provide tribute to the nobility above them. Individual strips were not fenced and were separated only by low ridges of soil that served as both boundaries and footpaths. During the fallow cycle, animals could be pastured without the need to be tethered within particular strips. Disputes arising over infractions of the customary rules of resource usage were settled by the baron acting as a manorial court, an antecedent to the future courts of equity in England and its colonies.[2]

Under feudalism, there was no *public* regulation or management of land. The manorial system was symbolically subject to the power of baron, lord, and Crown. In fact, none of them could tinker with the system of open fields and commons without toppling the entire delicately balanced structure. When William the Conqueror invaded England in 1066, he replaced the vanquished Saxon nobility with his own Norman followers and installed himself as king, but he did not tamper with the equilibrium of the existing system of manor and commons.

This system was perhaps the best example in all history of a land management system that was self-perpetuating and sustainable. As Maitland observed: "We underrate the automatism of ancient agriculture. . . . So far as the arable land is concerned, the common-field husbandry, when once it has been started, requires little regulation. . . . [By 1803 in Cambridge, England], for some centuries the common-field husbandry had needed no regulation; it had been maintaining itself."[3]

Why was the commons so durable as a land-management institution? In early medieval England and the Continent, there was no feasible alternative to the commons as a means of organizing land use to supply a reliable supply of food and fiber. Stability, however, does not necessarily imply efficiency or vitality. The stifling conformity of feudalism discouraged innovation and creativity. The arrival of the plague (the Black Death) in the

fourteenth century killed a tenth of Europe's population.[4] The ensuing depopulation of feudal manors placed increasing pressure on the labor-intensive commons system.

Concurrently, the revival of trade and towns attracted the more enterprising of the peasantry to the new opportunities in urban centers. Trade with the Continent and the rise of wool production in England to serve the looms of the Low Countries stimulated some of the landed nobility to enclose (privatize) common lands for sheep husbandry. Under a long series of special "enclosure acts," England's Parliament authorized specified tracts of land to be privatized for the benefit of the aristocracy (who literally became "landlords"), dispossessing the commoners who were forced to choose between working as hired laborers or seeking employment elsewhere.[5] The commoners resisted this erosion of their livelihood and security as best they could but with little success. The English enclosure movement represented a gradual but distinct social and legal revolution in which feudal common rights in land were slowly extinguished and replaced with private property ownership, the hallmark of modern capitalism.

English settlement of New England in the seventeenth century coincided with the last stage of the commons system of land tenure in the home country. Settlers from parts of England that still practiced open-field agriculture brought the system with them, as in the case of migrants from Sudbury, England, who brought that system with them to the new settlement at Sudbury near Boston.[6] Eventually, both the old and new Sudburys abandoned open-field farming as private ownership became prevalent on both sides of the Atlantic.

A type of commons persists today in New England as patches of green space in the centers of old towns dedicated by their inhabitants centuries ago, yet could a citizen of Boston today cut firewood, graze a cow, or bury a family member in the Boston Common? Clearly, the legal status, purposes, and usage of these open spaces have changed. The village common or "green" is no longer common property; it is now public land owned by the local town or city, which devotes it to such modern uses as recreation, farm markets, fairs, band concerts, parades, and parking.

Under feudalism, common land tenure worked because populations were small and social units were local. There are many forms of such *closed-access commons* today, such as tribal or village protocols regarding fishing, forestry, wildlife, and other shared resources.[7]

Where access is not closed and potential users are indefinite in number (an *open-access commons*), lack of mutual restraint on overuse may lead to destruction of the resource. This dilemma is chronic in the twenty-first century as with global warming and degradation of oceans, lakes, and ecosystems. The threat of failure of open-access common resources has famously been termed the *tragedy of the commons* by biologist Garrett Hardin: "Ruin is the destination toward which all men rush, each pursuing his own best interest in a society

that believes in the freedom of the commons. Freedom in a commons brings ruin to all."[8] Truer words were never written.

Inventing Local Government

The feudal commons as a rural institution was ill-suited to the governance of urban communities. As per the quote from Maitland in the epigraph for this chapter, the commons involved no concept of "public." All transactions were based on custom and personal status, not on formally adopted laws. The revival of towns and cities in England and continental Europe starting in the early Middle Ages called for the development of new institutions more suited to the governance of closely built, nonagricultural settlements. One of those new institutions, the *municipal corporation*, has persisted since medieval times to the present as the legal identity of today's cities and suburbs.

After the fall of the western Roman Empire in the fifth century AD, feudalism blanketed the countrysides of England and the Continent like a miasma, smothering trade, art, and writing activity and confining most of the population to a short, ignorant, pastoral existence. Vestiges of classical Greek and Roman civilization—writings, mosaics, architecture, and philosophy—survived only in the universities, abbeys, basilicas, and mosques of Christian and Islamic enclaves scattered around the Mediterranean from Constantinople to Iberia. The cultural deep freeze of these Dark Ages (approximately the sixth through the twelfth centuries) was accompanied by the stagnation of trade, cutting off the lifeblood of once thriving Greco-Roman cities like Athens, Alexandria, Constantinople, Paris, Rome, Venice, and London.

The ancient walled cities would not forever remain moribund, inhabited by monks, cats, and Roman ghosts. By the eleventh century, according to French historian Henri Pirenne, trade between regions gradually began to revive, giving rise to the need for river and coastal ports as well as markets for the exchange of goods.[9] This development in turn would lead to the rebound of a merchant class that would inhabit cities and towns and give them political as well as functional importance. Broadly speaking, the urban revival had certain characteristics:

- An increase in urban populations due to migration from rural areas (especially commoners dispossessed by enclosure of feudal open fields)
- The reappearance of a middle class engaged in manufacturing and commerce
- A worsening of urban problems, including water, wastes, disease, and fires
- Construction of new buildings both within and outside the city walls
- The emergence of a new postfeudal legal institution, the *municipal corporation* (or *municipality*)

The market function of medieval cities involved both a *physical* space within the protection of the walls and a *legal* regimen within which trade could flourish (Figure 3-2). The physical marketplace was typically a central open space at the heart of the old walled city surrounded by the cathedral, town hall, guild hall, and other civic buildings. The marketplace was multifunctional: besides its commercial role, it provided open space for ecclesiastic and civic ceremonies, social interaction, games, and festivals (Figure 3-3).[10] Today, many European marketplaces retain these functions, along with outdoor cafés, political demonstrations, street life, and parking. The famous *Il Palio* horse race and pageant held in Siena, Italy, is a colorful vestige of the many functions of market squares in medieval and Renaissance Europe.

For a marketplace to function, it had to be accessible. Streets leading from the city gates

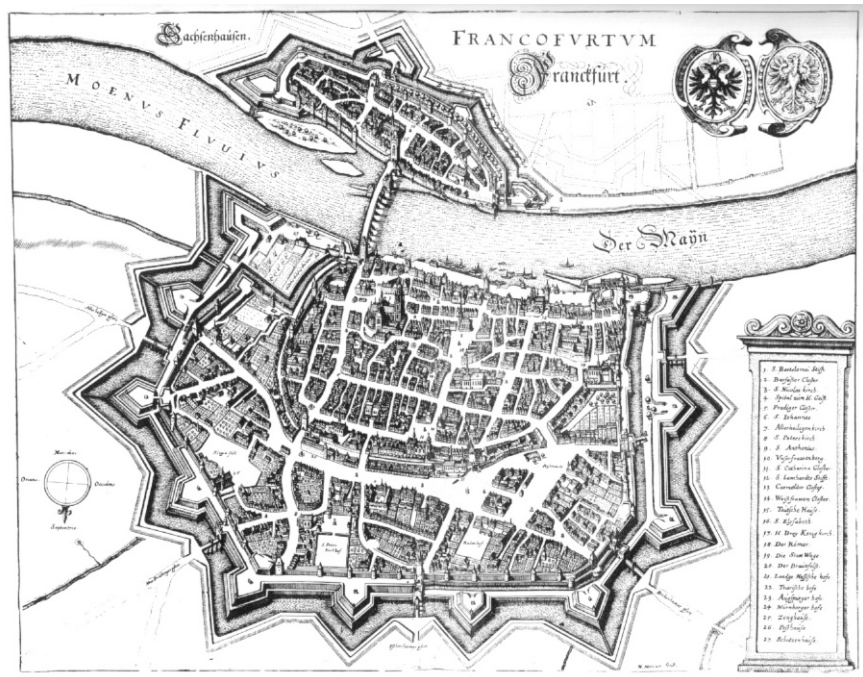


Figure 3-2
Plan of Frankfurt Am Main, 1646, a classic medieval walled city. From Martin Zeiller, *Topographiae* (1649), in Howard Sallman, *Medieval Cities* (New York: Braziller, 1968), Plate 39.

to the market had to be wide enough for people, animals, and carts to squeeze past one another. Given the scarcity of buildable land within the walls, streets and the marketplace itself were subject to chronic pressure of encroachment by adjoining property owners. This pressure was opposed not by building laws, which were rarely effective if they existed

Figure 3-3
Medieval markets, as here in Heidelberg, Germany, continue to serve as economic and social focal points within old cities. Photo by author.

at all, but literally by the throng of humanity and traffic. According to architectural historian Howard Saalman, "Streets will be as narrow as they can be while allowing for transit of goods and persons."[11] In cities around the world, medieval marketplaces evolved into the vast labyrinths of covered streets such as the Grand Bazaar of Istanbul or the "souks" of the Middle East, where hundreds of vendors peddle their wares and tourists become hopelessly lost.

The medieval city, like its modern counterparts, was both a geographic and a legal entity. Seldom of any great size in area or population, medieval cities nevertheless achieved a high degree of self-governance as virtual city-states. Legally independent of the onerous structure of feudalism, "the symbol of the city in the Middle Ages," wrote Max Weber in 1899, "was eventually found in the sworn community which legally assumed the form of a corporation."[12]

The origins of this "sworn community" are obscure. In England after the Norman Conquest in 1066, certain older towns obtained *charters* or grants of privileges from the Crown. The effect of a charter was to release the town and its inhabitants from traditional feudal obligations to provide tribute in money, goods, or military service. City charters

granted by the Crown increased gradually in number and in the scope of privileges conferred. Generally, they authorized cities and towns to hold markets, adopt local laws to regulate markets and civic behavior, enforce such laws with local magistrates and courts, coin money, elect local officials, and (most importantly) enjoy exemption from feudal tribute.[13] These privileges were exercised by merchant or craft *guilds* that wielded great influence within the medieval town and its economy, rather like modern chambers of commerce.

The medieval town and countryside (*core* and *hinterland*, geographically speaking) maintained a symbiotic, not hostile, relationship. Towns depended on their rural hinterlands for the necessities of life as well as products to be traded in their markets. Rural manors needed markets for their products as well as the "night soil" from well-fed burghers to fertilize the open fields. Amicable relations were often preserved with the local nobility and the church as well. In general, this period impresses the modern mind with its high degree of pragmatism and mutual interdependence among manor, aristocracy, church, and town.

Over time, medieval cities under their royal charters assumed a new legal status as *municipal corporations* that were legally authorized to (1) own land and buildings, (2) sue and be sued, (3) adopt local laws, and (4) possess a corporate seal for attesting the official status of municipal documents.[14] Some local laws regulated the personal conduct and building practices of local inhabitants, with mixed results.[15] Other laws regulated marketplace crimes such as theft, overcharging, and sale of inferior goods with penalties that were swift and harsh.[16] Although their objectives and legal powers have changed over time, the medieval municipal corporation was the distant ancestor of our incorporated cities and towns today (the topic of Chapter 7) (see Box 3-1).

Box 3-1. Building Laws: Rebuilding London after the Great Fire

Urban self-governance under royal charters did not readily bring order to squalid and overcrowded medieval cities. Efforts to regulate the location, height, construction, or use of buildings were largely ineffective. The resulting cityscape was characterized by narrow and twisting streets, overhanging upper stories, and prevalent use of wood building materials. The poorly regulated urban environment posed pervasive threats from fires, crime, natural disasters, and disease. Occasionally, bitter experience stimulated efforts to reduce future risks through improved regulation of the urban environment, demonstrating the operation of the land use and society model discussed in Chapter 2. The Great Fire of London in 1666 was a spectacular case in point.

Between 1400 and 1666, London's population grew from 50,000 to about 400,000

inhabitants due to the influx of peasants displaced by enclosure and of refugees fleeing persecution on the Continent. Demographic growth in turn led to rapid and poorly regulated growth of London's housing stock both within and outside the city walls. By 1666, the old Roman-walled core of London (now the financial district known simply as "The City") was a medieval labyrinth of narrow, twisting streets lined by wooden structures with overhanging upper stories. The spires of more than one hundred parish churches and St. Paul's Cathedral, the largest in Europe, loomed above the smoky, crowded city. Diarist Samuel Pepys provides an eyewitness account of the fire:

> So I down to the water-side . . . and there saw a lamentable fire. . . . Everybody endeavoring to remove their goods, and flinging into the river . . . ; poor people staying in their houses as long as till the very flames touched them, and then running into boats, . . . and the wind mighty high, and driving it into the City; and everything after so long a drought proving combustible, even the very stones of the churches.[1]

Without an effective water distribution system, the fire burned unchecked for three days and consumed 13,200 houses in some four hundred streets and alleys. More than 100,000 were homeless and left camping miserably in fields outside the city.[2]

It was, however, the Age of Enlightenment, when reason and science were beginning to influence the actions of society in place of religious fatalism and blind ignorance. While the ruins were still smoking, the city's foremost architect, Christopher Wren, and others proposed that the city be rebuilt as a monumental world capital, banishing its medieval clutter and overcrowding with an orderly, geometric network of major streets and open plazas in the style of Renaissance city planning.[3]

Although Wren's radical proposal was rejected by the aristocracy as "un-English," the idea of some form of "preconceived" rebuilding of the city caught on. King Charles II quickly appointed a royal commission (including Wren) to study the causes of the disaster and propose remedial building restrictions.[4] In particular, the king (or his ghost writer) specified five elements that needed to be addressed:

1. Stone or brick was to be used for exterior façades in place of wood.
2. The width of streets was to be established in relation to their importance.
3. A broad quay or open area would be maintained along the Thames for access to water for firefighting.
4. Public nuisance activities such as breweries or tanneries should be removed from central London to more suitable locations.

continued on next page

5. Reasonable compensation should be determined and paid to property owners whose right to rebuild was curtailed by public restrictions.[5]

The resulting Act for Rebuilding London of 1667, adopted just five months after the fire, has been described as London's first "complete code of building regulations."[6] The law covered: "first, the rearrangement of some of the worst features of the old plan, with its apparently wayward meanderings, jutting corners, and frequent bottle-necks; second, the partial standardization of the new buildings, particularly with a view to fire resistance; and third, the raising of money for the public . . . buildings by a tax on coal."[7]

Consistent with the royal proclamation, the act regulated the size, position, and building materials for replacement structures and banned overhanging second stories. It was, in effect, a building code for the redevelopment of the burned area and a guide to new construction in surrounding areas that, according to one historian, "crystallized the best new building practices of the time."[8]

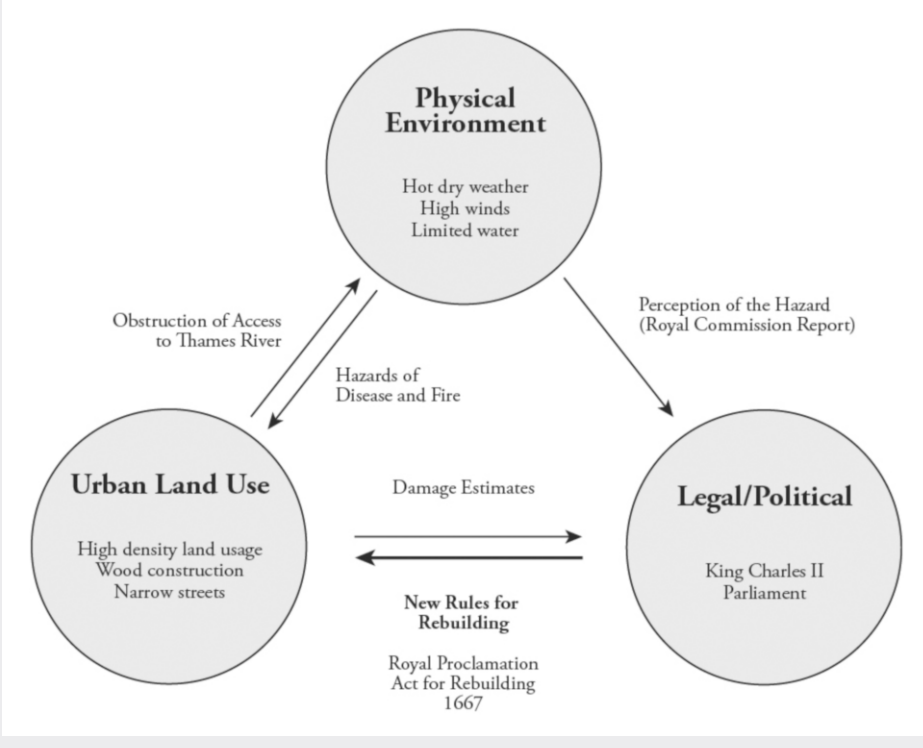


Figure 3-4
The land use and society model as applied to the Great Fire of London (1666) and its aftermath.

Although the exact influence of the 1667 act is hard to discern from what might have occurred in its absence, it clearly marked a threshold between the medieval and the modern eras of urban land use. The Great Fire swept away not only the overhanging wooden houses and the plague-infested rats they contained, but also London's medieval neglect of the health and safety of its inhabitants. In its place, the act—consistently with the land use and society model—imposed a new set of public rules and policies to guide the rebuilding of the burned city (Figure 3-4). The new land use and building code produced London's fashionable West End, which three centuries later largely survived the Nazi Blitz.

Nineteenth-Century Urban Squalor and Public Response

The modern industrial city came of age in Europe and North America over the course of the nineteenth century. Principal cities of industrial nations expanded at astonishing rates with immigration from rural areas and other countries. Greater London expanded by sixfold to 5 million during the century. New York City grew tenfold, from 62,000 in 1800 to 660,000 in 1850, and then tripled again to 2.7 million by 1890 with a flood of immigrants fleeing Europe, in particular Ireland. (With the consolidation of the five boroughs in 1898, New York City passed 3 million to become the world's second largest city.) Boston grew from a town of 24,900 in 1800 to a city of 450,000 by 1890.[17] Meanwhile, the shift of energy source from flowing water to coal, and later to electricity, caused a proliferation of industrial mill towns: urban places exceeding 8,000 in the United States rose from merely six in 1800 to 448 in 1890.[18]

With rapid growth came a deluge of threats to life, health, and morality. In the early decades of the nineteenth century, industrial tenements proliferated, sanitation collapsed, crime and disease flourished, and life expectancy declined. Gradually, the horrors of uncontrolled urbanization were recognized, at first by a few perceptive individuals and ultimately by a broader spectrum of society and its law-making bodies.

Fortunately, as cities expanded, so gradually did social capacity to equip and govern the modern city through innovation in such fields as civil engineering, social statistics, public health, finance, public administration, and landscape design. Fundamental to the growing capacity to cope with urban problems were three primary avenues of reform: *regulation*, *redevelopment*, and *relocation*.

First, beginning with the British Public Health Act of 1848, the spread of urban squalor, overcrowding, and lack of basic sanitation gradually stimulated a series of laws in Europe and the United States to gain some degree of control over the building of cities. Although very limited in scope and enforcement, these regulations would lay an institutional

foundation for the proliferation of land use and environmental regulations to appear over the course of the twentieth century. Second, between the 1830s and 1900, many cities underwent massive construction or modernization of urban infrastructure in the form of street paving and lighting, water and sewer systems, urban drainage, mass transportation, schools, and urban parks. Such construction anticipated the urban redevelopment programs after World War II in Great Britain, the United States, and elsewhere. Third, various nineteenth-century social reformers sought to help the working class escape from crowded, unhealthy industrial cities to new model towns in outlying locations. Such new towns were to be carefully planned, physically and socially, to uplift the spirit as well as to provide an honest living and healthful surroundings.

Regulation: From Sanitary Reform to Urban Planning

Construction of new dwellings to accommodate the huge increase in industrial city population during the nineteenth century lagged far behind demand. Overcrowding to inhuman levels was unrestrained by public regulation of private building practices. Tenement building was driven largely by the demand for working-class housing within walking distance from factories and mills, and by greed of landowners and builders.

One building pattern prevalent in English industrial cities during the first half of the century was called the courtyard system. In this system, one row of dwellings was constructed facing streets; a second row, back to back with the first row, faced onto an interior courtyard or alley. Narrow tunnels connected these interior courts with the streets and the outside world (Figure 3-5). In the absence of any means for removing sewage and refuse from the premises, the courts, alleys, and streets served as waste receptacles. With sunlight and ventilation blocked out, the stench and health hazards were unimaginable (Figure 3-6).

Not only were the dwelling units pitifully small to begin with, but they were hopelessly overcrowded. According to public health records, Manchester, England, in 1841 "had 1,500 cellars where three persons, 738 where four, and 281 where five slept in one bed."[19] Liverpool in 1884 was reported to have certain districts with up to 1,210 persons per acre.[20] In the United States, high-density tenement districts flourished in ports of entry for European immigrants. New York's Lower East Side had a density of 272 persons per acre in 1860, which doubled in the next thirty years as further waves of Irish, German, Polish, and Italian immigrants arrived.[21]

The pervasive overcrowding and absence of sanitation, potable water, fresh air, waste removal, and open space—combined with long working hours in unhealthy conditions—magnified human misery and shortened life expectancy. Tuberculosis (TB), or "consumption"—the leading cause of death in urban England during the nineteenth

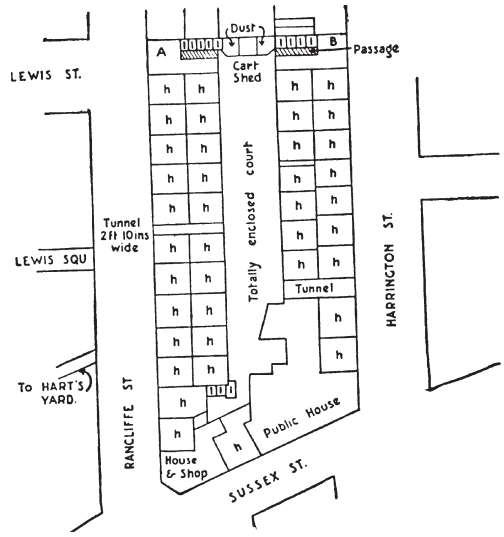
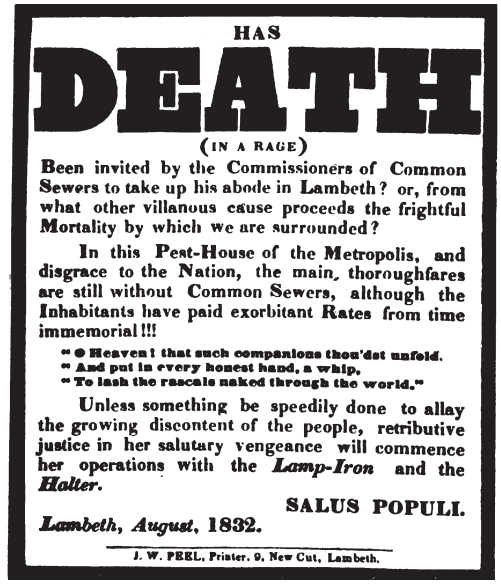


Figure 3-5

Diagram of tenement courtyard in Nottingham, England, circa 1840. Such squalor stimulated Chadwick's sanitary crusade. From *Report on State of Large Towns and Populous Districts* (1845) and W. C. Hoskins, *The Making of English Landscape*, in Leonardo Benevolo, *The Origins of Modern Town Planning*, trans. Judith Landry (Cambridge, MA: MIT Press, 1971), 93.



HAS

DEATH

(IN A RAGE)

Been invited by the Commissioners of Common Sewers to take up his abode in Lambeth? or, from what other villanous cause proceeds the frightful Mortality by which we are surrounded?

In this Pest-House of the Metropolis, and disgrace to the Nation, the main, thoroughfares are still without Common Sewers, although the Inhabitants have paid exorbitant Rates from time immemorial!!!

"O Heaven! that such companions thou'dst unfold,
"And put in every honest hand, a whip,
"To lash the rascals naked through the world."

Unless something be speedily done to allay the growing discontent of the people, retributive justice in her salutary vengeance will commence her operations with the *Lamp-Iron* and the *Halter*.

SALUS POPULI.

Lambeth, August, 1832.

J. W. PEEL, Printer, 9, New Cut, Lambeth.

Figure 3-6

Broadside protesting inaction of public authorities regarding sewerage, 1832. From L. Wright, *Clean and Decent*, in Leonardo Benevolo, *The Origins of Modern Town Planning*, trans. Judith Landry (Cambridge, MA: MIT Press, 1971), 92.

century—was associated with undernourishment, poor ventilation, and general debilitation.[22] This disease, however, attracted little public notice before the 1840s because it was dismissed as an unavoidable fact of working-class life. As long as the elite were not threatened by TB and its companion urban killer, typhus, nothing was done about it. (Perhaps Giacomo Puccini in his 1895 opera *La Bohème* employed the death of Mimi to make the upper class more empathetic to the tragedy of TB.)

Cholera was another story. This Asian import struck London in 1831–1832 and reappeared several times thereafter. In terms of numbers of deaths and chronic level of threat, cholera was far less important than TB or typhus. Its effects, however, were not confined to poor districts. Cholera struck with particular force in the wealthy neighborhoods where plumbing and connection to (polluted) central water supplies perversely facilitated its spread. Suddenly the wealthy woke up: "Even if he were not his brother's keeper, . . . everyone who valued his life felt it desirable not to have a mass of carriers of virulent diseases too close at hand,"[23] wrote one historian. And according to another: "Cholera frightened people. . . . It was the clearest warning of the lethal propensities of the swollen towns of the new industrial era."[24]

Cholera frightened the elite, but fear per se is a poor basis for public action. Converting fear into rational public response required not simply rhetoric but sound scientific investigation and documentation. The period between 1832 and 1860 marked the beginning of scientific sanitary surveys, which launched the modern public health movement.[25]

Besides the cholera scare, two factors helped lay a foundation for sanitary reform. One was the development of the science of *statistics* and its application to the analysis of social problems. The other factor was the emergence of *utilitarianism*, a liberal social philosophy championed by Jeremy Bentham (1746–1832) that advocated government intervention to remedy social ills. At the behest of this new movement, Parliament in 1832 established the Royal Poor Law Commission directed by a young Bentham protegé, Edwin Chadwick. Based on a careful study of "poor rates" (welfare payments), Chadwick in 1838 prepared a report that linked unsanitary living conditions to the economic costs paid by the nation in the form of such poor rates. This report and its successors combined geographic mapping of disease outbreaks with the new science of statistics to analyze patterns of illness and death.[26]

The importance of Chadwick's work to sanitary reform, and ultimately to the city planning movement, can scarcely be overstated. As physician and medical historian George Rosen wrote: "The year 1838, then, was an important turning-point in the history of the public health movement. Although its roots stretch back fifty years, the movement was, before 1838, unorganized, leaderless, and in a legislative sense—the only

sense that mattered in the long run—aimless. . . . Effective action was missing. This is what Chadwick supplied."[27]

A second Chadwick report in 1842[28] graphically described the squalor prevailing in Great Britain's industrial towns and helped lay a foundation for future work in urban sociology as well as public health. Although hesitant to alienate conservative members of Parliament, Chadwick laid the foundation for modern sanitary infrastructure in London with various proposals, including the following:

1. Delegate responsibility for sanitary regulation to local health authorities.
2. Prepare detailed sanitary surveys within a district before planning a drainage system.
3. Coordinate sewer construction with road improvements.
4. Establish minimum sanitary requirements for new dwellings.
5. Require ventilation and cleaning of existing dwellings.
6. Provide new public parks in industrial cities.[29]

A new cholera outbreak finally frightened Parliament into passing England's first comprehensive Public Health Act in 1848. Like the Act for Rebuilding London after the Great Fire of 1666, the 1848 Public Health Act demonstrated the capacity of the British legal system to respond (albeit belatedly) to the need for innovation in the face of disaster (Figure 3-7).

Unfortunately, Chadwick's research is blamed for perpetuating a tragic misconception

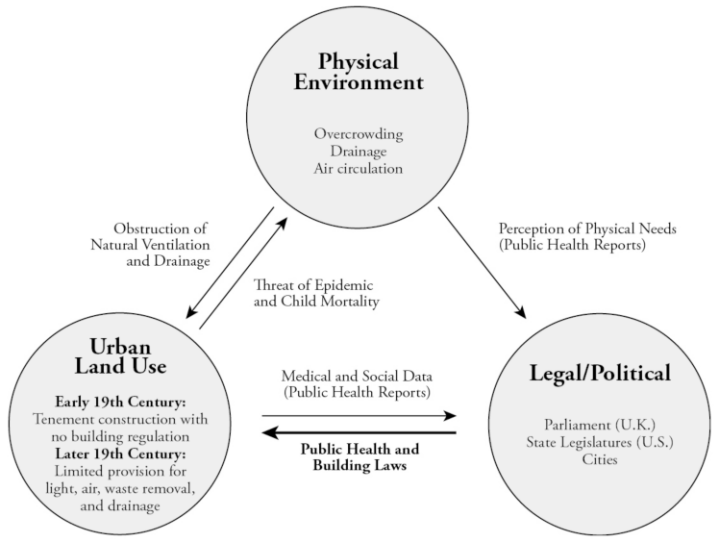


Figure 3-7
The land use and society model applied to the nineteenth-century sanitary reform movement.

regarding infectious disease, namely the miasma theory. This theory, which dominated mainstream medical opinion in the mid-nineteenth century, ascribed infectious disease to "impure air" and bad-smelling accumulations of refuse and sewage. This bad air was indeed a noxious problem and demoralizing to residents of poor districts, but as to cholera, the miasma theory missed a vital point: the role of drinking water in spreading the contagion. Chadwick accepted and reinforced the conventional miasma theory in urging the building of sewers and draining of cesspools, both necessary but not sufficient responses to the public health crisis. In fact, Chadwick's well-intended public works agenda ironically exacerbated the cholera threat.[30]

It fell to a London physician, John Snow, to combine the new skills of site-by-site urban mapping and statistical analysis to pinpoint the exact source of a raging local cholera outbreak in 1854: a specific water pump contaminated with cesspool wastes from which the deceased had drawn their daily drinking water. Snow famously removed the pump handle and stopped the local outbreak.[31] This discovery, as widely communicated to the medical profession and the London establishment, helped raise awareness of drinking water as a medium for deadly bacterial infection.

The 1848 British Public Health Act and its successors in 1875 and 1890 stimulated some parallel efforts in Europe and the United States. By midcentury, sanitary investigations inspired by Chadwick's work were under way in New York, Boston, and other cities. The New York (State) Metropolitan Health Act of 1866 was the first of a series of modest sanitary laws resulting from those studies in the United States.

Tenement districts, however, continued to grow more crowded and lethal. In 1890, Jacob Riis published his famous tract *How the Other Half Lives*,[32] which depicted New York's slums through photography and vivid narrative. For instance, he described a particularly infamous district ("Mulberry Bend") as "the foul core of New York's slums, a vast human pig-sty . . . pierced by a maze of foul alleys," whose inhabitants, especially children, experienced high rates of mortality from TB and other diseases nurtured by overcrowding and the lack of clean water and sanitation.[33]

In 1899, a widely viewed exhibit of maps and photographs assembled by housing advocate Lawrence Veiller introduced the city's Gilded Age elite to the prevalence of poverty, infectious disease, and slum housing at their doorsteps.[34] In Chicago, a similar mapping survey of slum neighborhoods was conducted by volunteers with Hull House, the pioneering "settlement house" founded by Jane Addams and Ellen Gates Starr in 1889. The Hull House maps were first publicly displayed at the Chicago Columbian Exposition of 1893. (Hull House is discussed in Chapter 4.)

Unlike Great Britain, the United States had no national public health laws until well into the twentieth century. Nevertheless, these sanitary surveys helped develop the

methodology of general planning investigations. The surveys also elevated the geographic scale of investigation from selected neighborhoods to entire cities and metropolitan regions.[35] Early state and local public health laws helped lay a constitutional foundation for public intervention in the private market to protect the public health, safety, and welfare under the doctrine of the police power. As discussed in the next chapter, this doctrine would become the foundation for local planning and zoning laws in the twentieth century.

Redevelopment: A Century of Municipal Improvements

Although the regulation strategy was resisted by capitalist Scrooges, another form of response to nineteenth-century urban squalor was more amenable to the establishment, namely public expenditures to pave and illuminate streets, create public parks, provide potable water, remove sewage wastes, and make other municipal improvements. First, though, city governments had to reach a sufficient level of maturity to assume such new responsibilities. It was necessary for municipal authorities lo learn how to provide needed urban infrastructure through *public financing and administration*. The urgent need to develop larger-scale facilities for common benefit—water and sewer systems, parks, highways, and firefighting capabilities—demanded that urban governments retool themselves, legally and technologically, to meet modern challenges.

Toward this end, England provided some useful models, as in the city parks designed by Joseph Paxton (1803–1865) that would inspire Frederick Law Olmsted in his design of New York's Central Park and its counterparts in other U.S. cities.[36] France, though, would provide an even more powerful model for U.S. cities, namely the transformation of Paris under the first modern urban technocrat, Georges Haussmann (1809–1891).

Haussmann's Paris

The transformation of Paris that began in 1853 under the direction of Emperor Napoléon III and his powerful administrator, Baron Georges-Eugène Haussmann, was the Western world's first and most sweeping program of urban redevelopment, one that would profoundly influence the design and architecture of America's cities after the turn of the century. Haussmann's new Paris ingeniously blended the aesthetic with the functional, pioneered new techniques of finance and public administration, regionalized water and sewer services, and converted Paris from an overcrowded, unhealthy medieval town into the fabled "City of Light."

Upon his appointment as Prefect of the Seine in 1852, Haussmann ordered the preparation of an accurate survey of the city, soon followed by the razing of congested medieval ("organic") districts and the construction of new boulevards. The latter, as eventually shaded by rows of plane trees and lined with cream-colored "Second Empire"

buildings with iron balconies, established the unique look and feel of Paris that persists today (Figure 3-8).[37] Those arteries also served as conduits for modern infrastructure, including gas and water lines, sewers, and, by the end of the century, electrical cables and the Paris Metro subway system. To address a public health crisis stemming from the doubling of the city's population between 1800 and 1850 (from 547,000 to 1,170,000), Haussmann built two major aqueducts to bring freshwater to Paris from distant sources in its rural hinterland,[38] a strategy New York City was also pursuing at the same time.

Figure 3-8
A bird's-eye view of Haussmann's Paris showing typical "Second Empire" architecture that graces the city today. Photo by author.

Haussmann essentially invented the idea of the modern metropolis, as reflected in his regional approach to the development of water, sewer, and transportation systems to serve the city and its suburbs. Equally important, he persuaded the public authorities to expand the geographic and legal boundaries of the city by annexing surrounding neighborhoods outside the old city walls.[39] He pioneered modern fiscal approaches to urban redevelopment, with about two-thirds of the total cost of his improvements derived from national and municipal grants and the sale of public lands and increasing property values along his new boulevards.

Post-Haussmann Paris was a unique blend of the human and the majestic. On the one hand, its streets, alleys, garrets, cafés, and universities nurtured literary and artistic exuberance and the Paris of Renoir, Monet, Pissarro, Stein, Fitzgerald, and Hemingway. On the other hand, it served as exemplar of a worldly city with its boulevards, parks, museums, and visions of grandeur, and beneath it all lay the sinews of a modern metropolis.[40]

Urban Parks in America: The Olmsted Legacy

Imagine New York City without Central Park, Philadelphia without Fairmont Park, San Francisco without Golden Gate Park, Boston without its Emerald Necklace, and Chicago without its lakefront parks. These parks did not simply happen. Their creation during the second half of the nineteenth century required vision, money, political power, design skills, legal innovation, labor, and technology, all as mobilized by the visionary Frederick Law Olmsted Sr. (1822–1903), the founder of the American city parks movement and the field of landscape architecture.[41]

In the 1840s, as a population explosion threatened to envelop Manhattan with new streets and buildings, poet and journalist William Cullen Bryant joined with other cultural leaders to propose that New York should create a large "central park" before it was too late. The site proposed for the park in the 1850s was a morass of squatters, goats, mud, and rubbish just beyond the edge of the city at the time. At their urging, the state in 1853 authorized the city to proceed with the acquisition, design, and development of what would become the 843-acre Central Park of today.

Despite his lack of prior training in park planning, Olmsted's "Greensward Plan," submitted with Calvert Vaux, won the park design competition, and in 1858, he was appointed architect-in-chief to execute the plan.[42] The essence of the design was deliberate informality: contrasts between meadow, woods, and water features and attention to the park's borders with the surrounding city. Pathways for pedestrians, equestrians, and carriages (and later taxis and bicycles) were separated from one another. Meadows, rocky outcrops, wooded areas, and water surfaces blended to create a facsimile of a rural landscape in the heart of the nation's largest city (Figure 3-9).[43]

Although catering in part to the city's elite, the park responded to growing awareness of the needs of the poor. Olmsted wrote in 1872 that his purpose in designing Central Park was "to supply to the hundreds of thousands of tired workers, who have no opportunity to spend their summers in the country, a specimen of God's handiwork that shall be to them, inexpensively, what a month or two in the White Mountains or the Adirondacks is, at great cost, to those in easier circumstances."[44] By then, Olmsted estimated (perhaps self-servingly) that the park was attracting 30,000 visitors per day and more than 10 million visitors per year (or ten visits for every New York resident at the time!).[45]

Figure 3-9
The glorious artificial "countryside" of New York's Central Park designed by Frederick Law Olmsted and Calvert Vaux in 1858. Photo by author.

Olmsted's 1880s "Emerald Necklace Plan" for the Boston park system was a logical progression from the concept of Central Park. The Emerald Necklace comprised a chain of major and minor open spaces, some existing and some proposed, around the landward perimeter of Boston, extending from the old Boston Common and the Public Garden to his proposed Franklin Park. Olmsted urged that a marshland west of the city be set aside for flood reduction and separation between neighborhoods. The resulting "Fenway" is known today for its community gardens and as the location of Fenway Park, home of the Boston Red Sox.

In contrast to Haussmann, who dealt with all planning elements of a single city, Olmsted specialized in a particular city element—parks and open space—in more than a dozen major cities. Olmsted's contributions to U.S. cities were appropriately memorialized after his death by the nation's foremost architect, Daniel H. Burnham:

> The genius of him who stands first in the heart and confidence of American artists. . . . He who has been our best adviser and our common mentor. In the highest sense he is the planner of the Exposition. No word of his has fallen to

> ground since first he joined us. . . . An artist, he paints with lakes and wooded slopes; with lawns and banks and forest-covered hills; with mountain-sides and ocean views. [We honor him] not for his deeds of later years alone, but for what his brain has wrought and his pen has taught for half a century.[46]

Relocation: The Ideal Communities Movement

In addition to regulation and redevelopment, a third response strategy to urban squalor during the nineteenth century was the relocation of workers to new planned industrial villages in nonurban settings, as proposed by progressive industrialists and visionaries. Such communities, it was argued, would promote health, happiness, productivity, and morality. Several model communities were created in Europe and the United States in the hope of inspiring wider imitation. Although that did not happen, some pioneering projects and the social philosophy behind them helped stimulate urban planning ideologies in the next century.

The remainder of this chapter considers the experience of three early proponents of ideal communities: Welsh-born utopian Robert Owen, Chicago sleeping-car magnate George Pullman, and late-Victorian-era English progressive Ebenezer Howard. They and their like-minded contemporaries had little in common except for a repugnance for large cities, impatience with conventional reforms, and a faith in environmental determinism. In turn, there were countless ideal community projects—spiritual, economic, and social—that floated in the winds of change during the nineteenth century like cottonwood seeds. Ralph Waldo Emerson in 1840 wrote, "Not a reading man but has a draft of a new community in his waistcoat pocket."[47]

Religious utopian communities such as the Shaker villages in New England were by definition limited to adherents to those faiths, whereas industrial model towns were intended for company workers. The spiritual communities valued total isolation from mainstream society, whereas the industrial towns were embedded in the larger economy. Shared elements of both types included (1) centralized control over the use of land and structural development; (2) proximity of work and residence; (3) population limits; (4) a rural setting; and (5) facilities for social, cultural, and moral betterment.

Robert Owen's social laboratory was the cotton mill village of New Lanark in Scotland. As manager of the mill, Owen devoted fourteen years and his personal resources to the improvement of New Lanark. One of his first acts was to enlarge the workers' houses and remove the "dung-heaps" from their midst.[48] Owen also had the streets cleaned and paved, and he reorganized the provision of food and coal to the inhabitants. He espoused the remarkable view that children should be in school rather than in the mills, at least until age ten. His Institute for the Formation of Character that opened in 1816 provided

a balance of classroom teaching, exercise, and training in music and the arts to young children.[49] Owen humbly referred to New Lanark as "the most important experiment for the happiness of the human race that has yet been instituted at any time in any part of the world."[50] After the Napoleonic Wars, Owen articulated his vision for similar "villages of cooperation" to accommodate workers displaced from their former jobs, who now were crowding the cities and depending on meager relief.

Seeking a new setting for his communitarian vision, Owen and his son in 1825 established a "village of cooperation" at New Harmony, Indiana, on the Wabash River. That experiment, however, failed due to the incompatibility of the people who attracted to settle there; in 1827, Owen returned to England, having lost four-fifths of his own wealth.[51] He devoted the remainder of his life to the cause of trade unionism and the advocacy of worker cooperatives.

George M. Pullman was an incongruous successor to Owen in the field of ideal town building. Like Owen, Pullman recognized that workers are more productive if they are well housed, well fed, healthy, and entertained. Where Owen departed from the profit motive to explore the possibilities of pure socialism at New Harmony, however, Pullman remained a stalwart industrialist. Ironically, despite the apparent success of his town in terms of bricks and mortar, Pullman's experiment in socioeconomic engineering was ultimately defeated by his obstinate *capitalism* just as surely as Owen's obstinate *socialism* proved *his* undoing at New Harmony. Pullman, Illinois, is probably better known for the great labor strike that occurred there in 1894 than for its physical plan and amenities. Perhaps the underlying similarity of both men was their inability to compromise.

To establish a new factory for his burgeoning Pullman Palace Car Company, Pullman in 1880 purchased 4,000 acres of prairie and wetland located 20 miles south of downtown Chicago. This site was certainly not selected as a rural utopia but rather for the sound reasons of cheap land and accessibility to mainline railroads. Because there was nowhere for a workforce to live, Pullman designed and built a brand-new town as a model of enlightened corporate planning and good industrial relations (Figure 3-10).

Surrounding the car factory, the town included residential districts, a covered market, parks, a hotel, a theater, a library, and a church, all built and owned by Pullman through a holding company. In physical terms, it was progressive, humane, and "ideal." The town was touted at the company's exhibit at the 1893 Columbian Exposition in Chicago as a place "where all that is ugly, and discordant and demoralizing is eliminated, and all that inspires to self-respect, to thrift and to cleanliness of thought is generously protected."[52]

Unfortunately, self-respect did not include the right to form a labor union or to challenge company policies on wages, hours, and high prices at the food store. When recession forced wage cuts and layoffs in 1894, the workers went on strike, a strike that

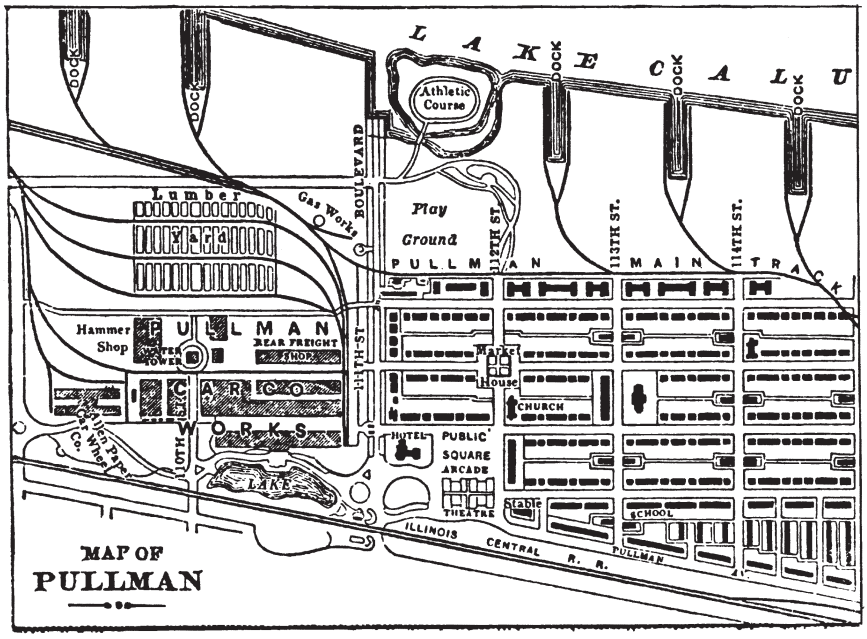


Figure 3-10

Map of the planned industrial town of Pullman, Illinois, ca. 1885. From Richard T. Ely, *Harper's Monthly* (1885), in Stanley Buder, *Pullman: An Experiment in Industrial Order and Community Planning 1880–1930* (New York: Oxford University Press, 1967), 76.

lasted three months and provoked the first use of federal troops in U.S. labor history. George Pullman died three years after the strike, vilified by those whom he thought he was helping. The town, severed by legal action from the company in 1904, gradually deteriorated into obscurity until gentrification set in during the 1960s. Pullman's worker row houses rebounded as solid investments for Chicago professionals.

The various strands of the ideal community movement were synthesized by the late-Victorian-era progressive Ebenezer Howard, whose writings, according to Frederic J. Osborn, took "a leaf out of the books of each type of reformer and bound them together by a thread of practicability."[53] In effect, Howard's 1902 book *Garden Cities of To-Morrow*[54] blended Owen's New Lanark cooperative socialism with Pullman's bricks-and-mortar paternalism, along with Olmsted's design for Riverside, Illinois, as a garden suburb, and the "single tax" theory of Henry George.[55] According to Lewis Mumford, Howard's American champion, "*Garden Cities* . . . has done more than any other single book to guide the modern town-planning movement and to alter its objectives."[56]

The garden city idea was represented by Howard's famous magnet metaphor wherein *town* and *country* are opposed and a third magnet, *town-country,* combines the best of

both alternatives, incorporating the advantages while minimizing their negative features. Howard's magnet metaphor symbolized migration of workers to garden cities as a voluntary decision, not compelled by higher authorities. The new communities would attract laborers away from the misery of large cities while intercepting rural migrants before they resettled in those cities.

Garden cities were proposed to accommodate about 32,000 people, sufficient to attract industry and sustain cultural and social activities but small enough to retain a healthy and uncrowded environment (Figure 3-11). The core of the community would be surrounded by a *greenbelt* of farmland, woods, and wetlands.

A garden city would offer housing opportunities to attract families of different socioeconomic levels. The center of the town would be devoted to a community park, a shopping arcade, and other urban amenities.[57] Privately tended gardens and common open spaces would interlace the village core and residential areas. An outlying industrial district would accommodate smokeless, "nonsweat" industry.

The entire site of the garden city, including its agricultural greenbelt, was to be acquired, planned, and managed in perpetuity by a limited-dividend (nonprofit) charitable corporation or trust. This entity would borrow capital from public-spirited

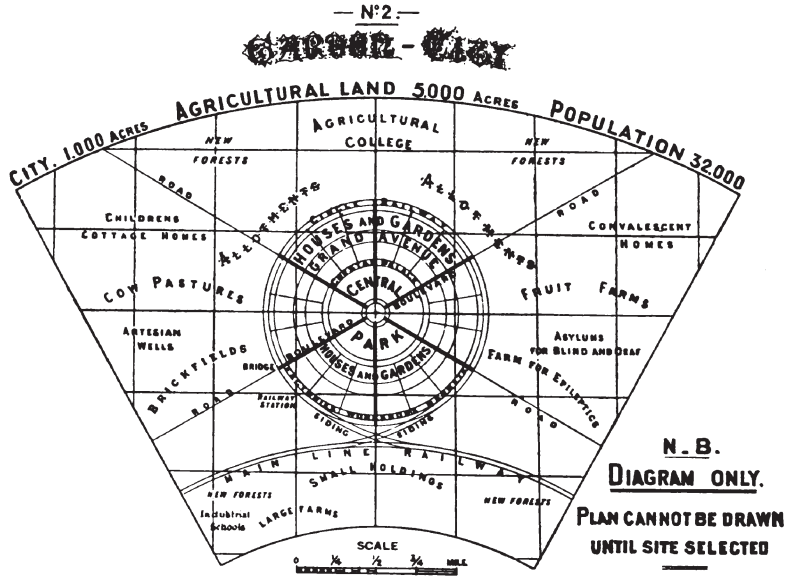


Figure 3-11

Howard's model of the garden city as combining the best features of town and country. From Ebenezer Howard, *Garden Cities of To-Morrow* (1898), ed. F. J. Osborn (Cambridge, MA: MIT Press, 1965), 52.

investors to be repaid from rents on land. As owner of the land, the trust would strictly control land use and population under a community master plan. Howard and his supporters built two prototype garden cities: Letchworth, starting in 1903, and Welwyn in 1920. Letchworth soon became a thriving community within the greater London region, graced by "cottage picturesque" architecture set amid gardens, parks, and grassy commons. Letchworth today remains more or less surrounded by a diminished agricultural greenbelt of about 2,000 acres.[58]

Although Letchworth did not inspire a new generation of garden cities, Howard's ideas indirectly influenced—in purpose if not in scale—British new towns and metropolitan greenbelt programs after World War II. In the United States, the garden city idea, as promoted by Lewis Mumford and his colleagues, yielded a few prototype planned communities, most famously Radburn, New Jersey,[59] and three "greenbelt towns" constructed by the federal Resettlement Administration during the New Deal (Greenbelt, Maryland; Greenhills, Ohio; and Greendale, Wisconsin). Otherwise, Howard's (and Mumford's) principles were largely ignored by the American planning and zoning movement, which fostered a landscape of suburban sprawl, automobile dependency, loss of open space, and separation of land uses, the antithesis of the garden city.

4.
Building a Metropolitan Nation: 1900–1940

We must face the inevitable. The new civilization is certain to be urban, and the problem of the twentieth century will be the city.

Josiah Strong, 1898

Make no little plans. They have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work.

Daniel H. Burnham, 1907

The United States entered the twentieth century still predominantly a rural nation. Of its total population in 1900 of 76 million, 40 percent (30.4 million) lived in cities, and the other 60 percent (45.4 million) lived in smaller towns and rural areas. The 1920 U.S. Census reported that for the first time in the nation's history, city dwellers outnumbered the rural population, and the urban population has continued to increase absolutely and proportionately ever since. By 2010, the total U.S. population had more than quadrupled since 1900 to about 308 million (a 9 percent increase just since 2000), of whom more than four-fifths (258 million) dwell in metropolitan areas, with the remainder (50 million) living in "micropolitan" and rural areas (Table 4-1).[1]

Worldwide, cities in 1900 contained about 160 million inhabitants, only one-tenth of the human population at the time. Today, one out of every two humans lives in urban regions (about 3.5 billion people), and 90 percent of projected population growth is expected to be urban, mostly in less developed nations.[2]

These bland numbers scarcely capture the drastic, colorful, and ominous changes that

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Table 4-1. Urban-Rural Distribution of U.S. Population, 1900–2010

Year	U.S. population (in millions)	Percent urban	Percent rural
1900	76.0	40%	60%
1910	92.4	46%	54%
1920	106.4	51%	49%
1930	123.0	56%	44%
1940	132.4	57%	43%
1950	152.2	60%	40%
1960	180.6	63%	37%
1970	205.0	74%	26%
1980	227.7	74%	26%
1990	249.9	75%	25%
2000	281.4	81.5%*	18.5%
2010	308.7	83.7%*	16.3%†

Source: Compiled by the author from U.S. Census data.
* Metropolitan area population; "urban" is no longer a census category.
† Includes both "micropolitan areas" and rural areas.

the United States and the world underwent during the twentieth century. At the century's opening, railroads, steamships, and telegraph were commonplace; telephones and typewriters were beginning to appear; and aviation was just about to be born. A century later in developed nations, highway transportation eclipsed rail service, personal computers and the Internet had become ubiquitous, and air traffic was reaching saturation in many cities. Carbon dioxide (CO_2) emissions from burning fossil fuels increased from 0.5 billion metric ton worldwide in 1900 to nearly 7 billion tons in 2008. Likewise, concentrations of CO_2 rose from below 300 parts per million (ppm) in the early 1900s to almost 400 ppm in 2012, with devastating implications for climate change and sea level rise.[3]

American society over the twentieth century displayed a love-hate relationship with its cities. The first three decades of the century were a time of exuberant city building, both upward and outward. The Great Depression and World War II suspended city evolution for fifteen years. After that war, government and industry switched from

military to consumer production, and a massive boom in home construction resulted. More than fifteen million new homes were built during the 1950s, over twice the total for the 1940s and six times the number built in the 1930s.[4] Most of them were single-family homes built on farmland and hillsides in suburbs outside the older core cities. Most were purchased by white middle-class families leaving older city neighborhoods behind. This dual phenomenon of "urban sprawl" and "white flight" was aided and abetted by federal housing subsidies, highway construction programs, and other national policies that favored white households and communities.[5]

Meanwhile, the federal urban renewal and highway programs were tearing down older neighborhoods, leaving the nonwhite and the poor to compete for space in overpriced surviving housing or in sterile and isolated public housing projects. Challenged by critics like Jane Jacobs and Charles Abrams, the urban renewal program, along with President Lyndon Johnson's "War on Poverty" ended in the late 1960s, leaving vast areas of vacant land and abandoned neighborhoods in older industrial cities. According to Roger Biles, the accession of the administration of Richard Nixon in 1968 "marked the beginning of a steady decline of federal involvement in the cities."[6]

Migration from central city to suburb in the 1950s through the 1970s was overshadowed in the 1980s by population flows of professionals and retirees from the Frost Belt of the upper Midwest to the Sun Belt regions of the South and West and in the 1990s to fast-growing desert cities of the interior West. Las Vegas, Yuma, and Phoenix were, respectively, the first, third, and eighth fastest-growing cities of the nation's 280 metropolitan areas during the 1990s. New wealth in the 1980s and 1990s fueled both a resurgence of glitzy downtown construction and peripheral "edge cities"[7] to meet the demand for upscale dining, shopping, and entertainment.

The "downscale" side of American society (those below the national median family income of $50,800 in 2000) went relatively unnoticed under Republican and Democratic administrations alike after 1980. Corporate scandals and the dot-com crash, the terrorist attacks of September 11, 2001, the Great Recession that began in 2006, and the Tea Party crusade against big government have left the nation awash in uncertainties on domestic priorities. With this thumbnail sketch as a road map, this chapter and the next more closely examine twentieth-century urban growth, decline, and uneven recovery in the United States.

American Cities circa 1900

The close of the nineteenth century offered many portents for the new urban century to come. The Chicago Columbian Exposition of 1893, a landmark among world's fairs, established that city as a world center of commerce, culture, and civic pride in its rebound

from the city's Great Fire of 1871. In 1898, the city of New York responded to Chicago's challenge by consolidating Manhattan, Brooklyn, Queens, the Bronx, and Staten Island to form "Greater New York," a colossus "over three million strong, over three hundred square miles huge, larger than Paris, gaining on London, New York was ready to face the twentieth century,"[8] according to historians Edwin Burrows and Mike Wallace.

San Francisco, unaware of the catastrophic earthquake and fire about to happen in 1906, was also a world-class city by the turn of the century, according to an ecstatic booster:

> The great triangle of the Pacific is destined to have its lines drawn between Hong Kong, Sydney, and San Francisco. Of these three ports, Hong Kong will have China behind it, Sydney, Europe, and San Francisco, America; and with America for a backing, San Francisco can challenge the world in the strife for commercial supremacy.[9]

Industrial cities of the Northeast and Midwest also flourished to an extent hard to imagine in light of their subsequent decline later in the twentieth century (and partial revival in some cases). Many medium-sized cities rose and fell with the fortunes of a particular industry or company; examples are Detroit (automobiles); Hartford (firearms and insurance); Springfield, Massachusetts (firearms, motorcycles, insurance); Waterbury, Connecticut (clocks); Dayton, Ohio (cash registers); and Rochester, New York (cameras). The industrial city of Buffalo was the country's eighth largest city when it hosted the 1901 Pan-American Exposition[10] (in 2012, it ranked number seventy-two). Prosperous industrial cities of 1900 such as Hartford, Providence, Worcester, Pittsburgh, Cleveland, and Baltimore, despite their later economic and demographic setbacks, are still well-endowed with museums, parks, concert halls, hospitals, and universities provided by wealthy benefactors a century ago.

While large and small cities proudly built their downtown office towers, public buildings, and cultural facilities, the migration of their white middle class to the suburbs was already under way. Beginning just after the Civil War, horse-drawn streetcars, and later electric railways and subways, began to foster the development of new suburban towns within convenient commuting distance of downtowns.[11] Some early streetcar suburbs like Roxbury and Dorchester, Massachusetts, legally became annexed to the central city, in their case to gain access to Boston's water system. Other towns like Brookline and Newton, also in the Boston area, have remained independent of the central city. The struggle over the political geography of municipal territory would be a dominant issue in metropolitan governance throughout the twentieth century.[12]

Meanwhile, slums and tenements continued to fester and spread in the new century, stirring cries of outrage among social reformers and progressive journalists (derided as "muckrakers" by complacent titans of industry). In 1890, Jacob Riis's *How the Other Half Lives* documented in prose and photography the hideous state of New York's tenement districts. The moral implications of urban overcrowding were deplored by the Reverend Josiah Strong in his 1898 tract *The Twentieth Century City* in the first epigraph to this chapter. In 1904, Lincoln Steffens, a crusading journalist, scrutinized big-city bossism and corruption in *The Shame of the Cities*.[13] Upton Sinclair's 1906 book *The Jungle* exposed the abuses of the meatpacking industry.[14] Between 1903 and 1912, more than 2,000 articles on social conditions appeared in U.S. magazines and newspapers.[15]

Immigration, however, continued to pack urban ghettos in the major East Coast ports of entry. Arriving immigrants reached an all-time high of 1.3 million persons in 1907, and as of 1910, 13.3 million foreign-born persons were living in the United States, making up one-seventh of the nation's total population.[16] In 1889, the social worker pioneer Jane Addams established Hull House on Chicago's West Side to administer to the needs of the poor immigrants of the neighborhood. Hull House would be the model for the settlement house movement in many cities in the early 1900s, as discussed subsequently.

By the dawn of the twentieth century, the major fault lines of city versus city, city versus suburb, rich versus poor, and "native" versus foreign-born were well established. Many of the same debates of that time continue today: unequal distribution of wealth, corporate greed and irresponsibility, and disagreement over the responsibility of government to help the less fortunate. The corporate players have changed: Standard Oil, railroads, coal, and "Big Steel" of the early 1900s were replaced with Enron, WorldCom, Countrywide Home Loans, Lehman Brothers, and Bernie Madoff a century later. The demographics of immigration have changed as well, from Irish, Italians, Poles, and Chinese early in the century to Southeast Asians, Iranians, Egyptians, Russians, Koreans, Mexicans, Salvadorans, and Somalians among many others in the early twenty-first century. Although immigrants predominantly settled in central-city ghettos early in the twentieth century, by 2010 substantial numbers of Asians and Hispanics were moving directly into inner-tier suburbs or smaller former industrial cities like Lowell, Massachusetts, and Youngstown, Ohio, where strong ethnic communities had become established.

As a polymorphous nation, the social and economic divisions of the United States have always been reflected in, and often reinforced by, patterns of land use and urban geography. The character of American society, for better or worse, may be read in its urban, political, and socioeconomic landscape. Concomitantly, efforts of various subgroups—both rich and poor, white and nonwhite—to improve their status have frequently taken the form of policies and programs to manipulate the use and design of urban space.

The Progressive Decades: 1900–1930s

The first third of the twentieth century—roughly marked by the inaugurations of President Theodore Roosevelt in 1901 and his distant cousin Franklin D. Roosevelt in 1933—was the golden age of the American city. It was a period of tall, new "skyscrapers," high-speed and luxurious long-distance trains, electrified commuter railroads and streetcars, the popularity of national radio programs, big-city professional sports, and playing the stock market. After the nation's two-year involvement in World War I, followed by a raging influenza pandemic, the nation's cities rebounded as the stage sets for the "Roaring 20s" and the Jazz Age. Organized crime flourished, as did real estate speculation, big-city political machines, corruption, vice, and speakeasies. "Prohibition" of alcoholic beverages imposed by the Eighteenth Amendment to the U.S. Constitution in 1919 was a spectacular failure that was repealed by the Twenty-first Amendment in 1933 as part of President Franklin Roosevelt's campaign to rally the nation's spirits, so to speak, in the middle of the Great Depression.

This era was memorialized in F. Scott Fitzgerald's *The Great Gatsby* and *This Side of Paradise*; George Gershwin's *Rhapsody in Blue*; the cubist paintings of Picasso, Matisse, and Leger; soaring art deco office buildings and stock prices; and unlimited confidence in a permanent state of peace and prosperity. The exuberance of the period lingered even into the Great Depression in the striking (but empty) 102-floor Empire State Building and Rockefeller Center in New York and the remarkably successful 1933 Chicago "Century of Progress" Exposition. Social problems inherited from the nineteenth century—poverty, slums, infectious disease, labor exploitation, nativism, racism, and corporate avarice—continued unabated into the new century. In 1900, as cities were expanding both vertically and horizontally, laissez-faire prevailed in U.S. political and economic culture. Land use and building practices in particular were largely determined by private market decisions by landowners, lenders, private transit companies, and utility providers. Public involvement in the planning of cities and suburbs was virtually nonexistent. Similarly, government had little voice in the growing monopolies of steel, oil, railroads, banking, and other industries. Labor and workplace reform and consumer protection also lay in the future.

The first three decades of the century, however, would yield remarkable changes in the interaction of government and the private market concerning many of these issues. This evolutionary process was the essence of a new mood, known as *progressivism*, that swept the country's educated urban elite. As personified in President Theodore Roosevelt, progressivism, according to historian Richard Hofstadter, was

> that broader impulse toward criticism and change that was everywhere so conspicuous after 1900. . . . While Progressivism would have been impossible

> without the impetus given by certain social grievances, it was not nearly so much the movement of any social class, or coalition of classes, against a particular class or group as it was a rather widespread and remarkably good-natured effort of the great part of society to achieve some not-very-clearly-specified self-reformation. Its general theme was the effort to restore a type of economic individualism and political democracy that was widely believed to have existed earlier in America and to have been destroyed by the great corporation and the corrupt political machine; and with that restoration to bring back a kind of morality and civic purity that was also believed to have been lost.[17]

This dramatic social and legal change in the role of government in relation to urban development—consistent with the land use and society model of Chapter 2—addressed a variety of social ills, including political corruption, corporate monopolies ("trusts"), child labor, minimum wages, working place conditions, and the urban environment.

The remainder of this chapter considers four strands of progressivism that sought in different, sometimes contradictory, ways to improve cities, economically, socially, and aesthetically: (1) the city beautiful movement, (2) the settlement house movement, (3) public health and safety regulation, and (4) the urban and regional planning movement. Collectively, these developments contributed to public acceptance of, and demand for, limited governmental intervention in the private land market to foster orderly, safe, and functional spatial patterns of urban land use and to curtail abuses by property owners affecting their neighbors or the wider public. They also fostered some unintended and pernicious outcomes, as in the role of land use zoning—a poster child of progressivism—in enabling post–World War II suburbs to practice outright racism with the full support of Congress and state governments (as discussed in Chapter 5).

The City Beautiful Movement

The city beautiful movement profoundly influenced the design of city centers and public architecture in the United States between the 1890s and the 1950s.[18] The movement was inspired by the architecture and urban spaces of ancient Greece and Rome as reinterpreted in European Renaissance palaces and city plans, most notably Louis XIV's extravagant Versailles Palace of the late seventeenth century. Georges Haussmann's redevelopment of Paris in the mid-nineteenth century, discussed in Chapter 3, was strongly influenced by Versailles and other exemplars of neoclassical design. Haussmann's ornate style of architectural design migrated to the United States through the work of American architects trained at the Ecole de Beaux Arts in Paris.[19] The style made its American debut in the 1893 Chicago Columbian Exposition (Figures 4-1 and 4-2). The vast colonnades, fake

Figure 4-1
The Court of Honor of the 1893 Columbian Exposition in Chicago that launched the city beautiful movement. Courtesy of the Chicago History Museum. Neg. ICH1-02526; C. D. Arnold, photographer.

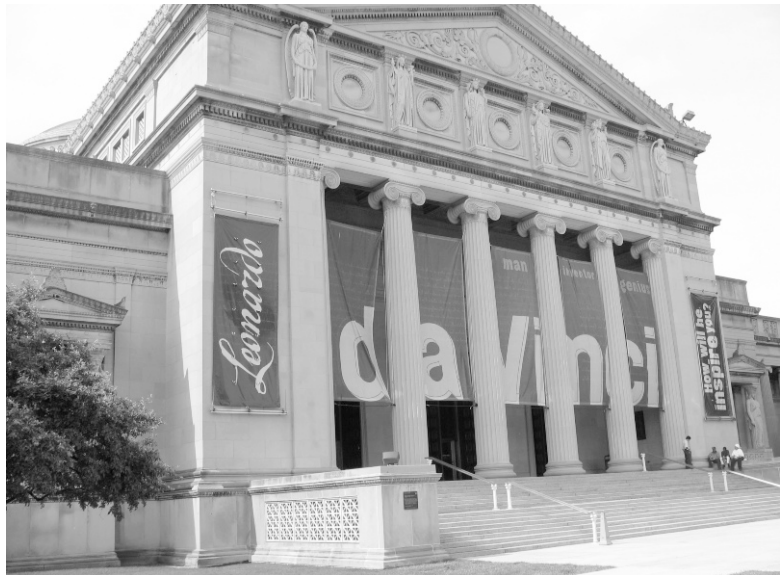

Figure 4-2
The neoclassical Museum of Science and Industry on the Chicago lakefront is the only building remaining from the 1893 Columbian Exposition. Photo by author.

temples, reflecting pools, and statuary of that exposition were in jarring contrast to the more indigenous "prairie school" architectural style being developed by Louis Sullivan and Frank Lloyd Wright.

Neoclassicism soon became the rage for public buildings and park design in cities across the country. Civic leaders were persuaded by leading beaux arts–trained architects such as Charles Mulford Robinson, Daniel H. Burnham, Charles F. McKim, and John Russell Pope that anything that looked "old" and "European" was superior to homegrown American architectural styles. Thus city halls, libraries, museums, government offices, banks, and other downtown buildings were embellished with columns, porticos, arches, and stonework. City plazas were relentlessly geometric and focused on statues surrounded by formal gardens and paved pedestrian spaces. From Washington, D.C., to Cleveland to Denver to Seattle, the nation's older city centers are still dominated by public spaces and pompous architecture from the city beautiful era: ancient Egypt, Greece, and Rome meet Main Street.

The nation's most prominent and lasting exemplar of the city beautiful style is the assembly of monuments, museums, and parks that adorn Washington, D.C. The nation's capital city was originally planned from the ground up (or swamp up) by Major Pierre L'Enfant, a French military engineer and friend of George Washington. The early growth of the city generally conformed to the L'Enfant plan, but with much clutter and encroachment on public spaces and discomfort arising from summer heat and mosquitoes thriving in the remaining marshes near the National Mall.

In 1900, Congress decided that the nation's capital needed a facelift. It created a special commission (known as the McMillan Commission after its Senate sponsor James McMillan) to update the L'Enfant Plan. The commission retained the nation's four leading city beautiful design exponents: architects Daniel H. Burnham and Charles F. McKim, landscape architect Frederick Law Olmsted Jr. (in place of his ailing father), and sculptor Augustus Saint-Gaudens. The commission's 1902 report[20] proposed what would later be described as "an inspiring set piece of the city beautiful movement that was to sweep the nation."[21] The National Mall as the city's major axis would be redesigned, replanted, and extended to include the reflecting pool and the tidal basin. Pursuant to the 1902 plan, the Mall was embellished with new public buildings, fountains, gardens, and monuments (Figure 4-3). The neoclassical Lincoln Memorial and Jefferson Memorial joined the huge Egyptian obelisk honoring George Washington that was completed in 1884. An ill-placed railroad terminal in the Mall was removed, and the gleaming beaux-arts Union Station designed by Burnham opened in 1907.[22] The National Mall is the nation's foremost public space for all sorts of events: inaugurations, marches, festivals, demonstrations, and civil rights milestones, including Marian Anderson's 1938 Easter Sunday Recital from the steps

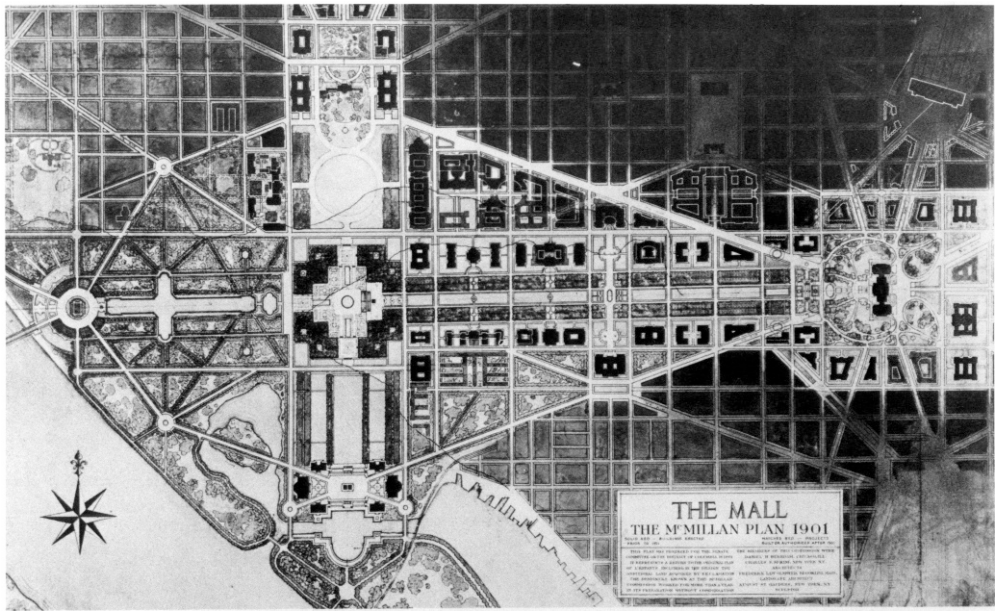

Figure 4-3
The 1902 McMillan Commission Plan for the redesign of the National Mall in Washington, D.C.

of the Lincoln Memorial and the Rev. Martin Luther King Jr.'s 1963 "I Have a Dream" speech from the same spot. Apart from such epic events, the National Mall is heavily used daily by strollers, joggers, hawkers, tourists, demonstrators, cyclists and dog walkers (Figure 4-4).

Burnham's triumphs as chief architect for the Columbian Exposition and District of Columbia plan were followed by city beautiful plans for Cleveland (1903), San Francisco (1905), and Manila (1905). His pièce de resistance, in collaboration with Edward Bennett, was the 1909 *Plan of Chicago*,[23] one of the best known documents in U.S. planning history. In the course of preparing that plan, Burnham allegedly uttered the famous adage that appears as the second epigraph to this chapter.

The *Plan of Chicago* marked a transition from the city beautiful to more functional approaches to city planning. Its most city beautiful element—a beaux arts civic center flanked by Haussmann-style radial boulevards and uniform building façades (Figure 4-5)—was, fortunately, never built. The functional elements of the plan, however, would reshape the face of the city over succeeding decades, including parks and forest preserves, streets and boulevards, bridges, rail, and port facilities. As popularized in a school textbook, the plan influenced a generation of Chicago taxpayers to support such projects as the completion of the city's lakefront park system, the double-decking of

Figure 4-4
The Mall today is the nation's foremost gathering place for celebrations, protests, and festivals. Photo by author.

Wacker Drive and a traffic bridge across the rail yards south of the central business district, and the consolidation of rail terminals. The plan helped promote a regional system of large greenspaces surrounding the city, as gradually achieved by the Cook County Forest Preserve District established in 1914 (Figure 4-6).

The *Plan of Chicago* thus marked a major leap beyond earlier city beautiful plans dominated by pompous aesthetics and dubious practicality. Like its predecessors, however, the Chicago plan still reflected the influence of the downtown business elite and the plan's sponsor, the Commercial Club. While focusing on transportation and other regional projects, it gave short shrift to housing, schools, health care, neighborhood parks, and other needs of the city's huge population of immigrants.[24] Planner William Goodman later faulted city beautiful plans in general for their "lack of legitimation of any public control over the private actions that were decisive in setting the quality of the urban environment. The early planners merely avoided the issue when they made 'planning' coterminous with parks, boulevards, and civic centers."[25] Even more acerbic

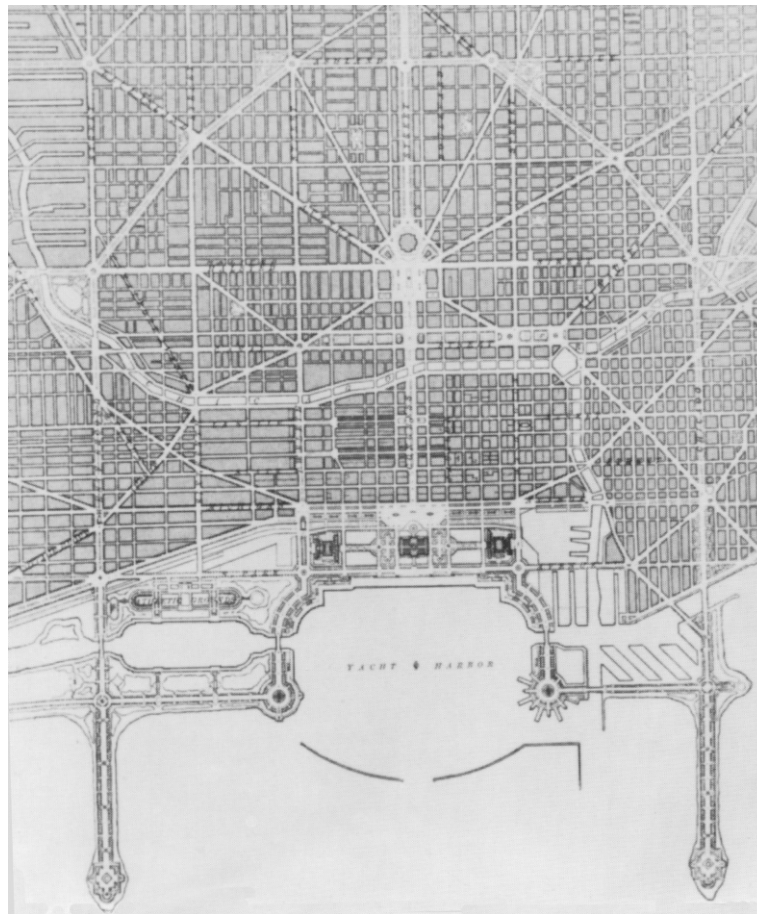

Figure 4-5
Design for the Civic Center and lakefront proposed in the 1909 *Plan of Chicago* modeled on Haussmann's Paris. From Harold M. Mayer and Richard C. Wade, *Chicago: Growth of a Metropolis* (Chicago: University of Chicago Press, 1969), 277.

was the indictment of the city beautiful by the urban historian Lewis Mumford: "Our imperial architecture is an architecture of compensation: It provides grandiloquent stones for people who have been deprived of bread and sunlight."[26]

Although many city beautiful legacies today—like the civic centers of Cleveland and Denver—seem pompous and not ecological, they resulted from well-meaning partnerships between the public and private sectors that invested in public buildings and city spaces. While its physical legacies are a mixed blessing, the spirit of that age and its civic pride should inspire today's efforts to revive older city centers, from Portland, Maine, to San Diego.

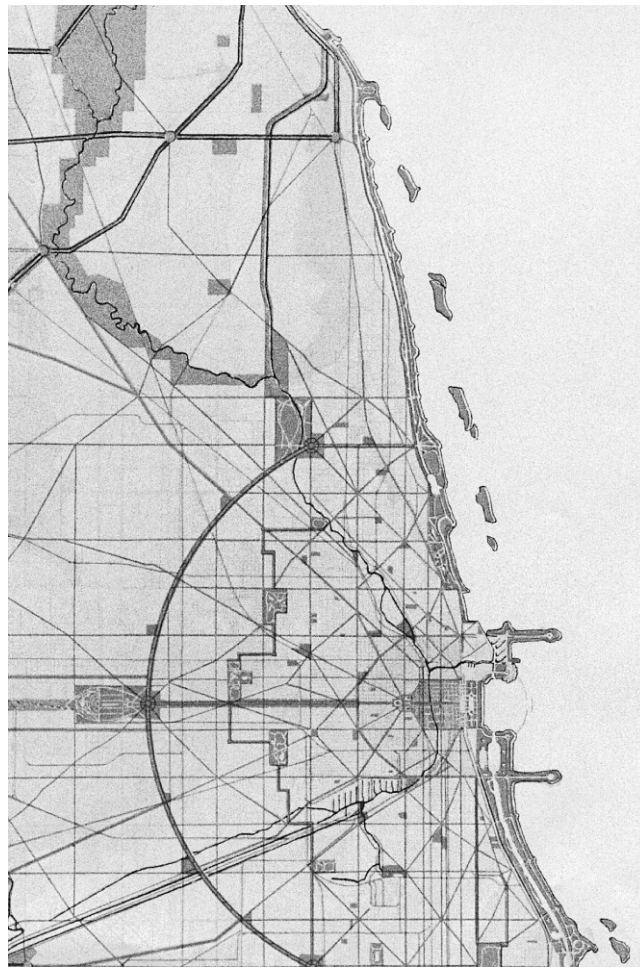

Figure 4-6
Burnham and Bennett's *Plan of Chicago*. Many of the parks either already existed or were later established, but the radial boulevard was not built. Reproduced from the original plan.

The Settlement House Movement

Four years before the 1893 Chicago Columbian Exposition and a few blocks inland from its future site on the lakefront, a very different national movement originated with the founding of Hull House by two idealistic young college graduates, Jane Addams and Ellen Gates Starr. As with sanitary reform in U.S. cities that was modeled on the work of Edwin Chadwick in England, their project was inspired by an English precedent, Toynbee House in London. After visiting that institution on a postcollege grand tour, Addams purchased a pre–Civil War mansion on Chicago's near-west side, by then surrounded

by tenements thrown together to house immigrants and workers in the nearby stockyards.[27] Jane Addams later described the 6-mile-long Halsted Street district served by Hull House as follows:

> The streets are inexpressibly dirty, the number of schools inadequate, the street lighting bad, the paving miserable and . . . and the stables foul beyond description. Hundreds of houses are unconnected with the street sewer. . . . Many houses have no water supply save the faucet in the back yard, there are no fire escapes, the garbage and ashes are placed in wooden boxes which fastened to the street platforms. . . . The houses are for the most part wooded, originally built for one family and are now occupied by several. . . . The ward contains 255 saloons, seven churches, and two missions.[28]

The Hull House charter of 1889 defined a threefold mission for the program: "To provide a center for a higher civic and social life; to institute and maintain educational and philanthropic enterprises, and to investigate and improve the conditions in the industrial districts of Chicago."[29] As a model for dozens of other settlement houses soon established across the country, Hull House recruited educated, dedicated young women from the "comfortable classes"—like Addams and Gates themselves—who would agree to live at the house as volunteers to work with and mentor the immigrant population living in the surrounding neighborhoods. By cultivating the wives of wealthy businessmen like the members of the Commercial Club, Addams and her colleagues attracted substantial funding support to expand the settlement into a complex of thirteen buildings by 1911, including, in addition to Hull House itself, a gymnasium, a coffee house, a library, an auditorium, an art gallery, cooperative apartments, meeting spaces, and classrooms. "Famous visitors flocked to the house," according to biographer Louise Knight, and quoting journalist Ida Tarbell: "Hull House was *the* place everyone visiting Chicago from overseas wanted to see."[30]

Hull House and its counterparts elsewhere offered many services and activities to immigrants living in their neighborhoods, including social clubs and classes in English, cooking, sewing, and carpentry. Hull House established Chicago's first kindergarten and playground[31] and sponsored lectures, artists, exhibitions, and musical and stage performances, often drawing on the nearby University of Chicago (founded in 1892). As Knight noted, Jane Addams's coterie of brilliant women colleagues "not only enriched life at Hull House but pioneered reforms that dramatically improved the quality of life for children, working people, the elderly, and the mentally disabled."[32]

Influenced by the writings and philosophy of Leo Tolstoy, whom she visited in Russia

in 1895, Addams embraced the Tolstoyan conviction that "good works" such as Hull House were "a mere pretense and travesty of the simple impulse 'to live with the poor' as long as the residents did not share in the common lot of hard labor and scant fare."[33] Today, we might call that "walking the walk, not just talking the talk."

With Hull House on a sound footing, Addams "walked many walks." During her long lifetime, she championed labor reform, civil rights, women's suffrage, and pacifism. She cofounded the National Association for the Advancement of Colored People with W. E. B. DuBois and other progressives, and her role as president of the International League for Peace and Freedom earned her the 1931 Nobel Peace Prize, as the first female Nobel laureate.[34]

Despite her national reputation at the time, the men responsible for the 1909 *Plan of Chicago* largely ignored her and the Hull House movement.[35] In fact, the Civic Center proposed in the plan would have been located at the intersection of Halsted and Congress Streets, *the very site of Hull House and heart of its neighborhood* (see Figure 4-5). Most of

Figure 4-7
The original Hull House (right) today is a National Historic Landmark overshadowed by the University of Illinois at Chicago (left), which replaced most of the thirteen-building Hull House complex in the 1960s. Photo by author.

the Hull House complex was eradicated by urban renewal and highway projects in the 1960s, with only the mansion and a former dining hall surviving today as a National Historic Landmark administered by the National Park Service (Figure 4-7).[36] The work of Hull House continues today under the Jane Addams Hull House Association, Chicago's largest social service agency, which offers dozens of social programs housed in three neighborhood centers in low-income areas of the city.

The contradictions between the settlement house and city beautiful movements reflected an inherent tension within the ranks of early-twentieth-century progressives and their successors. Daniel Burnham, the high priest of city beautiful design, despite his broad personal understanding of cities, was constrained by his Commercial Club sponsors (and clients in other cities) to confine his planning efforts to enhancing the outward appearance and economic prosperity of his clients. Jane Addams, as founder of the settlement house movement, sought to represent those who were shunned by Burnham's privileged clientele: the poor, immigrants, people of color, and especially their children. While the *Plan of Chicago* and its analogues reflected the preferences of the white male downtown business establishment, the settlement house women labored to enhance the living and working conditions of ordinary people. In various forms, these polar opposite approaches to urban improvement endure to the present.

Public Health and Safety Regulations

In 1915, the U.S. Supreme Court in the case of *Hadacheck v. Sebastian*[37] upheld an unusual Los Angeles city ordinance that prohibited brickyards within a three-square-mile district recently annexed to the city. The measure was challenged by the owner of a clay pit and brick kiln that predated both the ordinance and the annexation of the site by the city. The Court upheld the city's regulation against the owner's charge that it substantially reduced the value of the property without compensation and did not apply to similar businesses elsewhere in Los Angeles. *Hadacheck* today seems harsh and arbitrary in destroying a previously legal business, but it was an early milestone in the evolution of public "police power," the inherent power of government to protect the "public health, safety, and welfare" of its citizens without compensation to the businesses or property owners burdened by such regulations.

The police power was, and is, a fundamental tool of progressive reformers in their quest to protect the public from rapacious corporations, financial manipulation, exploitation of workers, deception of consumers, and dysfunctional land use and urban development. At the beginning of the twentieth century, the police power confronted the prevailing Gilded Age dogma of laissez-faire, the freedom of the private market from government interference (Adam Smith's mythic "invisible hand"). Only a decade

before *Hadacheck*, the U.S. Supreme Court in *Lochner v. New York* enshrined laissez-faire in declaring New York's new child labor statute to be an unconstitutional intrusion into the private economy and free enterprise (disregarding the exploitation of children as young as seven or eight).[38]

Despite this shocking refusal to allow the police power to protect workers—even children and young women—the Supreme Court had occasionally upheld the police power to restrict private economic activities that threatened the "public health, safety, and welfare." As early as 1872, a New Orleans ordinance that vested a monopoly in livestock slaughtering in one enterprise and banned all competitors without compensation was upheld by the Supreme Court with the following resounding declaration that

> unwholesome trades, slaughter-houses, operations offensive to the senses, the deposit of powder, the application of steam power to propel cars, the building with combustible materials, and the burial of the dead, may all . . . be interdicted by law, in the midst of dense masses of population, on the general and rational principle that every person ought to use his property as not to injure his neighbors; and that *private interests must be made subservient to the general interests of the community. This is called the police power*.[39]

Progressives at the turn of the century sought to enlarge the scope of the police power to limit or prohibit harmful private activities that cause a *public nuisance*. As argued by Ernst Freund, a leading progressive lawyer at that time, the police power was essential to prevent "nuisances" from arising in the first place rather than addressing them one at a time after harm was inflicted on the public:

> The common law of nuisance deals with nearly all the more serious and flagrant violations of the interests which the police power protects, but it deals with evils only after they have come into existence, and it leaves the determination of what is evil very largely to the particular circumstance of each case. *The police power endeavors to prevent evil by checking the tendency toward it and it seeks to place a margin of safety between that which is permitted and that which is sure to lead to injury or loss*. This can be accomplished to some extent by establishing positive standards and limitations which must be observed, although to step beyond them would not necessarily create a nuisance at common law.[40]

The proposition that the police power might "check the tendency" toward nuisance and impose a "margin of safety" implied that government could impose regulations

that exceeded the narrow scope of preventing traditional public nuisances; that is, it could regulate such social issues as working conditions, wages, minimum age, and length of working day for factory laborers. Moreover, there was some precedent for imposing regulations that varied geographically from one location to another, the basis for land use zoning. In *Hadacheck*, for instance, the Court upheld a city restriction of a particular land use (operating a brickyard) that applied only within a newly residential area of Los Angeles, but not the city as a whole.

In 1899, Congress, in its role as government for the District of Columbia, enacted the Heights of Buildings Act limiting the height of new buildings to 110 feet in business districts and 90 feet in residential areas to protect views of the Washington Monument and the Capitol. This limit, which survives in amended form today, yielded the striking horizontality of the nation's capital compared with New York and other vertical cities, a prime example of the impact of law on the built environment.

New York City and Chicago, meanwhile, were perfecting the art of the skyscraper. The sixteen-floor Monadnock Building in Chicago (1893) was the last and tallest building to use the outdated technology of weight-bearing walls.[41] The new era of steel frame construction—pioneered by Burnham's 1894 Reliance Building in downtown Chicago—enabled office buildings to rise to unprecedented heights. Burnham's 1902 Flatiron Building in New York, which reached twenty stories, was followed in 1909 by the forty-eight-story Metropolitan Life Tower and in 1913 by the fifty-seven-story Woolworth Building, each briefly claiming to be the world's tallest building.[42]

As skyscrapers soared beyond the reach of firefighters and available water pressure, a few cities began to join Washington, D.C., in regulating building heights. In 1909, the U.S. Supreme Court in *Welch v. Swasey*[43] upheld a Massachusetts law limiting new buildings in downtown Boston to 125 feet based on concerns about fire safety. On March 25, 1911, those fears were tragically validated in the Triangle Shirtwaist Company fire in New York City that gutted a ten-story sweatshop and killed 146 young female employees. Sprinklers failed, firefighters were unable to reach the upper floors, and locked doors prevented workers from escaping. Movie footage of the disaster, one of the first to be so recorded, appalled the national public with views of trapped women jumping to their deaths (a horror to be repeated in the collapse of the World Trade Center ninety years later). Although the working conditions of sweatshops would not be addressed until much later (and never fully), the Triangle Shirtwaist fire provoked demands for public regulation of the height and safety of multistory buildings. By 1913, twenty-two U.S. cities had enacted some form of height controls.[44]

A year after the Triangle Shirtwaist disaster, while attempting to win a ribbon for the fastest crossing of the Atlantic for its owner, the White Star Line, the British steamship

Titanic hit an iceberg and sank, with the loss of 1,503 passengers and crew members. That infamous disaster further inflamed public support for progressive initiatives in the United States and Great Britain to curtail the dominance of laissez-faire in the face of technological change and corporate arrogance.

City and Regional Planning

Urban reformers of the early 1900s were broadly concerned with the twin evils of overcrowding and political corruption. Both were products of the continuing surge of immigration to eastern seaboard cities from Europe. These destitute and mostly non-English-speaking refugees readily supported big-city machine politicians who offered them jobs and food in exchange for votes.

Apart from political corruption and the power of "bosses" in city governments, the most politicized urban concern of early-twentieth-century progressives was congestion. That label included a variety of ills: disease-ridden tenements, mobbed streets in office districts, loss of light and air, and inadequate open space for recreation. "Anti-congestion" was the rubric under which the early city planning movement first coalesced, a vague term that served briefly as a rallying issue, much like the term *sustainability* today.

One of the first progressives to address the evils of congestion was Frederick C. Howe, whose 1905 book *The City: The Hope of Democracy* urged the adoption of German city planning practices.[45] (While architects of the day worshiped at the altar of the French beaux arts style, the pioneers of the planning profession drew their inspiration from the regimented pragmatism of Germany.) Howe's book strongly influenced a young social activist, Benjamin C. Marsh, who in 1907 was appointed executive secretary to the newly formed Committee on Congestion of Population (CCP) in New York City. Like James Chadwick who launched the British sanitary reform movement by writing reports for prestigious committees, Marsh made good use of his position and connections. After travels in Europe and particularly Germany, he organized an exhibition on the evils of congestion at the American Museum of Natural History in New York. In 1909, Marsh privately published *An Introduction to City Planning*, which opened with the adage: "A City Without a Plan is like a Ship Without a Rudder."[46] In contrast to Burnham and Bennett's *Plan of Chicago* of the same year, which largely called for public improvements, Marsh urged U.S. cities to imitate German regulatory techniques such as public control over street location and design and the zoning of urban land to regulate building height, bulk, floor area, and use.

Marsh and the CCP organized the First National Conference on City Planning and Congestion in Washington, D.C., in 1909. According to accounts of the conference, participants included "many of the nation's leaders in urban affairs, including Frederick

Howe, Jane Addams, . . . John Nolen, Frederick Law Olmsted, Jr., . . . [and] representatives of municipal art, social work, architectural, civil engineering, and conservationist groups."[47] Burnham was notably missing even though the *Plan of Chicago* was hot off the presses. The conference proceedings, published as a Senate document,[48] is an archive of flowery rhetoric on behalf of the purpose and methods of city planning. Financier Henry Morgenthau declared city planning to be critical to national survival, declaring: "There is an evil which is gnawing at the vitals of the country, . . . an evil that breeds physical disease, moral depravity, discontent, and socialism. . . . This community can only hold its preeminence if the masses that compose it are given a chance to be healthy, moral, and self-respecting."[49]

In the absence of Burnham, the city beautiful movement was criticized as impractical and elitist by landscape architect Robert Anderson Pope: "We have rushed to plan showy civic centers of gigantic cost . . . brought about by civic vanity . . . when pressing hardby we see the almost unbelievable congestion with its hideous brood of evil, filth, disease, degeneracy, pauperism, and crime. What external adornment can make truly beautiful such a city?"[50] Instead of "showy civic centers," Pope urged: (1) decentralizing and more equitable distribution of land values, (2) widening of streets and establishment of radial and belt thoroughfares, and (3) the adoption of land use zoning (as in Germany) to regulate "building heights, depth of blocks, number of houses per acre, and land speculation with all its attendant evils."[51]

Subsequent city planning conferences provided an annual forum for the development of the planning profession. Congestion receded as a rhetorical theme (along with ethnic arrogance), to be replaced by more emphasis on what was termed "data, statistics, techniques, management, standards, efficiency, and evaluation."[52] Thus social scientists began to undercut the authority of the city beautiful arbiters of architectural taste in shaping the evolution of modern city planning and zoning in the 1920s.

High-minded ideals and aesthetics aside, however, land use zoning emerged from a very literal sense of congestion, namely overcrowding on the streets of downtown Manhattan due to the proliferation of skyscrapers. The Flatiron, Metropolitan Life, and Woolworth towers of the early 1900s were exemplars of the skyscraper style: ornate, slender, tapering to a pyramid or cupola, they fairly reflected the mood of exuberance and prosperity of pre–World War I America. At street level, though, these and their bulkier neighbors cut off light and air from business districts and flooded the sidewalks with office workers. Adding to that concern was the hostility of influential merchants along Fifth Avenue, New York's premier retail street, toward encroachment by garment factories and offices such as the Triangle Shirtwaist factory. Because the unwanted activities often occupied taller buildings, merchants often urged adoption of controls on building size by district to protect existing commercial property values.

Thus began the long tradition of using zoning to reflect what is now called NIMBYism ("not in my backyard"). Responding to pleas from Fifth Avenue merchants to be protected from intrusions in their high-end shopping street, the state legislature passed a zoning enabling act in 1913 leading to the adoption of the nation's first land use zoning ordinance in New York City in 1916. Zoning rapidly spread to hundreds of other cities and received the constitutional blessing of the U.S. Supreme Court in 1926 in *Village of Euclid v. Ambler Realty.*[53] "Euclidean zoning"—as approved in that decision—divides a community into geographic districts, each with specific rules governing lot sizes, building height and setbacks from lot lines, permissible uses of land and buildings, and other minutia of the land development process (see Chapters 8 and 9).

In contrast to the microscale of Euclidean zoning, other members of the early planning movement viewed cities from the opposite end of the telescope, namely as macroregions consisting of central cities, suburbs, and adjoining countryside. Less concerned about the separation of homes and businesses in neighborhoods (other than their own perhaps), these "regionalists" thought grandly and acted broadly. Their shared ideal was a future human habitat that blended commerce, industry, homes, open spaces, agriculture, and scenery in an orderly and efficient landscape free of congestion, blight, and waste.

Burnham and Bennett's 1909 *Plan of Chicago* anticipated the regionalist perspective in sketching out a proposed broad framework of transportation facilities and public open spaces reaching far beyond the city limits of Chicago. Two members of the Commercial Club who developed the Chicago Plan, Charles Dyer Norton and Frederic A. Delano, transferred their experience to metropolitan New York as cofounders of the Regional Plan Association (RPA) there in 1922.[54]

True to its name, the RPA launched the nation's first and most ambitious regional planning effort, embracing a territory of 5,500 square miles extending up to 40 miles from the city, with more than 300 municipalities in three states, and housing nearly ten million people. Norton's vision for this vast area was vintage progressivism: "To bring order out of disorder; to make convenience and thrift take the place of congestion and waste; and to realize the potentialities of commerce and of industry, as well as of beauty, and comfort, and pleasure."[55]

The *Regional Survey of New York and Its Environs* appeared in a series of ten volumes released between 1929 and 1931, with an incredible 470 proposals and recommendations. According to planning historian William H. Wilson:

> The noblest of the era's comprehensive plans was the great Regional Plan of New York and Its Environs. "Monumental" is a tired word but the only adjective adequate to this interdisciplinary effort by the outstanding urbanologists of

> the day. . . . The plan was a success in realistic terms, for many of its proposed highways, rail routes, parkways, and air terminals were built.[56]

Ironically, the stock market crash of 1929 and the onset of the New Deal in 1933 to combat the Great Depression helped complete many of the public projects outlined in the RPA plan. The *Regional Survey of New York and Its Environs* stimulated counterpart regional plans for many large cities and their suburbs, initially funded by civic and business interests, as in the case of Chicago and New York, and later with support from local and county governments in many (but not all) metropolitan areas. The RPA itself published updated regional plans in 1968 and 1996. It continues to thrive today as a respected participant in the continuing adaptation of the New York Region to the twenty-first century. A fourth regional plan was launched in April 2013.[57]

The 1930s: Public Works and Grand Visions

Cities became poorer during the 1930s but changed little in outward appearance. According to Jon C. Teaford: "A tourist visiting New York City, Chicago, Philadelphia, or Boston in 1931 who returned fourteen years later would find few changes in the cityscape. Virtually no new skyscrapers soared overhead, the same hotels catered to travelers, and the leading department stores had changed little but their window displays."[58] Fortunately, by the 1930s the major U.S. cities were already endowed with infrastructure—streets, parks, schools, sewer and water systems, mass transit lines, electricity, gas, and telephone utilities, museums, medical facilities, and government buildings—constructed over the previous half century of public improvements.

Although the *private* sector was in retreat in the 1930s, the Depression would actually stimulate *public* construction and modernization of city and regional infrastructure across the nation. The inauguration of President Franklin D. Roosevelt on March 4, 1933, marked the beginning of New Deal programs to combat unemployment through federally funded public works (today called "stimulus funding"). The Civil Works Administration and the Public Works Administration employed the jobless to repair streets, modernize schools, build post offices, install streetcar systems, and lay new sewers. The Works Progress Administration employed artists to design and embellish public buildings. New Deal–era buildings such as the Department of Interior headquarters in Washington, D.C., and post offices across the country are embellished with art deco details and historic lobby murals by artists like Thomas Hart Benton. Visitors to national and state parks today still widely use roads, trails, restrooms, lodges, and other amenities constructed during the Depression by the Civilian Conservation Corps.

Certain immense projects begun or planned in the 1920s were completed in the middle

of the Depression, such as New York's George Washington Bridge (1931), San Francisco's Golden Gate Bridge (1937), and Hoover Dam (1936). In New York City, the hyperactive and abrasive Robert Moses oversaw the construction of the Triborough Bridge, the Queens Midtown Tunnel, and Jones Beach State Park, among countless other public works during the 1930s.[59] In the style of Georges Haussmann in Paris, Moses was a modern "technocrat" who used (some would say abused) federal, state, and local government authorities and funds to pursue an automobile-based vision of the future metropolis.

Although most freight still traveled by rail in the 1930s, private automobiles by then held a sacrosanct position in American society. Thanks to Henry Ford, cars were affordable and fun. Thanks to city planners like Robert Moses from the 1920s on, they would become a necessity, even within cities having excellent streetcar and subway systems. The General Motors *Futurama* exhibit at the 1939 New York World's Fair foretold a society totally dependent on highways and motor vehicles, soon to be a self-fulfilling prophecy.[60]

The celebrated American architect Frank Lloyd Wright in the 1930s developed a model plan for a "democratic" future U.S. metropolis that he named *Broadacre City.*[61] Wright envisioned a metropolitan nation of sprawling low-density residential districts surrounding compact commercial centers connected by limited-access highways. Conveniently ignored in this utopian vision were heavy industry, the poor, the nonwhite, and those who preferred urban clutter and convenience to sprawling pseudo-agrarian suburbia. The reflection of *Broadacre City* in the highway-dependent suburban sprawl of postwar America is uncanny.

The 1930s also produced another utopian urban construct—*La Ville Radieuse* (the Radiant City)—by French architect Le Corbusier.[62] No less arrogant than Wright, Le Corbusier proposed exactly the opposite metropolis. His concept would house the urban populace in glistening high-rise apartment towers set within walking distance of one another amid common open spaces devoted to parks and open spaces. Mobility within the urban system was by public transportation and elevator; automobiles presumably were only needed to get to the countryside. Le Corbusier's *Ville Radieuse* would influence urban designs for "new towns" in Great Britain, Continental Europe, and Asia.

In the United States, Le Corbusier's vision strongly influenced the design of postwar government housing projects for the poor, with disastrous results. One of the most notorious was the 1950s-era Robert Taylor Homes project on Chicago's South Side: 4,512 units in twenty-eight sixteen-story buildings lining a major expressway yet isolated from downtown jobs.[63] Urban critics like Jane Jacobs in the 1960s excoriated such misguided "projects" and stimulated a search for alternative forms of urban housing, including revamping existing neighborhoods. Among many failings of the *Ville Radieuse* paradigm, as blindly applied in U.S. cities, was the pervasive use of open space between buildings not

for parks but for parking, junk cars, litter, and gang turf. Somewhat more successful has been New York's Coop City, a Le Corbusier–inspired development of subsidized middle-class housing constructed by a state housing authority in the 1960s.

The 1930s yielded one further notable experiment in progressive community planning, the Greenbelt Towns Program of the Resettlement Administration, directed by Rexford Tugwell. As discussed in Chapter 3, Ebenezer Howard's garden cities movement in England stimulated a counterpart effort among progressive urban thinkers in the United States during the 1920s whose best-known legacy was the planned suburb of Radburn, New Jersey, dubbed by its promoters as the "Town for the Motor Age."[64] Radburn in turn influenced the design of the three greenbelt towns built under Tugwell's direction in Maryland, Ohio, and Wisconsin. Each was designed and built by the federal government for a population of about 20,000, of whom virtually all would be white and middle class with families. The greenbelt towns, as with Letchworth Garden City in England, were intended as models for enlightened investors and builders to emulate. Instead, they became isolated legacies of New Deal idealism, largely ignored after 1940.[65]

Far more influential in shaping the postwar metropolis was the Federal Housing Administration (FHA) established in 1934, whose function was to insure loans on new homes so as to promote middle-class home ownership. The FHA and the Veterans Administration's home loan program would jointly fuel postwar home construction and urban sprawl. Even before the war, however, the FHA had adopted the invidious practice, started by the Home Owner Loan Corporation, of *redlining* neighborhoods by class and race, denying federal benefits to nonwhite districts.[66] Federal policy, as expressed through these and many other programs, was to preserve existing community and neighborhood character rather than to promote integration, diversity, or equal access to housing. These racist elements of national housing policy would infuse the post–World War II explosion of home building to yield the "separate and unequal" geography of metropolitan America in the second half of the twentieth century.

5.
The Polarized Metropolis: 1945–2010

The ultimate effect of the suburban escape in our time is, ironically, a low-grade uniform environment from which escape is impossible.

Lewis Mumford, *The City in History*, 1961

All Americans pay for sprawl with increased health and safety risks, worsening air and water pollution, urban decline, disappearing farmland and wildlife habitat, racial polarization, city/suburban disparities in public education, lack of affordable housing, and the erosion of community.

Robert D. Bullard, *Sprawl City*, 2000

The surrender of Germany on May 8, 1945, followed on September 2 by the final defeat of Japan, released the United States and its allies from a fifteen-year nightmare of depression followed by the war against fascism. With industry freed from the demands (and profits) of wartime production and with millions of veterans returning home, the priorities of the nation changed almost overnight to long-deferred domestic priorities: starting families, finding a home, and buying a new car.

The twin booms in housing and babies dominated the late 1940s and 1950s. Politicians and the media demanded federal housing programs to provide returning veterans and their families with affordable new homes.[1] Congress rose to the challenge with a variety of new housing stimulus programs under the aegis of the Federal Housing Authority and the Veterans Administration. These programs helped fuel a construction boom of some 15 million new housing units during the 1950s; in every year from 1947 to 1964,

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_6,

housing starts would exceed 1.2 million.[2] Most of these millions of new units were single-family homes built on agricultural or wooded land outside the older central cities. Most were deliberately marketed to middle-class white families. The sprawl of suburbia was further subsidized by the federal Interstate Highway System authorized by Congress in 1956 and by federal tax deductions, discussed subsequently. Meanwhile, central cities were the focus of public housing, urban renewal, and highway programs that collectively changed the face of downtown while ravaging many older neighborhoods and consigning low-income black Americans to inner-city neighborhoods abandoned by departing whites or to the purgatory of public housing. In effect, the federal government actively supported, and to a certain extent mandated, an *apartheid* postwar United States.

Americans have long had an ambivalent love-hate relationship with their cities. On the one hand, they love their downtowns, especially in the aftermath of World War II when the lights at last shone brightly, department stores thrived, movie "palaces" boomed, swing bands played in hotel lounges and night clubs, and Dixieland music poured out of bars and dives along backstreets. The mood of downtown in the immediate postwar era was captured by Alfred Eisenstaedt's iconic photograph of a sailor kissing a girl in the middle of Times Square on the day victory over Japan was declared.

On the other hand, cities were viewed with dismay and even fear by the increasing share of the nation's population who were moving away to suburbs. As discussed earlier, the movement out of cities by middle- and upper-class white families dated to the early streetcar suburbs of the 1870s and 1880s and the commuter rail towns of the early 1900s. By the late 1930s, older inner-city neighborhoods surrounding "downtown" were increasingly occupied by immigrants and black migrants from the South. Long-standing fears of urban fires, disease, crime, and congestion were reinforced by mainstream white contempt—fanned by media stereotypes, political demagogues, and "yellow journalism"—toward anyone who was not a certified WASP (white Anglo-Saxon protestant). The nation's postwar housing policies accordingly reflected the prevailing fault lines that were well established before World War II broke out: affluent versus poor, white versus nonwhite, Gentile versus Jewish, "native" versus foreign born. Accordingly, the United States embarked on two parallel sets of housing programs, one for cities and the poor, and the other for the suburbs and the white middle class. Let us take a closer look at those programs before moving on to later efforts to challenge or refine them.

Public Housing and Urban Renewal

Broadly speaking, urban renewal embraced an array of postwar federal, state, and local programs that collectively sought to (1) eliminate slum districts, (2) construct new housing and commercial development under private and public auspices, (3) shore up urban

tax bases, and (4) stimulate private investment in the vicinity of project areas. More narrowly, urban renewal refers to the program of federal assistance to local urban renewal agencies established in Title I of the 1949 Housing Act. Once the mantra of powerful city rebuilders like Robert Moses in New York, Edward Logue in New Haven and Boston, and Edmund N. Bacon in Philadelphia, urban renewal soon became an epithet to early critics like Jane Jacobs, William H. Whyte, and Joseph Fried, who memorably wrote that two decades after the program's inception in 1949, the term *urban renewal* "was spat bitterly from the mouths of slum dwellers as often as it was rolling pridefully from the tongues of mayors and chamber of commerce officials."[3]

The clumsy and controversial apparatus that comprised urban renewal began, of course, with good intentions and idealistic precedents. One of those precedents was *public housing*: apartment projects constructed by government agencies for rental to the very poor and the elderly. As urged by housing activists like Catherine Bauer and Edith Elmer Wood, the 1937 Wagner-Steagall Housing Act established a new program to assist local authorities to build and operate housing for "families who are in the lowest income groups and who cannot afford to pay enough to cause private enterprise . . . to build an adequate supply of decent, safe, and sanitary dwellings for their use."[4] Some 130,000 units were built under the act before World War II, mostly "garden city" row-house apartments with a mix of very poor and working-class tenants. Most projects were racially segregated, however.

New Deal idealism did not survive the war. Big-city technocrats like New York's Robert Moses viewed public housing as an instrument for "slum clearance" with little effort to rehouse people displaced from demolished buildings. Under funding constraints imposed by conservatives in Congress, public housing agencies abandoned garden-city projects in favor of high-rise, barebones structures largely occupied by very poor African Americans. Other than elderly housing projects, most public units were built in black neighborhoods isolated from jobs, public transit, decent schools, and retail stores.

One of the nation's most infamous public housing fiascos was the Pruitt-Igoe project in St. Louis. Completed in 1955 with 33 eleven-story buildings and 2,868 apartments, Pruitt-Igoe would become a metaphor for warehousing black welfare families in filthy, noisy, crime-ridden enclaves isolated from jobs, schools, parks, and public transportation. Abandoned by even its most needy tenants, Pruitt-Igoe was literally blown up by demolition crews in 1972. Similarly, the Chicago Housing Authority earned ignominy for its many high-rise and dysfunctional projects in predominantly black districts of the South and West Sides of the city, notably including the reviled Robert Taylor Homes (Figure 5-1), 28 sixteen-story apartment buildings adjoining the mammoth Dan Ryan Expressway that was described as serving "as a practically impenetrable wall between State Street public

Figure 5-1
High-rise public housing structure and mobile classrooms, Robert Taylor Homes, Chicago, ca. 1970. Photo by author.

housing and the all-white neighborhoods on the other side."[5] Catherine Bauer, champion of the 1937 act, disowned postwar public housing as a "dreary deadlock" that by 1957 "still drags along in a kind of limbo, continuously controversial, not dead but never more than half alive."[6]

The federal urban renewal program, established in 1949, borrowed several elements of the earlier public housing program: (1) federal cost sharing to local authorities to (2) acquire and clear slum buildings and neighborhoods, leading to (3) redevelopment of the site for purposes consistent with (4) a master plan developed by local authorities in accordance with federal criteria. From coast to coast, projects followed the same design formulas regardless of location, local history and culture, and the preferences of local residents.

Urban renewal, however, would prove to be more amenable to local governments and the building industry than public housing ever was. Rather than just "slum clearance," the 1949 act also applied to "blighted areas," almost a ubiquitous condition after fifteen years of depression and war. Up to 30 percent of federal urban renewal funds could be used for nonresidential redevelopment such as new office complexes, shopping malls, hotels, stadiums, and convention centers (Figure 5-2). Thus almost any private property in the vicinity of downtown or high-amenity locations such as waterfronts could be declared "blighted" and replaced with new private development, with the federal government paying two-thirds of the site preparation costs.[7] Often, redevelopment did not occur as planned, and older cities became pockmarked with parcels of vacant land.

In fact, urban renewal destroyed many more housing units than it created. By 1967, new units constructed through the program amounted to only *one-tenth the number demolished by then*.[8] Low-income households evicted from buildings to be demolished could

Figure 5-2
Tower Square, Springfield, Massachusetts, ca. 2006. One of many failed downtown shopping malls built under the urban renewal program during the 1960s. Photo by author.

not afford the new housing created by the program and were largely left to rehouse themselves with a meager relocation stipend.

In tandem with urban renewal, the Interstate and Defense Highways Act of 1956 authorized 90 percent federal funding (out of earmarked highway taxes) to connect all the nation's major cities with 41,000 miles of limited-access new highways. Originally, the system was conceived as linking cities, not slashing through them, but that was not what the cities themselves had in mind. The indomitable Robert Moses retorted, "You can draw any kind of picture you like on a clean slate, but when you're operating in an overbuilt metropolis you have to hack your way with a meat axe."[9]

Between 1967 and 1970 alone, interstate highways displaced some 168,000 people, adding immensely to the toll of poor minority households displaced by urban renewal.[10] State and city highway engineers targeted lower-income neighborhoods to improve mobility in and out of central cities for the more affluent. Before the Uniform Relocation Assistance Act of 1970 finally ensured some benefits to persons displaced by federal projects, the residents and businesses in the path of highway construction were treated, if possible, even more callously than under urban renewal.

Suburban Sprawl

Meanwhile, even as central cities were being eviscerated, the suburbs and rural landscapes outside cities were exploding with development of homes, shopping centers, and, later, office parks. The millions of new suburban homes built after World War II did not simply spring from the private market. Government at all levels was needed to provide new highways, schools, police and fire stations, and water and sewer systems needed to attract builders and buyers to "green fields" far beyond the city limits. While lenders, builders, real estate brokers, oil companies, car and appliance makers, and other private-sector stakeholders eagerly embraced the sprawling metropolis, it would not have happened without tax-supported government buy-in.[11]

Between 1950 and 1970, U.S. central cities gained only 10 million even as their suburbs grew by 85 million.[12] Suburbia tripled in population between 1950 and 2000, while central cities collectively grew by only 73 percent over the same period. By the latter year, more than half of Americans lived in suburbs compared with about one-third in 1960, when the nation's population was about equally divided between central cities, suburbs, and everywhere else (Figure 5-3).

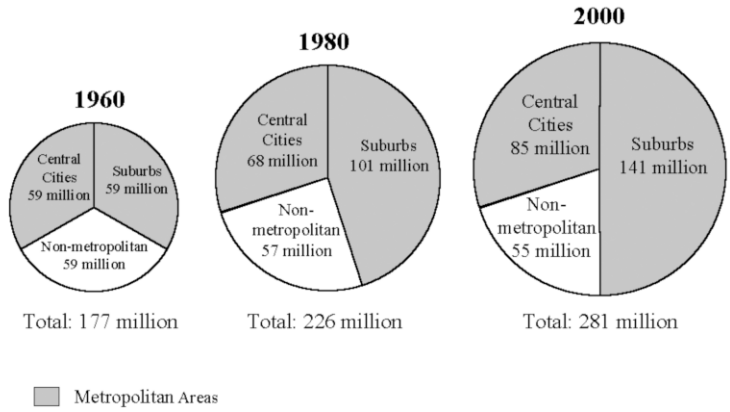

Figure 5-3
Distribution of U.S. population: 1960, 1980, and 2000. Adapted from U.S. Census data.

In large measure, suburban sprawl, with its underlying racist subtext, was powered by four sets of government policies: redlining, federal and state tax policies, the federal Interstate Highway System, and local zoning codes.

Redlining was the explicit practice of allocating federal housing loans to persons and neighborhoods considered by program authorities as "good risks," namely white and middle class. This invidious government policy—which formalized private market sanctions against "undesirables" like blacks, Jews, immigrants, and even Catholics—originated with

the New Deal–era Home Owners Loan Corporation (HOLC) established in 1933. According to historian Kenneth Jackson, "The damage caused by the HOLC came not through its own actions, but through the influence of its appraisal system on the financial decisions of other institutions."[13] Similarly, housing expert Charles Abrams wrote, "In the Federal Housing Authority, created in 1934, which oversaw the lion's share of postwar loan guarantees to builders and developers, discrimination and segregation were not only practiced but were openly exhorted."[14] The parallel Veterans Administration housing loan program operated on the same basis.

Federal and state tax policies have long supported the "American dream" of homeownership, a dream largely out of reach of minorities and the poor. The federal income tax code provides three major deductions from taxable income for home ownership costs: (1) interest on mortgage loans on principal or second homes, (2) property taxes paid to local governments, and (3) "points" paid to lenders at the time of purchase. These home ownership tax subsidies perfectly complemented redlining by benefiting the white middle class who were eligible for federal home loans and discriminating against nonwhites and the poor who were not. Before the spread of condominiums, rental apartments made up most housing stock in central cities. (With sad irony, a vast expansion of black and Hispanic homeownership in the 1990s and early 2000s was fueled by "reverse redlining" by predatory lenders, targeting minority households for risky subprime loans leading to the loss of both their investments and dreams in the foreclosure crisis that began in 2006.)

The *federal Interstate Highway System* was another crucial stimulus to suburban sprawl. The migration of white families and businesses to the suburbs depended not only on tax incentives but also on fast highways connecting new greenfield development with everywhere else. The primary arteries of the Interstate Highway System span the nation from coast to coast and border to border, with perimeter beltways and myriad connecting spurs slashing through built-up areas. Unlike highways through built-up places that caused mass displacement and community outrage, the interstate system unfolded with less rancor in the open countryside. Huge windfall profits were realized by owners of land near future interchanges where gas stations, truck stops, chain restaurants, and overnight lodging facilities would cluster (Figure 5-4).

Finally, *local zoning codes* were widely used to define the socioeconomic and physical character of suburbia. Exclusionary zoning takes three principal forms: (1) restriction or bans of apartments and other affordable housing, (2) large lot requirements that raise the cost of building a home, and (3) excessive zoning for nonresidential development to bolster the local property tax base (fiscal zoning). Despite legal challenges, these practices remain alive and well in many places in the twenty-first century (see Chapters 8 and 9).

Figure 5-4
Visual chaos of commercial signage at interstate exit ramp. Photo by author.

The two tracks of postwar housing policies—central city renewal and suburban sprawl—jointly yielded a powerful and immediate impact on the racial and economic polarization of cities and suburbs. The phenomenon known as white flight inevitably ensued from the *push* of urban neglect and demolition and the *pull* of suburbia (for those who qualified) with its new homes, schools, highways, and apparent freedom from urban strife and disruption.

Once set in motion, white flight would continue into the 1990s as recounted by the public television journalist Ray Suarez:

> Between 1950 and 1990, the population of New York stayed roughly level, the white population halved, and the black population doubled. As Chicago lost almost one million people from the overall count, it lost almost two million whites. As the population of Los Angeles almost doubled, the number of whites living there grew by fewer than ninety thousand. Baltimore went from a city of three times as many whites as blacks in 1950 to a city that will have twice as many blacks as whites in the year 2000. All this happened while the number of blacks in the United States has stayed a roughly constant percentage, between 11 and 13 percent.[15]

Since 1990, the stark contrasts between central cities suburbs has blurred somewhat as nonwhites, and especially Asians and Hispanics, settled in many older "inner-ring"

Figure 5-5
Covering rural land with buildings and pavement in typical exurban industrial sprawl. Photo by author.

suburbs and young white professionals began to gentrify choice urban neighborhoods like Park Slope in Brooklyn, Hyde Park-Kenwood in Chicago, and Capitol Hill in Washington, D.C. Overall racial change continued through the 1990s, however: the 2000 U.S. Census reported that the top one hundred cities in the United States changed from being 52 percent white in 1990 to 44 percent white in 2000, reflecting the net migration of 2.3 million whites to the suburbs, the Sun Belt, and elsewhere.[16] As discussed subsequently, however, between 2000 and 2010, whites would account for only one-fifth of new suburban residents as Hispanics, Asians, and African-Americans increasingly migrated to inner-ring suburbs.

By definition, suburban sprawl consumes vast amounts of agricultural or natural land beyond the urban fringe (Figure 5-5). As mentioned in Chapter 1, between 1982 and 2007, some 21 million acres of agricultural land—an area the size of Indiana—were converted to "developed uses."[17] Most metropolitan areas during the heyday of sprawl consumed land much faster than their rate of population growth. Between 1982 and 1997, "urbanized areas" (as defined by the U.S. Bureau of the Census) increased in area by 47 percent, while the nation's population grew by only 17 percent.[18]

Few Americans in the 1950s openly questioned the social inequities of the dual-track national housing policy or the wasteful consumption of rural land for suburban sprawl.

Although distracted by the onset of the Cold War, the Korean War, and McCarthyism, the nation reveled in long-deferred domestic priorities: education, jobs, families, new homes, flashy new cars with tail fins, electric appliances. President Dwight Eisenhower with his famous grin and campaign slogan "I Like Ike" presided over the United States from 1953 until 1961 like a genial grandfather. The upheavals of the following decade—civil rights, the feminist movement, the war on poverty, environmentalism—were not yet on the radar screen in the smugly self-righteous 1950s.

In 1961, French geographer Jean Gottmann extolled the evolving supermetropolis along the nation's northeastern seaboard, which he named *Megalopolis*.[19] Extending from Boston to Washington, D.C., Gottmann viewed Megalopolis as a new stage in human settlement geography characterized by (1) high average population densities; (2) high volumes of internal and external flows of people, goods, funds, and information; (3) blurring of urban and rural land uses; and (4) a dominant role in the national and world economies.

Megalopolis, in Gottmann's effusive prose, was "*on the average*, the richest, best educated, best housed, and best serviced [urban region] in the world."[20] Gottmann called for *intergovernmental cooperation* among the many units of government that share Megalopolis and similar regions to serve regional needs such as transportation, water and sewer service, pollution abatement, and education.

Even in the 1950s, however, admiration for the new American metropolis was not universal. The prescient urban historian Lewis Mumford in 1955 warned that modern metropolitan development tends "to loosen the bonds that connect [the city's] inhabitants with nature and to transform, eliminate, or replace its earth-bound aspects, covering the natural site with an artificial environment that enhances the dominance of man and encourages an illusion of complete independence from nature."[21]

The business magazine *Fortune* in 1957 published a series of essays critical of urban renewal and suburban sprawl that was republished as *The Exploding Metropolis*.[22] Anchored by William H. Whyte and Jane Jacobs (self-described as "people who like cities"), the authors criticized postwar building policies on both aesthetic and functional grounds. In his essay "Urban Sprawl" (perhaps the first use of the term), Whyte reasoned: "Sprawl is bad aesthetics; it is bad economics. Five acres are being made to do the work of one, and do it very poorly. This is bad for the farmers, it is bad for communities, it is bad for industry, it is bad for utilities, it is bad for the railroads, it is bad for the recreation groups, it is bad even for the developers."[23]

Although *The Exploding Metropolis* writers overlooked the racial and class inequities in national housing policies, their views were otherwise heretical in at least four respects. First, they rejected the conventional wisdom that suburbs are necessarily preferable to

"real cities." Second, they urged that cities should be thought of as "habitats for people," not simply as centers of economic production, transportation nodes, or grandiose architectural stage sets. Third, they challenged the prevailing notion that population density ("crowding") is necessarily bad. Fourth, they established a precedent for more searching critiques of urban policies and programs in the coming decades, including but by no means limited to those of Whyte and Jacobs. It marked the emergence of journalists as urban critics and the rediscovery of the city as a "place," not just an economic and aesthetic artifact. In short, *The Exploding Metropolis* was the first round of the debate over the nature, purpose, and design of city space that continues today in the smart growth movement, new urbanism, and other efforts to make cities and suburbs more habitable.

In 1961, Jacobs's famous book *The Death and Life of Great American Cities* decried the theory, practice, and effects of the federal urban renewal and highway projects on city neighborhoods and people. She wrote:

> But look what we have built with the first several billions [of urban renewal money]: Low-income projects that become worse centers of delinquency, vandalism, and general social hopelessness than the slums they were supposed to replace, Middle-income housing projects which are truly marvels of dullness and regimentation, sealed against any buoyancy or vitality of city life. . . . Expressways that eviscerate great cities. This is not the rebuilding of cities. This is the sacking of cities.[24]

Meanwhile, Whyte spent the next decade exploring the problems of urban sprawl. With backing from conservationist Laurance S. Rockefeller, Whyte studied the effects of sprawl and various approaches to taming it, which in 1968 he summarized in his "bible" for the growing urban land conservation movement, *The Last Landscape.*[25]

Also published in 1968, landscape architect Ian McHarg's *Design with Nature*[26] prescribed why and how urban development must respect and protect natural systems. McHarg pioneered the use of multilayer analysis of geographic factors affecting project sites, such as steep slopes, wetlands, aquifer recharge areas, forests, prime farmland, floodplains, historical and cultural features, and scenic beauty. McHarg's message, according to Whyte, was "the gospel of 'physiographic determinism,' which roughly translated means nature ought to come first."[27]

Thus urban renewal and suburban sprawl, and the policies that drove them, were each subject to growing criticism from these and other writers of the time. Both sets of issues would be subsumed within the larger upheavals of the 1960s and 1970s in the form of the civil rights and environmental movements.

The Civil Rights Movement

In 1954, mainstream America was shocked by the landmark U.S. Supreme Court school desegregation decision *Brown v. Board of Education*.[28] In a unanimous decision (after intense elbow twisting by Chief Justice Earl Warren), the Court ruled that segregation in public schools violates the due process and equal protection clauses of the Fourteenth Amendment to the U.S. Constitution. It specifically overruled its own 1896 ruling in *Plessy v. Ferguson*[29] that upheld the provision of "separate but equal" public services and facilities to members of different ethnicities. Access by African Americans to schools, housing, jobs, parks, health care, hotels, and public transportation was patently unequal, even in northern states. The liberal-leaning court, with four justices appointed by President Franklin D. Roosevelt (Black, Jackson, Frankfurter, and Douglas), ordered the desegregation of public schools nationwide. The decision ignited a firestorm of opposition, and the struggle to realize equality in schools continues today. (In 2004, the fiftieth anniversary of *Brown*, one of the original attorneys for the plaintiffs noted that, ironically, school integration had been achieved more widely in "the small-town rural South," while metropolitan areas lagged due to the continued prevalence of residential segregation between cities and suburbs.)[30]

Brown was an early victory, in principle at least, for the incipient civil rights movement. (Thurgood Marshall, the lead attorney for the plaintiffs, was appointed as the first black justice on the Supreme Court by President Lyndon Johnson in 1967.) *Brown* was followed by *Aaron v. Cooper*,[31] which upheld the use of federal troops to compel Arkansas governor Orville Faubus to desegregate high schools in Little Rock, another pyrrhic victory whose implementation would drag on for decades.

Brown and *Aaron* raised African Americans' hopes for overcoming Jim Crow segregation in other public services. To stimulate further judicial and legislative reforms, civil rights activists began to engage in acts of civil disobedience, as inspired by India's Mahatma Gandhi. On December 1, 1955, Rosa Parks, a black seamstress and civil rights activist, was arrested in Montgomery, Alabama, for refusing to sit in the "colored section" at the back of a city bus. That incident triggered a 381-day African American boycott of Montgomery buses under the leadership of Ralph Abernathy, Martin Luther King Jr. and others, inciting violent reprisals by white supremacists. The U.S. Supreme Court in November 1956 upheld a lower court ruling that declared segregation on public buses to be unconstitutional, in another victory for civil rights. Rosa Parks's small act of civil disobedience, however, would ignite the smoldering civil rights movement, as memorialized by a sculpture of her seated on the famous bus ride unveiled in the U.S. Capitol Rotunda on February 27, 2013.[32]

In 1960, nonviolent protests resumed with the lunch counter sit-ins in Greensboro,

North Carolina. Continuing segregation in public transportation triggered the Selma-to-Montgomery Freedom Riders in 1961 organized by the Congress on Racial Equality and attacked by opposing protesters and police who jailed the participants, including future congressman John Lewis.[33] On August 28, 1963, during the March on Washington, the Rev. Martin Luther King Jr. delivered his immortal "I Have a Dream" speech from the steps of the Lincoln Memorial (exactly where Marian Anderson had performed her Easter Sunday Recital in 1939 at the invitation of Eleanor Roosevelt). Civil rights demonstrations broke out in black neighborhoods across the country—in Harlem and Brooklyn in 1964, in the Watts district of Los Angeles in 1965, in Cleveland's Hough neighborhood in 1966, and in Detroit in 1967—culminating in mayhem in dozens of cities after King's assassination on April 4, 1968.[34]

Stirred by such protests, the eight years spanned by the Kennedy and Johnson administrations (January 1961 to January 1969) witnessed an unprecedented, and thereafter unequaled, national focus on civil rights. Under the Eisenhower administration, inner-city blight and economic distress were considered an engineering problem, to be addressed through urban renewal, highway construction, and public housing. Under the Kennedy administration, with the personal commitment of Attorney General Robert F. Kennedy, civil rights became a national priority.

The Kennedy administration—terminated by the assassination of the president on November 22, 1963—was too brief, however, and the hostility of southern politicians of both parties too intense, for major civil rights legislation to be adopted by then. Remarkably, the Kennedy civil rights agenda was embraced by his successor, the powerful southern politician Lyndon Johnson. The federal government's commitment to America's cities and to civil rights "reached its apotheosis during the Johnson Presidency."[35] Johnson goaded Congress to adopt a host of major laws on civil rights, housing, transportation, and related issues. The Civil Rights Act of 1964[36] outlawed racial discrimination in public transportation, hotels, restaurants, and other travel-related enterprises, thus legally at least empowering nonwhites to travel anywhere in the United States. Title VII of the act—the Equal Opportunity Act—banned discrimination in hiring, promotion, compensation, and other aspects of public or private employment on the basis of race, color, religion, sex, and national origin (age and disabilities were later added as further protected conditions). The Voting Rights Act of 1965[37] extended Fifteenth Amendment protection of the right to vote regardless of race to include state and local elections. Beyond these two signature Kennedy legacies, President Johnson with the support of majorities in both houses of Congress rewrote the nation's major housing laws in the landmark Housing Acts of 1965 and 1968 as well as the Fair Housing Act of 1968 (adopted within days after the assassination of King) (Box 5-1). In monetary terms, federal authorizations for urban

America rose from $3.9 billion in 1960 to more than $14 billion in 1969.[38] The federal share of city budgets rose from 3.9 percent in 1960 to 16.3 percent in 1977.[39]

Box 5-1. Major Federal Laws on Civil Rights and Cities Adopted during the Johnson Administration, 1964–1968

1964	Civil Rights Act
	Housing Act
	Urban Mass Transportation Act
	Equal Opportunity Act ("War on Poverty")
1965	Voting Rights Act
	Omnibus Housing Act (Rent Supplements)
	Department of Housing and Urban Development (HUD) Act
	National Capital Transportation Act (Washington, D.C., Metro)
1966	Historic Preservation Act
	Highway Beautification Act
	Department of Transportation Act
	Demonstration Cities ("Model Cities") Act
1967	Air Quality Act
1968	Civil Rights Act (Fair Housing Act)
	Housing and Urban Development Act

Note: Two important legal cases that respectively challenged racial discrimination in public housing (*Gautreaux v. Chicago Housing Authority*) and exclusionary suburban zoning (*Southern Burlington County NAACP v. Township of Mount Laurel*) are discussed in Chapter 9.

The Environmental Movement

On February 2, 1970, *Time* magazine's cover anointed ecologist Barry Commoner as the public face of environmentalism,[40] which was quite a contrast to the William Levitt cover two decades earlier. *Time*'s portrait of Commoner was subtitled "The Emerging Science of Survival," and a ribbon that ran across the upper right corner of the cover read "Environment: Nixon's New Agenda." The latter referred to the signing of the National Environmental Policy Act (NEPA) by President Richard Nixon on January 1, 1970, symbolizing a new recognition by the political establishment that the degradation of land, air, and water by humans was reaching a tipping point. NEPA marked the beginning of a decade of major federal and state laws addressing many sectors of environmental policy.

Commoner, of course, was one voice among many calling for legal restraint of industrial negligence in the siting and operation of manufacturing facilities and the disposal

of wastes. Although maturing in the 1960s and 1970s, the roots of the modern environmental movement dated back at least a century to the era of the Hudson River School, Albert Bierstadt's colossal wilderness paintings, John James Audubon's bird illustrations, Winslow Homer's Adirondack and coastal paintings, the essays of Ralph Waldo Emerson and Henry David Thoreau, and the poems of William Cullen Bryant (the literary force behind Central Park), among many others. These artists and writers shared a romantic nostalgia for the loss of "nature" and "wilderness" in the face of rampant deforestation, mining, industrialization, and the growth of cities. George Perkins Marsh's 1865 treatise *Man and Nature* pioneered the science of environmental impact analysis that would be codified a century later in NEPA.

Natural history writing for general readers was another root of modern environmentalism. The natural history tradition originated with Gilbert White's *The Natural History and Antiquities of Selborne* (1789) and Thoreau's *Walden* (1854) and continued into the twentieth century with the writings of John Burroughs, Henry Beston, Edwin Way Teale, Joseph Wood Krutch, and Edward Abbey.

Aldo Leopold, in *A Sand County Almanac*, first published in 1949, proposed a "land ethic" to guide human use of natural resources: "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."[41] Republished in 1966 and again in 1989, *A Sand County Almanac* became a holy scripture of environmentalism. Of similar stature, Rachel Carson's 1962 classic *Silent Spring* warned of the hazards of DDT and other toxic chemicals in the environment:

> The most alarming of all man's assaults upon the environment is the contamination of air, rivers, and sea with dangerous and even lethal materials. This pollution is for the most part irrecoverable; the chain of evil it initiates not only in the world that must support life but in living tissues is for the most part irreversible. In this now universal contamination of the environment, chemicals are the sinister and little-recognized partners of radiation in changing the very nature of the world—the very nature of its life.[42]

Silent Spring marked the beginning of the politics of ecology on the national scene. Subsequent contributions included Garret Hardin's essay "The Tragedy of the Commons" (1968), Edward Abbey's *Desert Solitaire* (1968), John and Mildred Teals's *Life and Death of the Salt Marsh* (1969), Barry Commoner's *The Closing Circle* (1971), and John McPhee's *The Pine Barrens* (1968) and "Encounters with the Archdruid" (1971). Coinciding with the "Age of Aquarius" and the antiwar movement, the new environmentalism attracted an unlikely alliance of "flower children," concerned scientists, journalists, public-interest

lawyers, affluent women and men in floppy hats, and even Nixon himself (until he vetoed the Clean Water Act in 1972, which Congress quickly overrode). Its troubadour was Pete Seeger, whose Hudson River sloop *Clearwater* became both a symbol and an organization for environmental protest and education.[43] The movement's success reflected the rising influence of national environmental organizations such as the Sierra Club, National Wildlife Federation, Friends of the Earth, and the National Resources Defense Council.[44] New journals were started, such as *Environment*, *Environmental Action*, and *Environmental Management*. Conferences were held by the dozens, and media reporters and environmental activists avidly courted each other. Consistent with the land use and society model described in Chapter 2, change in public perception of the environment fostered by these scientific and cultural forces stimulated legal and political reforms of unprecedented magnitude in the 1970s. (See further discussion of federal environmental laws in Chapter 10.)

As with civil rights, however, to pass a law is one thing; to effectuate its goals is another. The parallel movements for civil rights and environmental protection that arose from the turbulent 1960s launched ongoing struggles to achieve their goals in the courts, in Congress and state legislatures, in political campaigns, in the media, and in scholarly discourse that continue today.

Tracking Metropolitan America: 1950–2010

The early warnings of *The Exploding Metropolis* and its progeny triggered a "growth management" cottage industry of books, studies, and conferences between the 1960s and 1980s, which in turn morphed into the smart growth and new urbanism movements of the mid-1990s. Nevertheless, after decades of growth management, sustainable development, and similar crusades, the nation by the new millennium was more sprawling than ever.

Megalopolis, as delineated by Gottmann in 1961, extended along the northeastern seaboard from Boston to Washington, D.C., with a population of 31.9 million in ten states. Today, Megalopolis spreads into southeastern New Hampshire and southern Maine, Massachusetts west to the Berkshires, the Hudson River Valley north to Lake George, the Poconos in eastern Pennsylvania, most of Maryland, portions of West Virginia, and the I-95 corridor south at least to Richmond, Virginia, a megaregion covering parts of twelve states and containing at least 48.7 million people.[45] Just southwest of that, a newer megaregion following I-85 and I-40 connects the North Carolina metro areas of Charlotte, Greensboro, and Raleigh–Durham–Research Triangle. Greater Atlanta now reaches more than 110 miles north to south, compared with 65 miles in 1990.[46] Both coasts of Florida are solidly lined with metropolitan areas. Greater Chicago extends well into northwestern Indiana and southeastern Wisconsin. The Colorado Front Range urban corridor reaches from Pueblo to Fort Collins and Greeley. Metropolitan Los Angeles is spilling eastward

across the "inland empire" of Riverside and San Bernardino Counties into the Mojave Desert. Irrigated farms of California's Central Valley are disappearing under pavement, and the outskirts of metro Portland and Seattle are now reaching out toward each other, while Seattle also spreads northward to the Canadian border.

In the first decade of the 2000s, this vast new "transmetropolitan" geography of the United States was deconstructed by demographer Robert Lang and his colleagues as a system of ten megapolitan regions (or megaregions), containing two-thirds of the nation's population (about 200 million) on less than one-fifth of the land area of the contiguous forty-eight states. It might be described as Megalopolis on steroids (Figure 5-6). In 2005, the analysts predicted that these megaregions collectively would gain 83 million people and 64 million jobs by 2040.[47]

Maps of megaregions are visually stimulating (especially when in color) but are frustrating for purposes of detailed analysis of changes in demography, land use, housing, jobs, poverty, environmental quality, and other key indicators. Megalopolis and its offshoots are broad geographic constructs with vague boundaries and no legal or political status. Rather, they are large tracts of geography that overlie dozens of states, hundreds of counties, and thousands of municipal governments and special districts in a vast

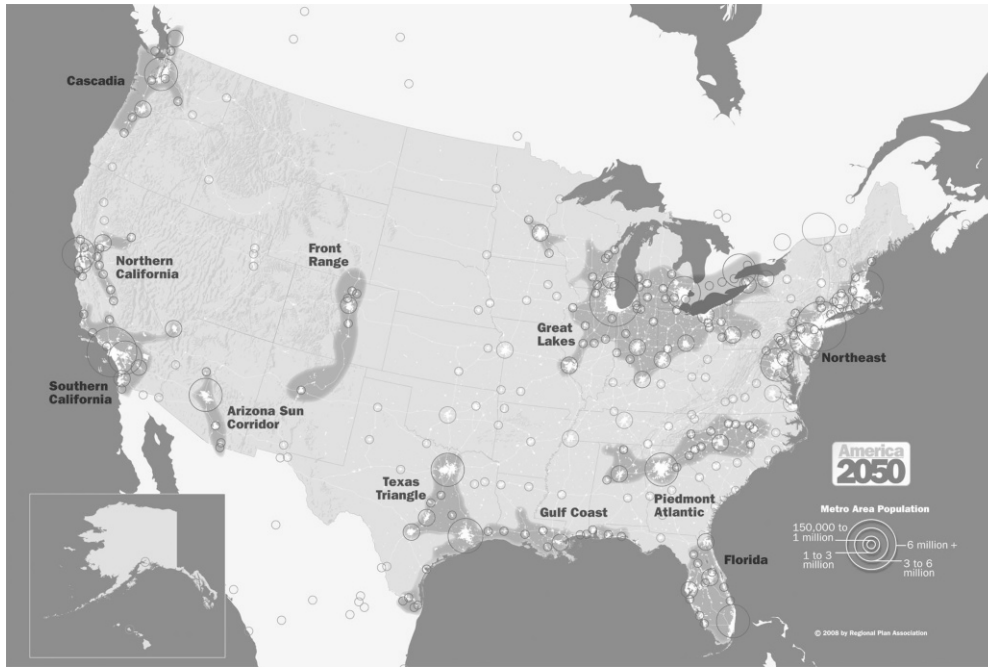

Figure 5-6
Megaregions of the United States. © 2008 by Regional Plan Association.

hodgepodge of political units that have little concern for one another or the larger megaregion to which they have been assigned. Indeed, it is unlikely that most of the 200 million inhabitants of those ten megaregions are even aware of it! Gottmann in his 1961 study called (in vain) for a new Megalopolis-wide scale of planning and governance, but it never materialized, for either the original Megalopolis or elsewhere. Even the venerable and respected Regional Plan Association confines itself to a somewhat arbitrary set of local governments and counties occupying portions of New York, New Jersey, and Connecticut. Most metropolitan regions are served by regional planning bodies, such as the Metropolitan Area Planning Commission in the Boston area, the Chicago Metropolitan Agency for Planning, the National Capital Planning Commission, serving metropolitan Washington, D.C., the Bay Area Council of Governments, and Portland Metro. The last of these groups is the only truly regional government in the nation;[48] the others conduct planning studies and offer technical advice, but they have no powers of enforcement.

To assess social and economic conditions for *metropolitan areas*—as distinct from their constituent cities and suburbs—the federal Bureau of the Budget in 1950 began to designate regional units called *metropolitan statistical areas* (MSAs). MSAs are clusters of one or more counties that contain, or are economically related to, a core urban area of more than 50,000 inhabitants. (In New England, MSAs consist of clusters of cities and towns rather than counties with a core of equivalent size.) After the 2000 U.S. Census, the Office of Management and Budget later added a new category, called *micropolitan statistical areas*, based on core urban areas of 10,000 to 50,000 inhabitants. Whichever size the urban core, both types of units (now called metros and micros) are always based on county boundaries[49] (Figure 5-7).

The purpose of either type of unit is to provide census data on population, ethnicity, poverty, employment, housing, and other social indicators at the *metropolitan* scale, aggregating the statistics for constituent local governments and counties. Since 1950, the number and size of metro areas has been revised after each decadal census to reflect the spatial and demographic growth of existing MSAs, and the emergence of new urban areas that qualify for metro or micro status (see Table 5-1). Because the counties included in any given MSA may change from one decadal census to the next, however, care must be taken in analyzing metropolitan trends over time.

At the scale of MSAs rather than megaregions, we can be more specific about changes in metropolitan America over the last six decades. From 1950 to 2010, MSAs increased in number from 169 to 366, in population from 84 million (55 percent of U.S. total) to 258 million (83.8 percent), and in size from 9 percent to about 18 percent of the nation's land area (see Table 5-1). Suburbs—the areas of MSAs outside of central cities (not an actual Census Bureau category)—grew from 35 million residents in 1950 to more than

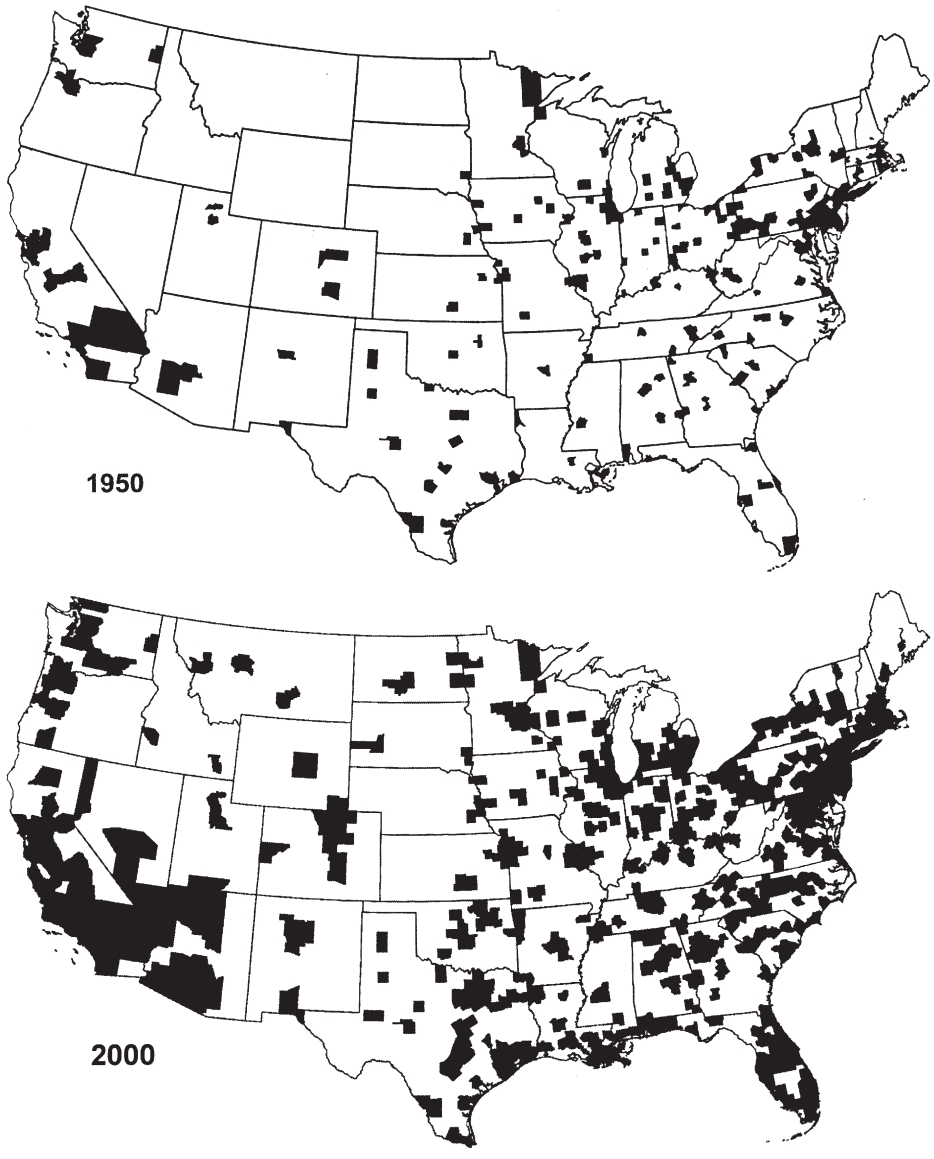

Figure 5-7
Metropolitan Statistical Areas (MSAs) of the United States in 1950 and 2000. From Oliver Gillham, *The Limitless City* (Washington, DC: Island Press, 2002), 22.

157 million in 2010, and now are home to slightly over one-half of the U.S. population. While the national population doubled between 1950 and 2010, suburbs grew by more than 400 percent during that period.

Metropolitan areas as a whole (including central cities) today account for more

Table 5-1. Contrasts in Metropolitan America, 1950 and 2010

	1950	2010
U.S. population	152 million	308 million
No. of metro areas	169	>366
Metro population	84 million (55% of U.S.)	258 million (83.8% of U.S.)
No. of metro areas >1 million	14	61 (2000)
Population of metro areas >1 million	45 million (30% of U.S.)	146 million (47.6% of U.S.)
Metro percentage of U.S. land area	9%	>18%
Average metro population density	407 persons/sq. mile	<330 persons/sq. mile
Central city population	49 million (32% of U.S.)	101 million (30% of U.S.)
"Suburban" population (MSA total minus central cities)	35 million (23% of U.S.)	157 million (50.9% of U.S.)
Nonmetro population	68 million (44.7% of U.S.)	50 million (16.2% of U.S.)

Source: Compiled by the author from U.S. Census data.

than four-fifths of the nation's population, compared with about 55 percent in 1950. As shown in Table 5-2, about two-thirds of metropolitan residents (147 million people) live in the sixty-one MSAs of more than one million inhabitants. The nation's ten largest metro regions accounted for 80 million people, just over one-fourth of the nation's population (Table 5-3).

Of course, people migrate within and between metro areas, and some leave them entirely, at least temporarily. Beginning in the 1970s, there was a noticeable rise in the populations of some attractive coastal or mountainous nonmetropolitan areas such as Vermont, Maine, the southern Appalachians, the Sierra foothills, and the Olympic Peninsula, representing an exodus of "back to the land" enthusiasts from large urban areas.[50] However, the nation's overall nonmetro population, including small cities and towns outside MSAs plus rural areas, declined from 68 million in 1950 (44 percent of U.S.) to 50 million in 2010 (about 16 percent) (see Table 5-1).[51]

All told, metropolitan America has sprawled far beyond the wildest visions of *The Exploding Metropolis* authors in the 1950s. A study by the Brookings Institution in 2001

Table 5-2. U.S. Metropolitan Statistical Areas (MSAs) by Population Size, 2000

Population size	No. of MSAs	Aggregate population (in millions)	Percent of total metro population	Percent change, 1990–2000
2.5 million+	18	79.8	35%	+37.1%
1.0–2.5 million	43	66.9	30%	+10.7%
500,000–1.0 million	42	28.3	13%	+3.0%
250,000–500,000	79	28.4	13%	+3.2%
100,000–250,000	129	20.8	8%	+3.4%
< 100,000	20	1.7	1%	–15.0%
Total	331	225.9	100%	+14.7%

Source: Statistical Abstract of the United States 2001: The National Data Book (Washingon, DC: U.S. Census Bureau, 2002), Tables 29 and 30.

(cited previously) reported that "most metropolitan areas are consuming land for urbanization much more rapidly than they are adding population."[52] This study calculated the growth in urban land in relation to population growth between 1982 and 1997 for every MSA. Although the nation's metropolitan *population* grew by 17 percent between 1982 and 1997, *urbanized land* within metropolitan areas grew by 47 percent, from 51 million acres to 76 million acres (equal to 118,000 square miles, or about 6.2 percent of the land area of the contiguous forty-eight states). Average metropolitan density accordingly declined from 5.0 persons per urbanized acre in 1982 to 4.22 in 1997.[53] Surprisingly, the study found that new development in the West is *more dense* (i.e., less sprawling) than in the Northeast and Midwest, apparently due to the high cost of buildable land in the West and the constriction of sprawl by federal lands, mountain ranges, and the Pacific Ocean.

Between 1950 and 2000, central cities collectively grew by 73 percent in population while suburban residents tripled in number. Even this comparison, however, understates the actual shift away from older cities to their suburbs and elsewhere. The category of "central cities" as used by the Census Bureau includes a number of new or greatly enlarged Sun Belt cities that are predominantly suburban in character, such as San Diego, whose population grew by 75 percent between 1970 and 2000; Phoenix (+145 percent); Los Angeles (+28 percent); and Las Vegas (+220 percent). The considerable expansion in area and population of these southern and western cities masks the heavy losses in the

Table 5-3. Ten Largest U.S. Metropolitan Areas by Population, 2010

Rank	Metro area	Population	Percent change, 2000–2010
1	New York–Northern New Jersey–Long Island, NY-NJ-PA	19.0 million	+3.7%
2	Los Angeles–Long Beach–Santa Ana, CA	12.9 million	+4.1%
3	Chicago-Joliet-Naperville, IL	9.5 million	+5.2%
4	Dallas–Fort Worth–Arlington, TX	6.3 million	+22.1%
5	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.8 million	+2.7%
6	Houston–Sugar Land–Baytown, TX	5.7 million	+21.5%
7	Miami–Fort Lauderdale–Pompano Beach, FL	5.4 million	+8.1%
8	Atlanta–Sandy Springs–Marietta, GA	5.3 million	+26.6%
9	Washington-Arlington-Alexandria, DC-VA-MD-WV	5.3 million	+11.7%
10	Boston-Cambridge-Quincy, MA-NH	4.5 million	+3.0%
Total		80.7 million (26% of U.S.)	

Source: The World Almanac and Book of Facts 2013 (New York: World Almanac Books, 2013), 614.

populations of many older northern cities, whose boundaries are essentially inelastic and unable to expand to embrace new areas of development.[54] For example, between 1970 and 2000, Detroit lost 37.1 percent of its population and another 25.7 percent by 2011, adding up to more than one-half of its population lost since 1970. Chicago lost about 14 percent of its population from 1970 to 2000 followed by another 6.5 percent decline by 2011. Certain large cities rebounded after 2000: Washington, D.C., lost 24.3 percent between 1970 and 2000 but gained back 7 percent by 2011; Boston gained 8.8 percent between 2000 and 2010; and New York City gained almost a quarter-million new residents or 2.9 percent between 2000 and 2011.[55]

For decades, mainstream urban planners subscribed to the trickle-down theory, namely that neighborhood racial change could benefit lower-income households by providing affordable decent homes vacated by departing sellers. This process would be facilitated by new housing on the urban fringe that attracts whites to move outward from older,

inner-ring suburbs, freeing up those communities to be repopulated by middle-class black families, and so on. The theory is illustrated in Figure 5-8 with the additional step that gentrification reclaims older inner-city neighborhoods by young white professionals.

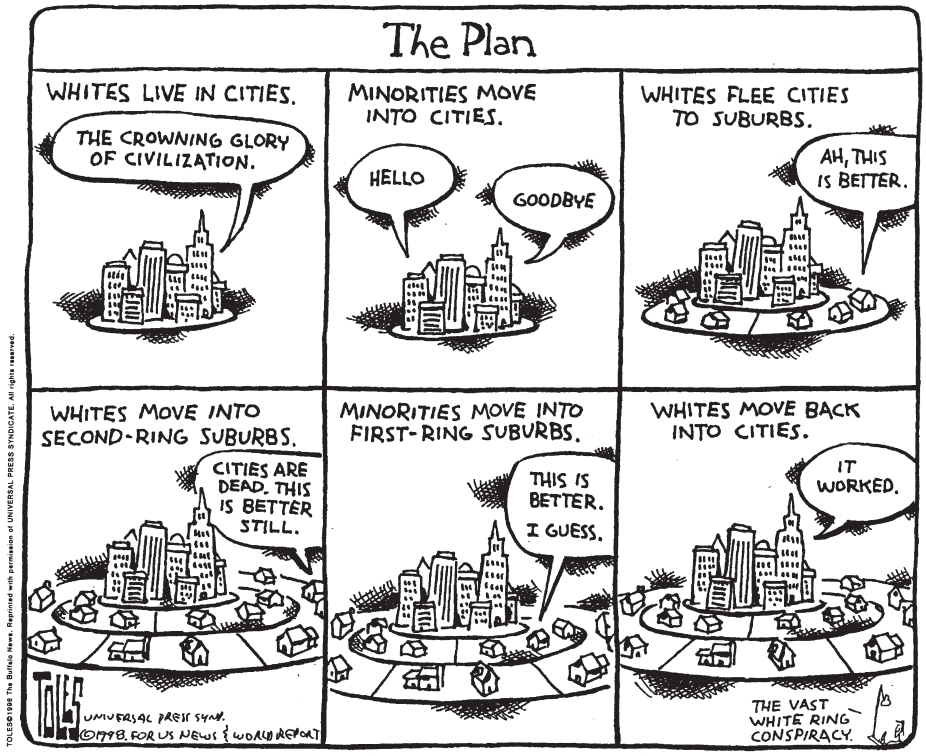

Figure 5-8
Cartoon: "The Plan." *Source:* TOLES © 1998 The Washington Post. Reprinted with permission of UNIVERSAL UCLICK. All rights reserved.

Although trickle-down economics has indeed allowed both black and white middle-class households to "upsize" their housing, it has done little or nothing for the very poor who remain trapped in substandard inner-city housing or public housing in various stages of decay. Housing in so-called ghetto neighborhoods is notoriously dilapidated but nevertheless costly to rent because poor tenants seldom have anywhere else to turn. Furthermore, poverty itself is not color-blind. In 1990, poor whites in metropolitan areas about equaled the total of poor blacks and Hispanics combined, but even though three-fourths of the poor whites lived in "middle-class, mostly suburban neighborhoods," the same percentage of poor blacks and Hispanics inhabited inner-city, low-income neighborhoods.[56] Between 1990 and 2000, whites of all income classes decreased from 52 percent

to 43 percent of the total population of the nation's largest one hundred cities, a decline of 2.3 million people, while the Hispanic component rose from 17 percent to 23 percent, representing an increase of more than two million people.

Despite the new federal laws on civil rights, open housing, and equal opportunity adopted during the 1960s, central cities became more racially and economically challenged than ever. Consider Hartford, the capital of Connecticut, the wealthiest city in the United States after the Civil War and home to Mark Twain, Louisa May Alcott, Trinity College, and the Travelers Insurance Company. In 2002, Hartford was described by the *New York Times* as "the most destitute 17 square miles in the nation's wealthiest state, and a city where 30 percent of its residents live in poverty. Only Brownsville, Texas has a higher figure."[57] David Rusk quotes a bitter indictment by Oliver Byrum, former planning director of Minneapolis: "Low-income people and poverty conditions are concentrated in inner-city areas because that is where we want them to be. It is, in fact, our national belief, translated into metropolitan housing policy, that this is where they are supposed to be. Additionally, they are to have as little presence as possible elsewhere in the metropolitan area. . . . Cheap shelter is to be mostly created by the devaluation of inner-city neighborhoods."[58]

Adding to the downward spiral of older central cities, new jobs have been predominantly created in suburban locations, thus requiring employees living in the inner city to have a car and time for a lengthy "reverse commute." In Atlanta, for instance, the city's share of the metropolitan job market dropped from 40 percent in 1980 to 19 percent in 1997. From 1990 to 1997, the central city gained only 4,503 new jobs, just 1.3 percent of all jobs created in the region during that period, while 295,000 jobs or 78 percent of all jobs were added to Atlanta's northern suburbs.[59] Nationally, from 2000 to 2010 the share of jobs near city centers declined in ninety-one of the largest one hundred U.S. metropolitan areas; as of the latter year, 43 percent of new jobs were 10 or more miles from a city's downtown, whereas only 23 percent were less than 3 miles from the central business district.[60] Low-income neighborhoods not only are isolated from downtown or suburban jobs, but they also experience high levels of exhaust pollutants from diesel trucks and other vehicles thundering or crawling along the "meat axe" highways that dissect cities. For example, black neighborhoods near the Anacostia River are crossed by major highways connecting suburban Maryland with downtown Washington, D.C. Writes John Wennersten: "The decision to use the Anacostia stream valley as the major automobile commuter corridor split the capital by bringing 'white men's highways through black men's bedrooms.' It also made the watershed an environment held hostage to a transportation grid."[61] The South Bronx in New York City similarly is exposed to heavy diesel truck exhausts, with one in four children afflicted by asthma as of 2011.[62]

By 2010, the geography of race and ethnicity in the United States was beginning to change markedly. In a sharp departure from prior decades, whites accounted for only one-fifth of suburban population increase between 2000 and 2010. More than a third of the 13.3 million new suburban residents were Hispanic, along with 2.5 million blacks and 2 million Asians.[63] Meanwhile, black migration to southern cities from the Northeast and Midwest marked a dramatic reversal of the "Great Migration" from southern farms to northern factories earlier in the twentieth century.[64]

Similarly, a Brookings Institution analysis of early 2010 Census data reports

> a growing but incomplete dispersal of Hispanics and Asians from traditional gateway cities like New York, Chicago, and Los Angeles to more scattered metro destinations across the country. The three highest growth rates for Hispanics during 2000–2008 were the Cape Coral, FL, Charlotte, NC, and Raleigh, NC MSAs. The equivalent for Asians [were] the Las Vegas, Phoenix, and Riverside-San Bernardino Metro areas. Meanwhile, the long-standing northward migration of blacks has also reversed: during the 2000s, African-Americans increasingly moved south, particularly to "New South" growth centers in Texas, North Carolina, Georgia, and Florida. The leading metro areas in black population growth during the 2000s were Atlanta, Dallas–Fort Worth, and Houston.[65]

The Brookings Institution further reports that the nation's one hundred largest metro areas are experiencing "five new realities": (1) continued population growth and outward expansion of large metro areas, (2) *racial and ethnic diversification and rising proportions of nonwhites in suburban areas*, (3) aging of the metro population, (4) uneven higher education attainment, and (5) *rising income polarization*.[66] These new realities vary considerably from one metropolitan area to another, but the second trend indicates modest improvement over the late twentieth century in terms of race and ethnicity. The nation's changing demographics have already begun to show indications of bringing new energy, perspectives, leadership, and solutions to many cities and suburbs since 1990. Just as ecological adaptation is enhanced by biodiversity and vice versa, social diversity promotes new forms of response to the problems of urban communities.

Although trend two above appears to be somewhat hopeful, trend five, "rising income polarization," continues to worsen. The Congressional Budget Office reports that between 1979 and 2007, after-tax income for the wealthiest 1 percent of the nation's households rose by *275 percent* compared with 40 percent for the middle three-fifths of households and 18 percent for the poorest one-fifth. In 2007 alone, the wealthiest one-fifth of households received 53 percent of after-tax income, exceeding the combined income for the

other 80 percent. In that year, the poorest one-fifth of households received about 5 percent of total household income.[67]

The polarity between the very rich and everyone else (whites included) is thus becoming a more dominant fault line in American society than the racial and ethnic polarization of the second half of the past century, but it is too early to assess the effects of the Great Recession and especially the real estate crash and foreclosure crisis that began in 2006. Nor can one predict the outcome of the ongoing political struggle at all levels of government over tax policy, spending cuts, military commitments, and a host of other uncertainties.

The Dysfunctional Metropolis

Metropolitan America, where four-fifths of us now live and work, is spectacularly ill-suited to meeting today's challenges. Foremost among those challenges is the prospect of adding another hundred million Americans by 2050—if estimates of the early 2000s are fulfilled—creating the need for expanding our housing stock, public infrastructure, and employment.[68] Meanwhile, the nation's present population is aging and diversifying in race, ethnicity, and lifestyle. Conventional two-parent families with children are a vanishing species. People of color, Latinos, and Asians will soon outnumber everyone else, challenging conventional assumptions of the past era of the white establishment. Metropolitan America today confronts deteriorating infrastructure, shortages of affordable housing convenient to employment, crippling traffic congestion, an epidemic of respiratory disease and obesity, looming water shortages, increasing natural disaster costs, and global warming.

Housing is woefully mismatched with the emerging economy and demography of the contemporary United States. There is no lack of housing units per se, but most of them are ill-suited in location, price, size, or design to meet twenty-first century needs. Indeed, much of the housing constructed under the postwar programs, discussed earlier, was intended for two-parent families with children in outlying locations. These "dream communities" of decades gone by may once have been somewhat bucolic but are now embedded in a sea of similar subdivisions and malls with two or more cars per household necessary for everyday life.

The idealized nuclear family of the 1950s is a rarity today. Average household size shrank from 3.68 in 1940 to 3.11 in 1970 and to 2.59 in 2000.[69] By 2000, only 27 percent of all suburban households were married couples with children, outnumbered by nonfamily suburban households (29 percent),[70] but most of the houses built for those mythic two-parent families with children are still in place. Some attract Latino, African American, or Asian households, and entire older neighborhoods or suburbs have become new

Koreatowns or their Somalian, Mexican, Russian, or Cambodian equivalents. Such transitions vindicate the trickle-down theory in some areas, but with often catastrophic outcomes, such as when first-time buyers lured by predatory lenders become overextended and lose their investment and sweat equity through foreclosure. Across the country, abandoned foreclosed homes today blight suburban and city neighborhoods.

In addition to the changing composition of families and households, the U.S. population is becoming "grayer" as postwar baby boomers reach retirement age and younger households have fewer or no children. The population of those older than sixty-five grew from 8.1 percent of the population in 1950 to 13.0 percent in 2000, reaching 40 million in the latter year,[71] a level that will continue to rise rapidly as the boomers reach that threshold. Although many people choose to "age in place" in their suburban ranch and split-level homes acquired when their families were young, few so-called empty nesters are likely to buy into tract subdivisions of outer suburbia. Another change in the demand for housing is the entry of women into the labor market and professional careers. A half century since Gloria Steinem and Betty Friedan ignited the feminist movement, two-spouse households are likely to be two-job households, with both incomes often needed to qualify for a home mortgage and payments on cars to reach those jobs.

So what has the private housing market built in recent years to meet the demand from households that are smaller, older, and diverse in lifestyle and ethnicity? Answer: oversized and pretentious homes known as McMansions or "starter castles." In 1950, the average new home was 1,000 square feet, which doubled to 2,000 square feet by 2000. One-fourth of all new homes built in 2007 were larger than 3,000 square feet, some much larger.[72] Real estate expert Christopher Leinberger asserts that even those who can afford a McMansion have become "disillusioned with the sprawl and stupor that sometimes characterize suburban life. . . . It is urban life, almost exclusively, that is culturally associated with excitement, freedom, and diverse daily life."[73] Rising costs of taxes, gasoline, heating and air-conditioning, and homeowner fees will reduce the appeal of such houses to "ordinary rich," especially empty nesters. The very very rich (who are doing ever better compared with everyone else) can afford to live in places a lot classier than a former cornfield at the end of a cul-de-sac in a gated community. Also, the conspicuous bad taste that McMansions convey may soon make them the equivalent of cigar smokers at a wedding: something to be avoided or moved away from.

Meanwhile, people of modest means, struggling to get by in an era of shrinking middle-class jobs, are brutally penalized in terms of commuting time and cost versus the cost of adequate affordable housing. The Center for Housing Policy reported rising levels of severe housing cost burdens to working households despite the recession.[74] Of 46.2 million such households in 2009, *nearly one-fourth pay more than half their incomes on housing*,

either ownership or rental. This number was an increase of 600,000 households over 2008 who were thus "severely burdened." Even in states with the highest foreclosure rates, the share of working households forced to pay more than one-half their income for housing remained well above the national average.[75]

The mismatch between housing and demography just described is a major source of worsening congestion of the nation's metropolitan highways, with its human, economic, and environmental costs. In addition to the separation of work, home, and all the necessities of daily life, traffic congestion is driven by the sheer proliferation of vehicles of all sizes and uses on the nation's deteriorating highways. In 2005, there were an estimated 237 million passenger cars, SUVs, light trucks, and motorcycles in use, compared with 106 million in 1970, a 120 percent increase and nearly *three times the rate of total population growth* over that period. SUVs and light trucks alone increased near sixfold. The total of heavy trucks nearly doubled from 4.5 million in 1970 to 8.4 million in 2005.[76]

Not surprisingly, the average waste of productive time, nervous energy, and fuel in traffic congestion has soared in large metropolitan areas over the past few decades. In 2006, the Partnership for New York City estimated that traffic congestion in and around the city cost the region more than $13 billion a year in lost time, productivity, wasted fuel, and business revenue.[77]

Many suburbs lack parks and greenspaces long provided in central cities, further reinforcing sedentary lifestyles and weight problems, especially for children. Richard Louv in his book *Last Child in the Woods* makes a convincing argument that—along with poor diet and too much time in cars and in front of TVs or computers—lack of access to natural areas where children can play freely and energetically is a huge detriment to children's physical and mental health.[78]

Toward a More Humane Metropolis

All is not lost, though. Even as metropolitan America has become more populous, more sprawling, more exasperating, and more stratified, a subliminal countervailing trend is beginning to stir. In cities and suburbs across the United States, in both red states and blue, countless local and regional efforts are in progress to make urban places more amenable to people and nature, in short, more "humane." The idea of a "humane metropolis" was introduced as the topic of a conference in New York City in 2002 that led to publication of *The Humane Metropolis: People and Nature in the Twenty-First-Century City.*[79] There are four major premises of the humane metropolis idea. First, metropolitan regions are essentially inescapable, so we might as well make them as habitable, safe, and pleasant as possible. Second, that observation applies across the socioeconomic spectrum to rich and poor alike. Third, the laws of nature are not suspended within urban areas. Finally,

respecting and restoring natural systems within urban places is often more cost-effective than using technological substitutes.[80]

In contrast to the top-down technocratic approaches that produced the "dysfunctional metropolis" described in the previous section, a new era of grassroots, bottom-up initiatives (which I call humane urbanism) has been making progress since the 1990s to make urban places at all scales from block to region *greener*, *safer*, and *more healthy*, *efficient*, *equitable*, and *people-friendly*.[81] As compared with the *macro*-urbanism of the top-down decades, humane urbanism is more concerned with the revival of *micro*places such as vacant lots; empty storefronts; dead shopping centers; litter-strewn parks or stream corridors; abandoned rail rights-of-way; the incidental patch of native forest, prairie, bog, or a single landmark tree; drab row housing; closed schools; decrepit historic structures; and so on. Under the growing influence of humane urbanism, cities have become regarded not only as economic engines dominated by downtown and the corporate-technocrat-cultural elite, but also as *places to care about*, *live in*, *and enjoy* whose inhabitants play key roles in determining the futures of their urban homes.

Corresponding to the microscale of opportunities for humane urbanism is a new generation of microactors. Some of them may be experienced local or regional nongovernmental organizations concerned with particular issues such as affordable housing, schools, health, disabilities, public transit, or pedestrian and cycling convenience and safety. Others are more informal, multi-issue neighborhood and block groups, "Friends of" groups, ad hoc alliances and partnerships, and garden-variety volunteer networks. Humane urbanism is not confined to large cities with vast resources to support community initiatives. It also may thrive in smaller cities, such as former industrial and mill towns of New England, New York, and the upper Midwest.[82]

As University of Southern California geographer Jennifer Wolch wrote in 2007, the preeminent challenges for twenty-first-century urban practice and research are threefold:

1. How to reweave the urban fabric as a vital green matrix, to conserve and restore habitat and watersheds
2. How to transition toward more sustainable patterns of urban production and consumption
3. How to recast the rights and obligations of citizenship . . . as a means to challenging hegemonic structures and institutions, promoting social and ecological justice, and moving toward greener urban worlds.[83]

PART III

Discordant Voices:
Property Rights versus the Public Interest

6.
Property Rights: The Owner as Planner

There is nothing which so generally strikes the imagination, and engages the affections of mankind as the right of property; or that sole and despotic dominion which one man claims and exercises over the external things of the world, in exclusion of the rights of any other individual in the Universe.

William G. Blackstone, *Commentaries on the Laws of England*, 1768

Every man holds his property subject to the general right of the community to regulate its use to whatever degree the public welfare may require it.

Theodore Roosevelt, Speech at Osawatomie, August 31, 1910

The private property owner is the primary land use decision maker under the Anglo-American tradition of private ownership. Whether an individual, a family, a partnership of investors, or a corporation, the owner of real property determines *how* to best use that parcel of land (including buildings, if any) in light of geographic, economic, legal, and personal circumstances. The owner also determines *when* a change in existing property use should occur. The role of government, especially at the local level, is to nudge the private owner in desirable directions, either through land use regulations that define which uses are allowed or prohibited in certain locations or through tax or fiscal incentives to encourage particular uses of property, such as affordable housing or downtown commercial redevelopment.

Chapter 1 introduced the legal concept of real property as embracing the totality of ownership rights pertaining to land as a source of economic value, based on either its

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_7,

physical resource attributes, its *location* as a site for development, or both. This chapter takes a closer look at the institution of real property ownership and the role the owner plays in the unfolding pattern of land usage. This discussion sets the stage for review of the local, regional, state, and federal roles influencing the land use decision process in later chapters.

The Nature of Real Property

The legal concept of real property in the United States, as in most former British colonies, is rooted in the common law, a body of rules and principles developed over centuries in the written decisions of the courts of England dating to at least the Middle Ages. Under the doctrine of *precedent*, courts in common-law countries look to earlier written court opinions for guidance in deciding cases involving similar issues. Over time, certain principles have been generally accepted as nondisputable "black letter law," including much of the common law of real property. For example, it is a fundamental rule of property that persons may not "trespass" on the land belonging to others without permission of the owner or authority under a court warrant.

By the late eighteenth century, in the spirit of Enlightenment thinkers such as John Locke and Adam Smith, the institution of private property ownership in both England and the American colonies was solidly established. The concept that "every man's (or woman's) home is his (or her) castle" was most forcefully stated by the English jurist William Blackstone in 1768 in the first epigraph for this chapter.

The framers of the U.S. Constitution—Thomas Jefferson, John Adams, and James Madison, each steeped in the English common-law tradition—greatly respected the sanctity of private property, but in drafting the Constitution and especially the Bill of Rights in 1791, they embraced a more nuanced notion of private property than Blackstone's "sole and despotic dominion." The Fifth Amendment to the Constitution provides in part that no citizen shall be deprived by the government of "life, liberty, or property *without due process of law*, nor shall private property be taken for public use, *without just compensation*" (emphasis added).

By such qualifications as "due process of law" and "just compensation," the framers ingeniously allowed a margin of flexibility to meet future public needs. Private property is treated as a bedrock of American society, but is not "absolute" in the Blackstone sense. Property ownership may be abridged by government pursuant to "due process," namely that the government action is fair, open, and not arbitrary. (The Fourteenth Amendment adopted after the Civil War extended the due process clause to the states: "Nor shall any state deprive any person of life, liberty, or property, without due process of law.") The history of U.S. property law reflects the creative tension between the "sole and despotic

dominion" ideal (still the mantra of the conservative "property rights" advocates) and the pragmatic reality that civilized society requires a balancing of public and private interests in response to economic, technological, and social change over time, as per the Theodore Roosevelt epigraph for this chapter. Subject to minor variations from one state to another—according to differences in their statutes and judicial precedents—the basic principles of property law summarized here are generally applicable nationwide.

Our legal system distinguishes between two classes of property: real and personal. *Real property* includes physical land, buildings, vegetation, subsurface minerals, and, in some states, water rights pertaining to specific tracts of land. *Personal property* consists of *chattels* or physical objects—such as furniture, works of art, computers, motor vehicles, livestock, clothing—virtually anything other than real property that is a tangible object of possession. The distinction between real property and personal property is important in several ways: (1) they are taxed differently, (2) they are bought and sold with different formalities, and (3) a buyer of real property is not legally entitled to personal property located on the premises unless the seller so specifies in the contract of sale. Normally, appliances that are attached to the structure or land, such as a furnace, gas stove, water heater, or perennial shrubs and trees, are *fixtures* that pass with the real property, whereas furnishings, artwork, and appliances that are easily unplugged (refrigerator, window air conditioner) may be removed by the seller.

The geography of real property is highly fragmented. The basic spatial unit of ownership is the *parcel*, a discrete area of land surface whose boundaries are precisely surveyed and defined in formal legal documents called *deeds*. Parcels vary greatly in size, from vast tracts in the open country to tiny slivers in high-value urban locations where a square foot of surface area may cost thousands of dollars. Buildings or other improvements are usually part of the ownership of the land on which they are situated unless legally split off, as with condominiums that are owned separately from the underlying land. The exact boundaries and ownership of each parcel and its improvements must be legally "recorded" at a public registry of deeds office, as discussed subsequently.

Real property is three dimensional, as shown in Figure 6-1. A classic legal cliché states, *Cujus est solum, ejus est usque ad coelum ad infernos* (roughly translated: "Whomsoever owns the soil, owns also to heaven and to hell"). Thus a parcel of land extends both *horizontally* across the surface area of the parcel itself and *vertically* above and below that surface (or "grade level"). Thus property ownership theoretically includes (1) subsurface mineral rights (rock, metals, fossil fuels, etc.); (2) the surface itself (soils, vegetation, or space for pavement or buildings); and (3) the air space or "air rights" directly above the site.

This hypothetical volume of ownership is in reality sliced and diced for many purposes. In mining country, the excavation of subsurface coal or minerals is the primary source

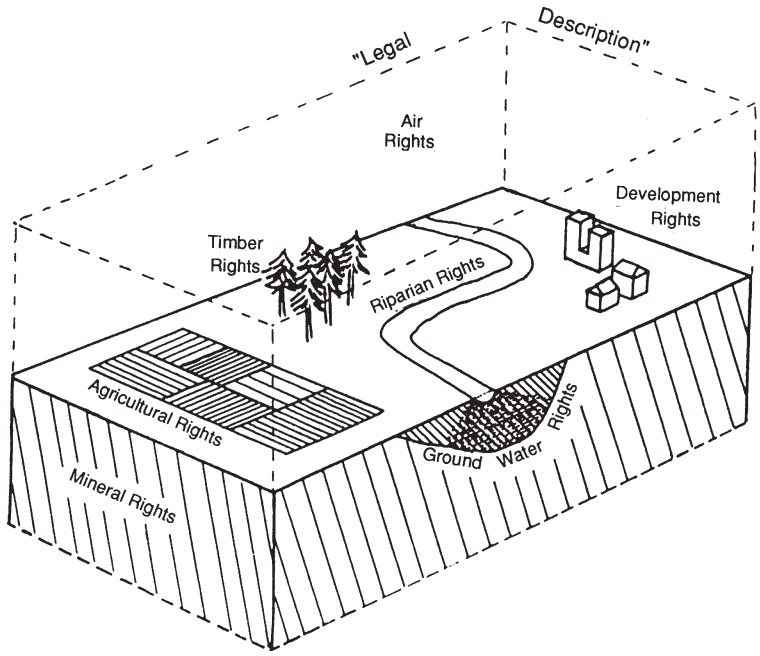

Figure 6-1
Diagram of real property as three-dimensional volume extending above and below the surface area of a parcel.

of economic value (Figure 6-2). In agricultural areas, the soil quality, topography, and availability of water are paramount determinants of how the land will be used. And in urban locations, site development encloses the physical space above and below the parcel surface area. All these activities are subject to public zoning laws and other restrictions regulating many aspects of private land use, such as site excavation, building height, and minimum residential lot size.

The private real estate market is very clever at devising ways to profitably divide up the three-dimensional space represented by a parcel of real property. Buildings are sometimes elevated above the ground on pilings or stilts to retain the surface for a different use, such as railroad tracks or a highway. Structures so elevated are referred to as air rights development (Figure 6-3). Downtown or "edge city" developments also excavate far below grade level to accommodate underground shopping concourses, parking garages, and other nonresidential uses. The below-grade geography of cities is a complex and often unmapped terra incognita just beneath our feet. For instance, the clearance of debris after the destruction of the World Trade Center on September 11, 2001, laid bare a vast subterranean labyrinth of subways, utilities, pipes, parking garages, and building machinery spaces.

Figure 6-2
Growing limestone instead of corn. An Illinois landowner chooses to sell stone rather than farm, while keeping the family homestead intact. Photo by author.

Figure 6-3
New office and condominium buildings overlooking Chicago's Millennium Park. The buildings and the park itself are built on "air rights" above railroad and parking facilities, respectively. Photo by author.

Multiunit development is today commonplace in more densely developed urban environments. Traditionally, most housing in cities was in the form of rental apartments or row houses. Since the 1960s, the practice of selling attached dwelling units as *condominiums* has become widespread, and in many cities, former apartment complexes have been converted into separately owned "condos." Condominiums in high-rise buildings are parcels of real property that "float" in midair, supported by the framework of the structure. Ownership of a condo also involves a proportionate share of the common elements of the overall building, including the basement, exterior walls, roof, stairs, and elevators. Those facilities are maintained by a condominium association whose costs are paid from monthly assessment fees charged to each condo owner. (Some multiunit buildings are divided into cooperative ownership units or "co-ops," which also share costs of common facilities through assessments on unit owners.)

In addition to *private* ownership, real property (land and buildings) may be owned by *public* agencies or by *nonprofit* organizations. Local governments, counties, states, and the federal government hold land and buildings for diverse public purposes, such as streets, highways, parks, schools, fire and police stations, public libraries, water and sewer facilities, landfills, government offices, airports, public colleges, and military installations. Other real property is held by nonprofit organizations, such as churches, private schools and colleges, private museums, hospitals, conservation organizations, and land trusts. Nonprofit organizations (also known as nongovernmental organizations) normally do not pay any property tax on their land and buildings used for charitable, religious, or educational purposes. Also, the value of assets (cash, securities, land, buildings) donated to them may be deductible from the donor's federal and state taxable income. Nonprofit organizations may buy and sell real property like other private owners, subject to their bylaws and approval of their boards of trustees.

Real property that is not in public ownership is by definition in the *private* market. Such property includes homes, farms, woodlots, commercial and industrial property, shopping malls, office parks, and hotels. Owners of private real property, other than tax-exempt nonprofits, must pay property taxes to the applicable local government and other taxing districts. Property taxes are based on the *assessed value* of the parcel (site and buildings) as set by the local tax assessment authorities. The assessed value roughly corresponds to "market value" of real property as established by a professional appraiser.

The "Red and Green Sticks" of Property Ownership

According to land economist Harvey Jacobs: "In most Western countries, including the United States, land is conceptualized as a bundle of rights . . . which the owner may use, sell, trade, lease, and/or bequeath. It is this bundle of rights that society recognizes as

ownership."[1] In addition to property rights are "property duties." In law schools, it is a hoary cliché to describe real property ownership as a *bundle of green and red sticks*. The green sticks represent rights or benefits that owners enjoy from personal use or economic profit, and the red sticks are the burdens required of the owner, like payment of property taxes, in exchange for the right to enjoy the green sticks. Thus in addition to the market cost of acquiring a parcel of real property, society places property owners under various obligations to use property in specified ways and to contribute to the public costs of maintaining local services. Naturally, owners want to maximize their green sticks and minimize their red sticks, which leads to the property rights debate to be discussed later.

The principal "green stick" of real property ownership for a home buyer is personal use. Owning a home not only provides a place to live; it also provides the opportunity to take advantage of tax deductions for mortgage interest and property taxes that are not available to renters. The owner also has the expectation, not always fulfilled, that the premises will gain market value, thus enhancing the owner's *equity* (share of the value of the home minus what is owed to a mortgage lender).

For most investors, the primary green stick is the prospect of economic gain. Economic gain may take the form of a flow of income over time (as in rental or lease payments) or longer term increase in the property's market value (*capital gain*). As discussed in Chapter 1, land value is derived principally from either resource-based uses or location-based development uses. The hottest urban land markets are those that capitalize on proximity to business and cultural amenities, scenic views, and waterfronts.

Green sticks also include nonmonetary benefits, as in the enjoyment of flowering shrubs and mature trees or planting a garden on one's property. Of course, this enjoyment blends into common or shared benefits, as passersby may also enjoy a signature tree or stand of woods on private property; conversely, the property owner may enjoy a neighbor's landscaping or a view of distant hills. (This "benefit" cuts both ways. Recalling the topic of externalities in Chapter 2, individuals and their property values may be adversely affected by unattractive or unhealthy conditions of neighboring property.)

Additional green sticks involve the *transferability* of property rights to others. It may take the form of outright transfer as a sale, a gift, or a bequest by means of a will. Alternatively, the transfer may be limited in permitted uses or in time period. The owner of agricultural land who does not want to personally operate a farm may lease the right to do so to a tenant farmer. Timber or mineral rights may be leased to lumber or mining companies. A home may be rented to a tenant, or a rentable apartment may be created within the home if allowed by zoning. Home offices are a common form of green stick in the age of the Internet.

Investment potential is another important green stick. Many people or businesses

acquire real property purely as an investment, hoping to resell at a higher price (adjusted for inflation) than they paid for it. Recent experience proves that such *land speculation* (or "flipping" in the case of property bought for resale rather than personal use or rental) can be very risky. Even in normal times, not involving a real estate bubble, property investment confronts a complex set of variables and constraints: the general economy, the local land market, natural disasters, tax and zoning laws, and environmental regulations. As in the stock market, much money has been made and lost in land speculation.

The ecological character of land as habitat that sustains terrestrial and aquatic life (including humans) has historically been undervalued or ignored entirely as a green stick by private landowners and investors. Indeed, Garrett Hardin's tragedy of the commons principle (see Chapter 3) applies forcefully to the destruction of life-supporting *ecological* phenomena in the pursuit of *economic* activities such as lumbering, grazing, mining, and urban development. There is, however, growing awareness of the economic value of "ecological services" such as soil formation, flood reduction, microclimate moderation, and sequestration of greenhouse gases.[2] For example, salt marshes are now recognized as nurseries that nurture the biota upon which higher orders of fish populations depend.[3] The destruction of salt marshes endangers the industries that catch, process, market, and serve seafood. Similarly, the natural storage of floodwaters provided by upstream wetlands may need to be replaced by expensive flood control structures if such features are drained for agriculture or filled for development. Thus ecological functions of land since the 1970s have gained protection as public green sticks worthy of protection through legal intervention in the private market.

"Red sticks"—the other side of property ownership—include duties or obligations of the owner to neighbors, to the community, and to society at large. In countries sharing the English common-law tradition, the most ancient red stick is to refrain from creating a *nuisance* that interferes with the rights of adjoining property owners or the general public. Nuisance may be either private or public. A *private nuisance* is an activity that causes unreasonable impacts on nearby property, such as smoke, bad odors, excessive noise, obstruction of light and air, overflow of storm drainage, accumulation of wastes, or allowing trash or dust to blow onto neighboring property.

A private nuisance is a civil offense (or *tort* in legalese) that may be challenged by the victim in a lawsuit against the perpetrator. Tort claims seek either a court order to stop the offending activity (*injunction*) or compensation (*damages*) to be paid by the defendant to the plaintiff. Lawsuits are expensive and time-consuming, however, and a nuisance complaint may be subject to a variety of defenses fashioned by courts over time. For instance, courts may balance the equities by weighing the benefits of the activity complained about (e.g., jobs) in comparison with its detriments to surrounding property

owners. Also, plaintiffs may be unsuccessful if they "came to the nuisance," that is, moved to the area after the objectionable activity was already established. Some disturbances are often temporary (raucous parties, noisy dogs, family arguments, amplified music) or can be addressed through informal communication. Some private nuisances, like a dog left out to bark every night, may also be public nuisances and subject to response by the police or other public authorities.

A *public nuisance* is a use of land that unreasonably inflicts burdens on a wider area or the public at large, as in the discharge of air or water pollution, conducting an immoral or antisocial business (like a "crack house" or meth lab), or otherwise endangering the public health and safety. The borderline between a private or a public nuisance is not always clear. Public nuisances, however, may be prohibited by state or local law as criminal offenses.[4] Violation of an environmental statute, such as regarding hazardous waste disposal, may be both a private nuisance (subject to a civil lawsuit by the victims) and a public nuisance (subject to prosecution by public authorities).

Other red sticks are financial in nature. Most buyers of real property borrow a sizable portion of the purchase price from a bank or other lender pursuant to a *mortgage contract*. To ensure repayment of the loan, the lender holds a legal interest in the property, which is officially recorded at the local registry of deeds. If a property owner fails to make monthly mortgage payments as provided in the contract with the lender, the latter can petition a court to *foreclose* the loan, take possession of the property, and resell it to recoup what it is owed. After the collapse of the housing market in 2006, an avalanche of mortgage foreclosures (some of them fraudulent) left millions of homes empty and their former owners financially ruined and sometimes homeless.

Similarly, the owner must pay all taxes and special assessments levied against the property. These payments include *ad valorem taxes* (based on assessed property values) levied annually by the local taxing authorities. One-time *special assessments* are also the responsibility of the property owner. Special assessments are charged for public improvements that benefit specific parcels, such as sidewalk or street reconstruction or new local water and sewer lines. As with mortgage foreclosure, the local government may obtain a court order to foreclose or repossess real property to recoup unpaid taxes.

Many land use practices disturb neighbors or the community but are nevertheless perfectly legal. Development of open land itself may bother earlier arrivals who seek to protect their bucolic surroundings. Land use zoning, discussed in Chapter 8, seeks to maintain some degree of compatibility among developed land uses. Apart from whether a use of land conforms with local zoning, however, neighbors may still raise objections that they are unreasonably harmed by an existing or prospective use of land, arguing that it should be enjoined as a nuisance. The question then is, When do bothersome

effects of land uses in a *geographic* sense compose a nuisance in a *legal* sense? Some external "harms" may simply deprive the plaintiff of an external benefit previously enjoyed gratuitously, such as the building of a home on a previously open field owned by a neighbor. Alternatively, the harm may be insignificant and the plaintiff viewed as unreasonably sensitive or fussy. Some harms are simply part of life in modern society and fall into the common-law category of *damnum absque injuria* (harm without remedy). Or, to put it in a more vernacular form, stuff happens!

Types of Owners and Legal Interests

Real property may be owned by many types and combinations of owners. Private ownerships may involve one or more individuals (related or not), partnerships, trusts, estates, corporations (business or nonprofit), and other legal entities. As already noted, much property is owned by local, state, or federal government agencies, including special authorities like school districts. When private ownership is divided among multiple parties, each owns an undivided fractional interest. Over time, the legal identity of ownership changes with the sale, gift, or bequest of interests in the property and other changes in status. Real property ownership is usually subject to additional claims or rights of usage by nonowners who have a legal interest in the premises (e.g., mortgage lenders; holders of easements; tenants; contractors owed money for work on the premises; and parties entitled to farm, mine, cut timber, or extract other resources from the land). To better appreciate the complexity of ownership, which may plague the best-laid plans for the future use of particular land, the following discussion summarizes the types of legal interests that may be encountered.

The Fee Simple and Its Components

The most complete form of legal title to real property is the *fee simple absolute* or *fee simple*, a quaint phrase derived from feudalism that today describes the full bundle of green sticks. This concept encompasses both identities of land: its physical substance and the column of space extending above and below the surface. Fee simple ownership also has a fourth dimension: it theoretically lasts indefinitely. For economic profit or personal reasons, the fee simple may be divided up in various ways: (1) physical partition, (2) severance of specific usage rights, and (3) division in time. Physical partition of the land into two or more parcels allows a portion to be sold or given away and the rest to be retained. Farmers sometimes split off roadside building lots to raise cash or may give them to offspring as home sites or for resale. Usage rights may be sold or leased to other parties to farm, cut timber, or extract mineral resources such as limestone, granite, coal, or oil and gas. In such cases, the owner transfers the right-of-usage green stick to the contractor in exchange for a stream of

future payments. Finally, the fee simple may be split into time periods, creating both present and future interests held by different persons. Some examples follow.

Life estates and future interests (a boring staple of first-year classes in property law) result from the dividing of the fee simple ownership into discrete time periods or "estates" by means of a will, by means of a trust, or under state law. Typically, a will may specify that, upon the death of the owner, property will pass to the spouse for that individual's lifetime and then pass to surviving children as *heirs* who inherit the *remainder* interest. When one spouse dies, the other has a life estate for the rest of his or her lifetime, and the children own future interests in the property that they will inherit. When the surviving parent dies, the children inherit the property as fractional owners in fee simple. (An only child heir would, of course, hold the entire fee simple.) If the family wants to sell the property, all family members having a life estate, future interest, or fractional present interest must sign the deed of sale so as to convey the entirety of fee simple ownership to the buyer. Spouses often hold real property as *joint tenants* with rights of *survivorship*. Even without a will, when one joint tenant dies, the other automatically owns the property in fee simple (subject to any existing leases, liens, or other limitations).

Thus ownership of property may be divided among multiple parties, some with present and some with future interests, some possessory and some contingent on a future event. The buyer's attorney must identify and gain the approval of everyone who has a legal interest or claim in property through a *title search*. Lenders will only finance the purchase of property with *clean title*, meaning that all potential claimants have signed a release.

Leaseholds and tenancies involve formal agreements with tenants to use property in specified ways. A written agreement between the landlord and tenant specifies the duration of the rental contract and the rights and duties of each party. In the case of an apartment rental, the landlord normally must provide clean, livable space, and the tenant promises to keep the unit in good order and to pay the specified rent on time. Provision for utilities and heat should be specified in the rental or lease agreement. The owner remains liable for the payment of property taxes and compliance with local zoning and other public regulations. Either party may withdraw upon notice to the other party according to the terms of the agreement. Shorter rental agreements such as a month-to-month contract may be verbal rather than written. Such a contract leaves the tenant with little protection against eviction or rent increase.

Farmland is frequently rented on a year-to-year basis when the owner does not wish to farm the land but wants to keep it available for sale when needed. Rental also helps the tenant farmer who needs extra land but cannot afford to buy it. Longer-term leases are used for mineral extraction, recreational facilities, and forestry where the lessee needs greater security to protect a major investment in equipment and labor.

A less formal, temporary arrangement is a *tenancy at will* under which the owner may allow someone to occupy or use the land indefinitely by virtue of friendship, family relationship, or other personal reason. Normally, a written document is not used, and rental payments may or may not be involved. The occupant of the premises however may be evicted or (more politely) asked to depart without notice.

Easements are limited interests in real property held by parties other than the owner or held by the general public. Easements are most easily described in terms of the purposes they serve. *Utility easements* (corridors for utility lines, pipelines, or other purposes) may be established permanently across private land through purchase of easements providing rights of access along a defined narrow strip or right-of-way. *Crossing easements* allow someone to cross property belonging to another person, such as a public footpath across private land. Such easements may be designed with the owners' approval to allow various forms of recreation, such as a bridle path, cross-country ski trail, or access to a body of water for boating, fishing, swimming, or skating. Each of these types of easements involves a formal agreement between the owner and the beneficiary of the easement (power company, neighbor, boat club, etc.). As with a lease, an easement is expressed in a formal written document that states the terms of the agreement, its duration, the obligations of each party, and how it may be terminated. An easement cannot be revoked by a subsequent buyer of the property: it is said to *run with land* until it legally expires.

Conservation easements (including so-called scenic easements) are commonly used to protect landscapes, farmland, and areas of high amenity value. A conservation easement does not necessarily involve public access, but it does involve a binding commitment by the owner not to develop or subdivide the land covered by the easement. Timber cutting may also be limited to necessary maintenance.

Conservation easements are commonly used to preserve the natural or open character of particular land while leaving legal title in the original owner. A community land trust or other conservation organization may offer to purchase a scenic easement or ask the owner to donate it. Existing uses such as a home, farming, and woodlot management may continue. Property tax valuation of the land is usually reduced to reflect the severing of development rights from the land. If the owner is willing to donate an easement to a charitable or public entity, a federal tax deduction may be claimed. Any formal easement, like other interests in real property, must be recorded at the local registry of deeds to be enforceable against subsequent buyers of the property, as discussed subsequently.

Massachusetts and many other states encourage protection of prime farmland through agricultural preservation restriction (APR) programs. APRs are created through the sale or gift of a conservation easement to a government agency or a nonprofit land trust. Once established legally, APRs preclude subdivision or other development of protected land

indefinitely. As of 2012, programs of this type in twenty-seven states protected 2.2 million acres of farmland, the equivalent in total area to Yellowstone Park.[5] Even so, almost twice that much other farmland—4 million acres—was converted to developed uses between 2002 and 2007.[6]

Covenants are commitments or promises in a legal agreement (contract of sale or lease) affecting the ownership of real property. Developers usually include various restrictive covenants in deeds transferring the ownership of building lots. By accepting covenants, the buyer promises to use the property in a specified manner: to construct a single-family home, to install and maintain landscaping, to refrain from causing nuisances, and in general to use the land in an orderly and predictable manner, for example. Because each lot buyer in a subdivision must agree to an identical set of covenants, each may enforce covenants against the others, even after the developer has moved on to other ventures. The lot buyers are then said to be *third-party beneficiaries* of the original agreement between each buyer and the developer. Like easements, covenants run with the land and are enforceable against subsequent purchasers of the property to which they apply. (The buyer is presumed to have notice of any covenants, easements, or other restrictions that have been properly recorded with the registry of deeds.)

Covenants are a powerful tool of private land use control because they are created by voluntary but irrevocable agreement between a buyer and a seller. They may reinforce public zoning and may in fact go far beyond zoning in regulating such matters as architectural style, landscaping, parking, trash, pets, lawn ornaments, and the decibel level of entertainment systems. Some retirement-oriented communities even ban children as residents!

Liens are claims against real property asserted by parties to whom the owner owes money relating to the premises. If local property taxes are unpaid, the municipal or county government may file a *tax lien* against the property and eventually seize it for sale. Contractors such as painters or plumbers may file a *mechanic's lien* against property on which they have done work without being paid. Like a tax lien, a mechanic's lien may eventually be enforced by a court order requiring the property to be sold to satisfy the debt. Anyone purchasing real property must be careful that unsatisfied liens are cleared by the seller before transfer of the property so that the buyer will not acquire the outstanding debts.

An *option* is a contract between an owner and a prospective buyer whereby the latter has a legal right to buy the property at an agreed price within a stated time period. An option allows a potential buyer to seek financing, zoning, and other approvals while ensuring that the price cannot be raised or the property sold to someone else during the option period. This feature is especially useful to public and private land conservation

agencies that must raise funds to protect a tract of open land. A *right of first refusal* is a limited option that allows a potential buyer the right to match someone else's offer and be entitled to the property.

Acquisition and Disposition of Real Property

Real property is *alienable*, meaning that it may be transferred from one party to another. The usual ways in which real property may be alienated are by (1) purchase or sale, (2) gift, (3) inheritance, (4) involuntary forfeiture, and (5) eminent domain (also called condemnation).

The marketability of real property through purchase or sale is a critical green stick of ownership. The law of property seeks to promote marketability by providing an orderly and secure process by which title may be transferred from one party to another. The transfer of ownership is usually a two-stage process. The first stage involves the execution of a *contract* between the buyer and seller specifying the property in question, the price to be paid by the buyer, and any covenants or commitments to be performed by either party. The second stage is the *closing*, when the legal deed to the property is transferred to the buyer in exchange for the purchase price, including amounts borrowed from a mortgage lender. Immediately after the closing, the deed and mortgage instrument are *recorded* at the local registry of deeds so that the respective interests of the lender and buyer are protected.

The owner may give away the property in fee simple or in a more limited form such as an easement. Gifts of real property (or money) to qualified nonprofit organizations are tax-deductible from the donor's taxable income. Tax-deductible gifts may also be made to a governmental agency. To be valid for tax purposes, a gift of property must be legally accepted by the recipient.

Real property like other possessions may be *devised* to heirs through a last will and testament. A will must be properly executed as defined by state law. If no relatives can be found, property automatically passes (*escheats*) to the state. The value of inherited property is reduced by *death taxes* levied by federal, state, and sometimes local governments. A branch of property law involves the establishment of trusts and other devices for conserving the value of the decedent's estate by minimizing taxes.

Adverse possession involves the occupancy of real property by an unauthorized person (a "squatter") for a lengthy period of time. State laws provide that when an owner does nothing to evict such occupancy, the adverse possessor may claim legal ownership after a period of years. The traditional purpose of the adverse possession doctrine is to encourage productive use of rural land; it rarely occurs in more urban settings.

Land may be acquired for public ownership and use in various ways. They include

negotiated purchase, eminent domain, gift, dedication, zoning incentives, and tax default, which will all be discussed in turn.

Negotiated purchase is the most common way to acquire private land for public use. When authorized by legislation, a government agency may approach a private owner and offer to pay a fair price as established by independent appraisal of the property. If the offer is accepted, a deed is exchanged for payment, and the land title is transferred to the public agency. No court action is required, the process is reasonably speedy, and everyone is presumably satisfied. The price paid by the government, however, must be supported by one or more independent professional appraisals of the parcel's market value. Appraisal is based on analysis of the parcel in question with comparable properties that have recently been sold in arms-length transactions (i.e., between two unrelated parties). Normally, the public agency is limited to offering the appraised market value to avoid overpayment (which may result from side deals and bribes paid to public officials).

If it is impossible to reach agreement on a price within the limit of appraised value, the public agency may use its power of *eminent domain* (or condemnation) to compel a private owner to sell property needed for "public use" in exchange for payment of "just compensation," as required by the Fifth Amendment. In eminent domain, the issue of just compensation is referred to a jury, which weighs competing estimates of value provided by the property owner and the public agency. The latter must obtain one or more independent appraisals of the parcel's market value as with a negotiated sale. The owner may also obtain a professional appraisal, which almost always exceeds the government appraiser's value. Reconciling conflicting estimates of market value is an issue for a jury to determine.

"Public use" is self-evident if the land will be used for a highway, airport, school, or park, but eminent domain has widely been used to acquire private property to be cleared and redeveloped for urban renewal or economic development projects. In 1954, the U.S. Supreme Court upheld the use of eminent domain to acquire blighted property in the District of Columbia to be redeveloped privately as part of an urban renewal program.[7] Since then, the idea of public use has expanded to include public benefit through the creation of jobs and taxable new development. Although it is an inherent power of government, eminent domain is politically unpopular and is generally used as a last resort when negotiation fails. Sometimes, however, eminent domain is mutually agreeable as a means of efficiently clearing title to private land when the owner is willing to sell.

Gifts of land to public entities are an important source of open space and natural areas. Many national, state, and local parks originated in a philanthropic gift. Northampton, Massachusetts, for instance, is graced with Look Park and Childs Park, both donated to the city decades ago with endowments toward their upkeep. The value of gifts of land to public or nonprofit organizations is usually allowed as a deduction from the donor's

federal taxable income.

Dedication of land refers to the transfer by developers to the local government of certain land or easements pursuant to an approved subdivision or development plan. These dedications typically include internal roads; sidewalks; bike trails; easements for utilities and drainage; and sites for playgrounds, schools, or local parks.

Zoning incentives are used by New York City and several other municipalities to encourage developers to set aside public spaces in the form of outdoor and indoor plazas, larger-than-required setbacks from streets, shopping concourses, and roof gardens accessible to the public. In exchange for such amenities, developers of high-rise commercial or residential real estate are offered zoning incentives, namely extra height and floors beyond what is otherwise permitted. Such additional rentable space has convinced New York City developers to establish some five hundred privately owned public spaces.[8] Such sites are typically retained and maintained by the private developer subject to permanent easements of public access and use.

Finally, *tax default* is another way that land shifts from private to local public ownership involuntarily. If an owner fails to pay property taxes, the premises are subject to foreclosure and sale by the local government to pay such unpaid taxes.

Pinpointing the Land: Legal Boundary Descriptions

As Robert Frost famously observed: "Good fences make good neighbors." In the world of real property, good fences take the form of accurate definition and surveys of property boundaries. The efficient operation of the private land market and the security of investments in real property depend on the use of *legal descriptions* to delineate legal and political boundaries with extreme precision. With an accurate legal description, surveyors using global positioning systems (GPS), lasers, or other older methods can fix boundaries on the ground with great accuracy. The legal description is incorporated into a deed of sale or other legal document pertaining to the parcel as recorded at the local registry of deeds.

The ability to delineate boundaries precisely, and calculate the area they enclose, is crucial to anyone investing in real property. At prices ranging from thousands of dollars per acre in rural areas to equivalent amounts per square foot in prime building locations, buyers must be assured that they are receiving all the land that they bargained for. Good boundary descriptions help avoid conflicts among neighboring property ownerships and facilitate maximum use of each parcel. Adjoining property owners may use their entire land area to the parcel boundaries without fear of trespassing on neighboring land. Similarly, mortgage lenders must be assured that the real property that is security for a loan is exactly the same land that the borrower is buying. Where doubt exists, a survey must be made to redelineate the boundaries of the site.

Tax maps based on legal descriptions identify the ownership of private land for purposes of property taxation. Without precise boundary descriptions, some land might be taxed to more than one person, while other land might escape taxation altogether. By the same token, precise maps of political boundaries clearly apportion property to the appropriate taxing jurisdiction. Boundary descriptions and surveys of public lands facilitate the management of such areas and delineate their borders with private property.

Precise legal descriptions are incorporated in deeds of sale and other legal documents affecting the ownership, or title, to real property. To be legally effective, all such documents must be recorded at the registry of deeds. Potential buyers must obtain a *title search* of all documents at the registry of deeds pertaining to the parcel in question to reveal any title defects. Under the principle of *caveat emptor* ("buyer beware"), the buyer assumes responsibility for any recorded easements, tax liens, or other claims against the property. Unrecorded deeds or claims, however, are unenforceable against the buyer.

Three types of legal descriptions are prevalent in the United States: (1) metes and bounds, (2) descriptions based on the Federal Land Survey, and (3) lots numbered on recorded subdivision plats. All three types are used today in various locations and circumstances, as discussed next.

Metes and Bounds

Metes and bounds is an ancient method of describing legal boundaries dating to England and its American colonies. This technique of legal description defines the perimeter of a parcel of land as a series of straight-line segments of specified length and compass direction, sometimes combined with references to physical features (Figure 6-4). Typically, the boundary description begins at one corner of the parcel, which is marked at the time of survey by a stone monument, iron pin, or other device. From this starting point, each straight-line segment is defined by a precise compass direction and distance (in older deeds expressed in surveyor's measurement units as chains, rods, and links). Corners or points where the boundary changes direction may be marked by additional monuments or pins. Physical features such as streams, lakes, coasts, or roads may be mentioned in an older metes and bounds description. Questions may thus arise concerning changes in stream channel, lake or coastal shoreline, or road alignment.

Other problems with interpreting early metes and bounds surveys appear in this legal description of the western boundary of Massachusetts prepared in 1787:

> Beginning at a monument erected in 1731 by commissioners from Connecticut and New York, distant from the Hudson River twenty miles, and running north 15 degrees, 12' 9" east 15 miles 41 chains and 79 links to a red or black oak tree

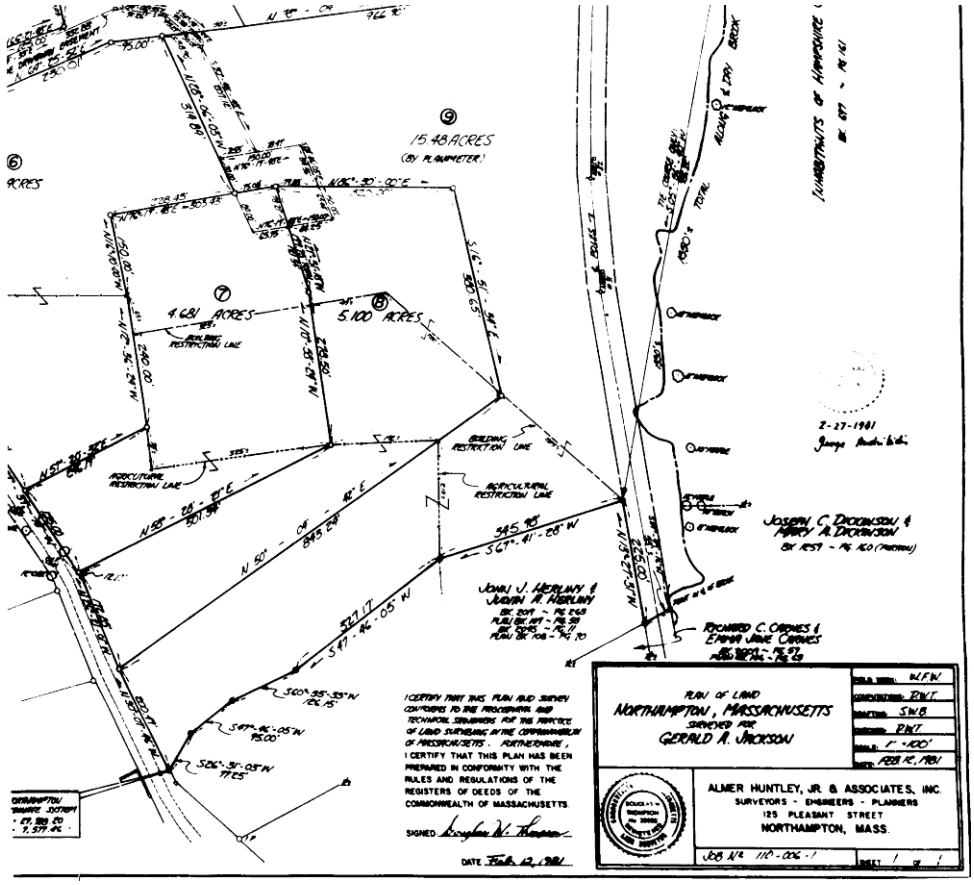

Figure 6-4
A typical "metes and bounds" property plat showing parcels bounded by straight-line segments of exact length and compass heading starting at a designated "monument."

> marked by said commissioners, which said line was run as the magnetic needle pointed in 1787.[9]

First, the reference to a "red or black oak tree," besides being botanically vague, leaves the boundary unmarked with the eventual disappearance of said tree. Second, the use of magnetic compass directions, which was universal at that time, left uncertainty as to the degree of compass error or divergence between magnetic north and true north, which varies from one place to another and changes over time.

Metes and bounds legal descriptions thus present many problems when old boundaries are resurveyed. Error arises from various sources, including inaccuracy of instruments, careless procedures, change of physical conditions, and illegibility of early field notes, yet property

and political boundaries laid out in early times must be followed as faithfully as possible. The modern surveyor is armed with an array of new technology, including astronomical triangulation, satellite imagery, GPS, inertial guidance vehicles, and laser beams. Despite all this paraphernalia, when an ancient boundary must be redrawn, the modern surveyors must attempt to follow exactly in the footsteps of their pioneer predecessors.

Metes and bounds descriptions are cumbersome and susceptible to mistakes. A small error in direction (west instead of east, for instance) will send the boundary off into the blue, and no area is enclosed. A major source of error arose simply through the copying by hand or typing of a detailed boundary description.

Federal Land Survey

The Federal Land Survey originated in the Land Ordinance of 1785 as a land title registration system more adaptable than metes and bounds to the settlement of the nation's vast territories beyond the Appalachian Mountains. As blocks of federal land were transferred to various recipients over the next century, the federal survey permanently impressed the legal footprint of central government on future landscapes from the Ohio River Valley to the Pacific Ocean. The 1785 Land Ordinance established the basic template for land transfers and settlement beginning with the "Old Northwest Territories" of Ohio, Indiana, Michigan, Illinois, and Wisconsin. The survey eventually extended from its designated "point of beginning" where the Ohio River crosses the western border of Pennsylvania as far west as the Aleutian Islands of Alaska and southward to Key West, Florida.[10]

The *township* is the basic geographic unit of the federal survey (Box 6-1). In its ideal form, a township is a rectangle of 6 miles on each side, divisible into thirty-six *sections* of 1 square mile each. Conveniently, 1 square mile equals 640 acres, which is easily divisible into "quarter-sections" of 160 acres each and smaller fractions for purposes of settlement and development. The legendary "forty acres and a mule" supposedly awarded to freed slaves after the Civil War referred to grants of a "quarter-quarter-section," enough land to support a family in the Southeast.

Under a long series of federal laws, large blocks of land from the public domain were transferred as *land grants* to states, canal companies, railroads, mining and timber interests, state universities, and homesteaders. The basic Federal Land Survey land grant reserved Section 16 at the midpoint of a 36-square-mile township to support local schools. Federal grants to railroads, canals, and other private enterprises reserved alternate sections in public ownership for later disposition at values enhanced by the corporate investment (e.g., a railroad right-of-way).

The rectangular Federal Land Survey has been described as "a striking example of geometry triumphant over physical geography."[11] Earth's curvature dictates that

Box 6-1. The Federal Land Survey

Figure 6-5 is an idealized diagram of the various spatial units of the federal survey under which most the United States west of the Appalachians has been divided to promote efficient use, partition, and disposition of land once or still held by the federal government ("public lands" or "public domain"). The upper half of the diagram represents a grid of "townships" of 36 square miles each, each identified by its geographic coordinates north or south of a "baseline" and east or west of a "principal meridian." Each of those reference lines dates to the original survey and settlement of individual states or territories. These *survey townships* were designated to facilitate land management and settlement and must be distinguished from *civil townships*, which are local governments scattered across the Midwest and beyond (which may or may not coincide with a survey township).

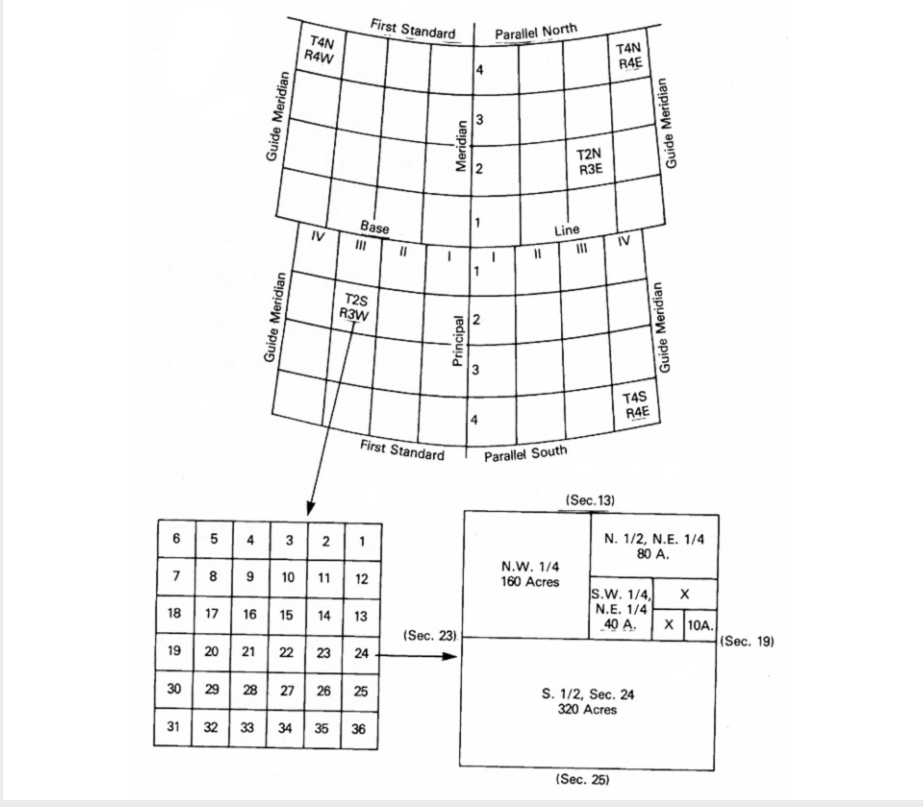

Figure 6-5
The basic template of the Federal Land Survey under which most land between the Appalachians and the Pacific Coast was originally laid out in rectangular townships and sections.

The rectangle at the lower left corner of the diagram portrays a single township as divided into thirty-six *sections* of 1 square mile, or 640 acres, each. This township is identified by the cryptic designation "T2S–R3W," meaning that it is the second township south of the baseline and the third range (vertical row) west of the principal meridian for the state in which it is located.

Finally, Section 24 of that township is depicted in the lower right box. The 640 acres that make up one section are easily divisible into smaller fractions. A quarter-section of 160 acres was a standard farm unit conveyed to settlers under the Homestead Act of 1861. That acreage could be further partitioned into smaller fractions for various purposes. The two small parcels marked with an "x" may thus be legally described under the federal survey as follows:

> The north half of the southeast quarter of the northeast quarter of section 24 *plus* the southwest quarter of the southeast quarter of the northeast quarter of section 24.

To use the conventional shorthand, a complete legal description for those parcels would read as follows:

> N. 1/2 of the S.E. 1/4 of the N.E. 1/4 of sec. 24 plus the S.W. 1/4 of the S.E. 1/4 of the N.E. 1/4 of sec. 24 of Twp. 2S, Range 3W of the Principal Meridian in _____ County, State of _____ , an area of 30 acres.

Figure I-2 in the Introduction vividly displays the imprint of the federal survey on a typical midwestern farmscape as a mosaic of rectangular farms and fields based on the federal grid.

townships will be trapezoidal, not square, because their northern boundaries must be shorter than their southern borders. This problem is resolved by offsetting the north-south boundaries of ranges of townships at periodic intervals north and south of the baseline. Other problems arise from natural obstacles such as large bodies of water and mountain ranges. In high mountain country like the Rockies and Sierra Nevada, where most land remains in public ownership, the imprint of the federal survey largely vanishes from the visible landscape.

Despite these complications, the Federal Land Survey was indispensable to the disposition and management of the federal lands. The federal survey permits reasonably precise legal descriptions of parcels of land to be expressed in terms of township, section, and fractions of sections. The 640-acre section and fractions thereof were convenient units for land transfers and recording of legal title (as illustrated in Box 6-1).

Obviously, the federal survey system was more adaptable than metes and bounds for

legal descriptions of large tracts of land in sparsely settled areas. Anyone flying over the nation's heartland on a clear day may view the physical legacy of the federal survey in the infinite pattern of rectangular farms, fields, older roads, and urban development, all conforming to the pattern of townships and sections, baselines, and meridians. Local variations require departures from the strict use of federal survey directions. Legal descriptions for land bordering rivers, lakes, or tidal waters may refer to that feature as a boundary. Metes and bounds may be used where necessary to describe irregular tracts that do not fall precisely into survey fractions.

Urbanization of land earlier settled under the federal survey is indelibly shaped by that all-pervading grid pattern. Older streets of midwestern and western cities follow section and half-section boundaries, relentlessly running north-south and east-west. Development after the 1950s, however, was more oriented to the new Interstate Highway System, which cut through cities without regard to the survey grid. The monotonous grid street plans of earlier communities yielded to the more curvilinear pattern of postwar suburbia that prevails across the country.

Subdivision Plats

A subdivision plat or plan provides a convenient means of legally identifying individual lots in land subdivisions. A subdivision plat is literally a map of a tract of land that is to be divided into smaller lots for sale to individual buyers (see Figure 8-3 in Chapter 8). Subdivisions usually anticipate residential development, although land is sometimes subdivided for commercial or industrial purposes. Homes may be constructed by the original subdivider, along with streets, utilities, and other infrastructure, prior to sale to residential buyers. Alternatively, land may be subdivided for sale of unimproved lots with each buyer responsible for constructing a suitable building.

In either event, the proposed subdivision plat must be submitted for approval to the local planning authorities in accordance with state law. The subdivider must conform with local subdivision regulations concerning street layout, width, and paving; utility placement; and storm drainage. Once the plan is approved, it is filed with the local registry of deeds, like other legal documents affecting land ownership.

As individual lots within the approved subdivision are sold, they may be simply described by lot number shown on the approved subdivision plat, as recorded at the registry of deeds. The plat on file provides exact survey dimensions of each lot. There is no need for a lengthy legal description in the deed for each lot, although the lot boundaries must be precisely described in the original plat.

7.
The Patchwork of Local Governments

The American system is one of complete decentralization, the primary and vital ideal of which is, that local affairs shall be managed by local authorities.

Thomas Cooley, *Legislative Powers of the States*, 1868

With power over land use fragmented among the hundreds of counties and municipalities at the edge of most [metropolitan] regions, there was no way to limit or direct the destructive force of large-scale speculation fueled by government subsidies.

Robert Fishman, *Death and Life of American Regional Planning*, 2000

Modern cities, suburbs, and towns are distant descendants of the medieval municipal corporation in England. As described in Chapter 3, the municipal corporation was a legal entity that could own land, make and enforce local laws, sue or be sued, and exist indefinitely until terminated by process of law. That institutional model, as adapted to a variety of geographic and cultural settings, became the basic building block of the American political landscape of local governments. This chapter examines the geographic and legal nature of these ubiquitous but often disregarded participants in the shaping of the American metropolis.

Origins and Diffusion of Local Governments

The evolution of municipal institutions in the United States during the colonial period was strongly influenced by the physical and cultural circumstances of each settlement

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_8,

region. Differences among the colonies in physical resources, topography, climate, religion, and economic organization yielded various patterns of local government, which endure today.

The *New England town* was the earliest form of local government to appear in the English settlements in North America, and it has endured in various forms to the present day. It has been justly celebrated as "not only the most original but also the most democratic and, perhaps for that reason . . . [it has displayed] remarkable power of survival."[1] Despite its origin as a refuge for religious dissidents, colonial New England was noted for its intolerance of individualism, as portrayed in the Arthur Miller play *The Crucible*. Paradoxically, however, the New England town was to approach the ideal of participatory democracy as closely as any governmental institution devised in the United States, as acclaimed by French political philosopher Alexis de Tocqueville in his famous 1832 treatise *Democracy in America*.[2] The persistence of the town meeting tradition may be witnessed all over rural New England in late March or April when hundreds of citizens brave the elements to fill drafty town halls. The officers, procedures, customs, and even some of the participants seem right out of the eighteenth century!

Circumstances of early settlement that shaped the evolution of the early New England town included (1) strong religious bonds, (2) a sense of independence and defiance of higher authority (other than God), (3) a harsh climate, (4) an intractable terrain requiring cooperative effort for productive utilization, and (5) fear of attack by indigenous tribes or colonial rivals, especially France. These factors jointly influenced the establishment of small, compact settlements, often widely separated from one another. As geographer Donald Meinig succinctly described it, "The Puritan concept of community presupposed a clustering of people, a physical grouping that would enhance interaction and social cohesion."[3]

These early settlements were closely knit through ties of family, religion, and common purpose in converting the surrounding land to pasture and cropland. Dwellings were clustered in villages close to the meetinghouse, which served both civil and ecclesiastical purposes. The separation of church and state after the American Revolution yielded the familiar New England postcard scene: the "First Church" and Town Hall side by side (but in separate buildings) facing the town green or common (Figure 7-1). Early towns regarded themselves as self-governing "commonwealths," beholden to neither the colonial assembly nor the Crown. In some cases, these claims were supported by formal grants or charters; in others, they were simply uncontested. In either case, towns generally went their own ways.

Vestiges of the English medieval commons lingered on in colonial New England towns, as described by historian Samuel Eliot Morrison:

Figure 7-1
Reflecting the religious and secular roots of the New England town, the neoclassic Congregational Church and Town Hall adjoin each other in Hadley, Massachusetts. Photograph by Christopher Curtis.

> A committee was appointed to satisfy Indian claimants, to settle on a village site, and lay out lots. Home lots and the meeting house, which served both as church and town hall, were laid out around a village green, with a surrounding belt of planting lots for growing crops. Salt meadows on the coast, or river meads in the interior, valuable for the wild grass which could be cut and stored for winter forage, were laid out in long strips and usually cultivated in common. The rest of the township for many years remained the property of the community, where anyone could cut firewood and timber, or pasture cattle.[4]

Over time, the original pattern of land allocation was drastically transformed as family holdings were split by conveyance or inheritance or were augmented by purchase, either from the town's own reserve lands or from other households. In contrast to the Puritan towns first settled along the coast, inland towns were often laid out by individual proprietors or speculators who provided (at least on paper) roads, lots, and sites for schools, churches, cemeteries, and animal pounds and then sold farm units to settlers, often quite profitably. Some early proprietors, such as William Pynchon who founded Springfield, Massachusetts, in 1636, amassed sizable personal holdings through land grants from the colonial assembly.

As population began to exceed the capacity of local resources, new settlements split off either as a separate town or as a new village within the original town. Many New England towns were spawned through splitting large territories into smaller ones, and thus the closely linked institutions of church and town could replicate themselves in each new settlement. Once they reached a sufficient size to support a minister and other local needs, new towns achieved governmental status through incorporation by the colonial (later, the state) legislature. From then on, New England towns theoretically served as governments of, by, and for their inhabitants. As in the case of Boston, some towns eventually transformed themselves legally into cities, with the town meeting form of government replaced by a mayor and city council.

Today, all New England except remote parts of northern Maine is divided among incorporated towns or cities (Figure 7-2). Unlike the rest of the United States, there are no "unincorporated areas," which are outside any incorporated municipal government. Accordingly, counties, which are more prominent in most other states, are virtually extinct in New England.

The *Hudson River valley*, separated from New England by the Berkshire Hills, was settled under an entirely different cultural and economic regimen. In the mid-seventeenth century as Connecticut River valley towns marched northward, the fertile lowlands bordering the Hudson River were settled first by Dutch and later English patricians vested with huge land grants or "patents." Lacking the New Englanders' need to cluster in villages for religious and defensive reasons, the Hudson River valley became a patchwork of vast estates, tenant farms, and few villages except for river ports like Poughkeepsie and Rhinebeck (both Dutch names). The feisty New England independence was missing in this landscape of farms, mills, lime kilns, iron forges, and woodworking establishments. New York City was vested with self-governing authority by a charter issued by the English governor in 1683, but the Dutch-English settlements extending eastward on Long Island and northward in the Hudson valley were nominally governed by county units, each with its justices of the peace, county clerk, high sheriff, and militia officers and all appointed by the colonial governor. Seven vast land grants in the late seventeenth century were described as "formally styled 'manors' over which their 'lords' received quasi-feudal legal and governmental powers subject only to the authority of the governor."[5] The largest of these estates, Rensselaerswyck Manor, spread across 850,000 acres, or more than 1,100 square miles, fifty times the area of Manhattan.[6] Many other manorial patents encompassed tens of thousands of acres, memorialized today by euphonious Dutch names like Schuyler, Van Cortlandt, and Van Rensselaer.

Over time, as the great estates were fragmented by inheritance and land sales and as the Industrial Revolution stimulated the growth of mill villages, the local political

Figure 7-2
Eastern Massachusetts, like most of New England, is entirely divided among local towns and cities. Unlike other parts of the country, there are no "unincorporated areas" under county jurisdiction. Map by the Commonwealth of Massachusetts, Citizen Information Service.

geography of New York State evolved into a blend of local and county jurisdictions. In rural areas today, basic governmental services such as streets and highways, parks, and police and fire departments are provided by county governments, which are divided into "townships" for administrative purposes. These New York State townships are a far cry from New England towns, however, with no town meeting or sense of place and a limited set of functions. More densely settled communities are incorporated either as cities or

villages (whereas "villages" in New England are simply place names within larger incorporated towns or cities). Some cities in New York State are embedded within, but legally separate from, townships *of the same name*, as with the city and town of Poughkeepsie; the former is poor, black, and struggling, and the latter is flush with development spawned by IBM's research center located there since the 1940s.[7] Metropolitan areas like Greater New York are governed by a crazy quilt of cities, villages, towns, and counties, all of which must interact with one another and with the state and federal governments. (See the quotation from Robert Wood's "1400 Governments," describing metropolitan New York at the end of this chapter.)

The *Tidewater region* of coastal Maryland and Virginia fostered another system of local governance based more completely on the county. According to the perceptive Tocqueville:

> We have seen that in Massachusetts the township is the mainspring of public administration. It is the center of men's interests and of their affections. But this ceases to be so as one travels down to those states in which good education is not universally spread and where, as a result, there are fewer potential administrators and less assurance that the township will be wisely governed. Hence, the farther one goes from New England, the more the county tends to take the place of the township in communal life. The county becomes the great administrative center and the intermediary between the government and the plain citizen.[8]

Many of the factors that contributed to the prevalence of the town in New England were absent in the South. The climate is milder there. The land bordering the region's bays and rivers is level, fertile, and free of glacial boulders that define the landscape and character of New England. The lengthy shoreline of Chesapeake Bay, deeply incised by navigable estuaries (hence the name Tidewater region), afforded convenient maritime routes connecting the region's hinterland with England and other overseas destinations. The native populations of the area were less hostile than in New England, obviating the need for compact, protective communities.

Moreover, the motivation for settlement of the Tidewater region was economic rather than religious. As sustained by the hateful institution of slavery before the Civil War, and sharecropping thereafter, southern agriculture was dominated by tobacco and cotton. These staples were cultivated on plantations rather than family farms, each with its own access to maritime commerce via the region's network of navigable waterways. Maryland and Virginia adopted laws around 1680 to establish new port and market settlements. Only Norfolk, Virginia, thrived. According to Thomas Jefferson, as quoted in Chapter 2,

"The laws have said there shall be towns; but nature has said there shall not, and they remain unworthy of enumeration."[9] The *county* thus dominated the plantation Tidewater as the *town* characterized puritan New England. Except for a few free-standing cities like Baltimore and Richmond, local governance in Maryland and Virginia today is largely provided by counties.

After the Revolution, the *Northwest Territories* was opened to settlement pursuant to the Land Ordinance of 1785 and the Federal Land Survey that it established. One stream of migration from the South settled lower Ohio, Indiana, and Illinois, transplanting their county tradition to the Midwest. With the opening of the Erie Canal in 1825, another stream of settlers migrated to the fertile midwestern farmland from rocky New England, bringing their town institutions with them. Thus the New England and southern traditions of local government blended to varying extents in the upper Midwest and across the western plains.

The township, however, lost its town meeting roots as it moved westward and became merely a county administrative subdivision. Civil townships were eventually established in sixteen states outside New England.[10] These divisions are essentially relics of pioneer sentiment that sought to transplant the label, if not the substance, of town government to the frontier. (Civil or governmental townships must not be confused with "congressional" or "survey" townships established under the Federal Land Survey, as described in Chapter 6, although some of the former geographically coincide with the latter.) The county fared better than the town outside its region of origin. From the Southeast, counties eventually spread across the nation. The units of local government described so far largely remained unchanged from their original boundaries. Once the geographical area of a county or township was legally established under state law (often for reasons long forgotten), it has tended to stay put geographically, regardless of subsequent changes in demography and legal authorities.

That, however, was not the case for the nation's central cities, whose territories historically expanded—sometimes by leaps and bounds, sometimes by tiny increments—until they bumped up against a phalanx of defiantly independent suburbs. New York City consisted only of Manhattan Island until 1898, when it consolidated with Brooklyn, the Bronx, Queens, and Staten Island (Richmond County) to form the five-borough City of New York. The city has legally gained no further territory since then.

Boston was a town for its first two centuries. In 1822, with a population of about 45,000, it legally converted itself by charter into a city with a mayor and city council to better address urban challenges of population growth, fires, water supply, and waste disposal.[11] In the 1860s, it enlarged its physical land area by filling the "Back Bay" swamp and converting it to the district of that name, famous today for its elegant row houses

and shaded streets. Major territorial changes occurred in the 1870s when the neighboring towns of Brighton, Roxbury, West Roxbury, and Dorchester all sought annexation to the city to gain access to its new Lake Cochituate water supply. The town of Hyde Park joined Boston in 1912, the last addition to the city's territory.[12] The regionalization of the city's water system allowed the next tier of suburbs, like Newton and Dedham, to gain access to water without joining the city. Although areas of further landfill in Boston Harbor enlarged the city's physical footprint, its legal territory has remained unchanged.

Chicago was originally incorporated in 1833 with a territory of only three-eighths of a square mile on the southwest shore of Lake Michigan.[13] Like Boston, Chicago experienced rapid territorial and population growth during the second half of the nineteenth century driven by the grain and timber industries of the upper Midwest.[14] Before 1870, the city expanded to about 26 square miles through acts of the state legislature. Between 1889 and 1893, several entire townships and villages were added to Chicago.[15] Chicago reached about 90 percent of its present area of 222 square miles by 1900; thereafter, except for the site of O'Hare International Airport added in the late 1950s, annexation ended. In 2000, the city of Chicago accounted for about one-third of its metropolitan area population but only 6 percent of the region's land area (Figure 7-3).

Los Angeles provides a western example of municipal accretion, largely occurring during the twentieth century. The city was originally incorporated in 1850 with a legal territory of 25 square miles centered on the Spanish "plaza." After 1900, annexations added vast new areas to the city, expanding it southward to San Pedro Harbor (the port of Los Angeles), westward to the Santa Monica Mountains, and northward into the San Fernando Valley. As with Boston and Chicago, the territorial expansion of Los Angeles related to the politics of water supply. The city annexed the agricultural San Fernando Valley in 1905 to help finance construction of an aqueduct to bring water to Los Angeles from the Owens Valley, 250 miles to the north.[16]

Like most other U.S. cities, Los Angeles's territorial growth eventually ceased as all surrounding areas became incorporated within suburban governments determined to preserve their independence from the central city. There are 76 incorporated cities within Los Angeles County in addition to the city of Los Angeles.[17] The city today occupies about 465 square miles, more than twice the size of Chicago and ten times the size of Boston, but the city itself accounts for only one-fifth of the population and about 11 percent of the land area of its metropolitan area.

Local Government Powers and Functions

No matter how fragmented the political geography of metropolitan America, each unit of local government possesses certain legal authorities bestowed under state law. The

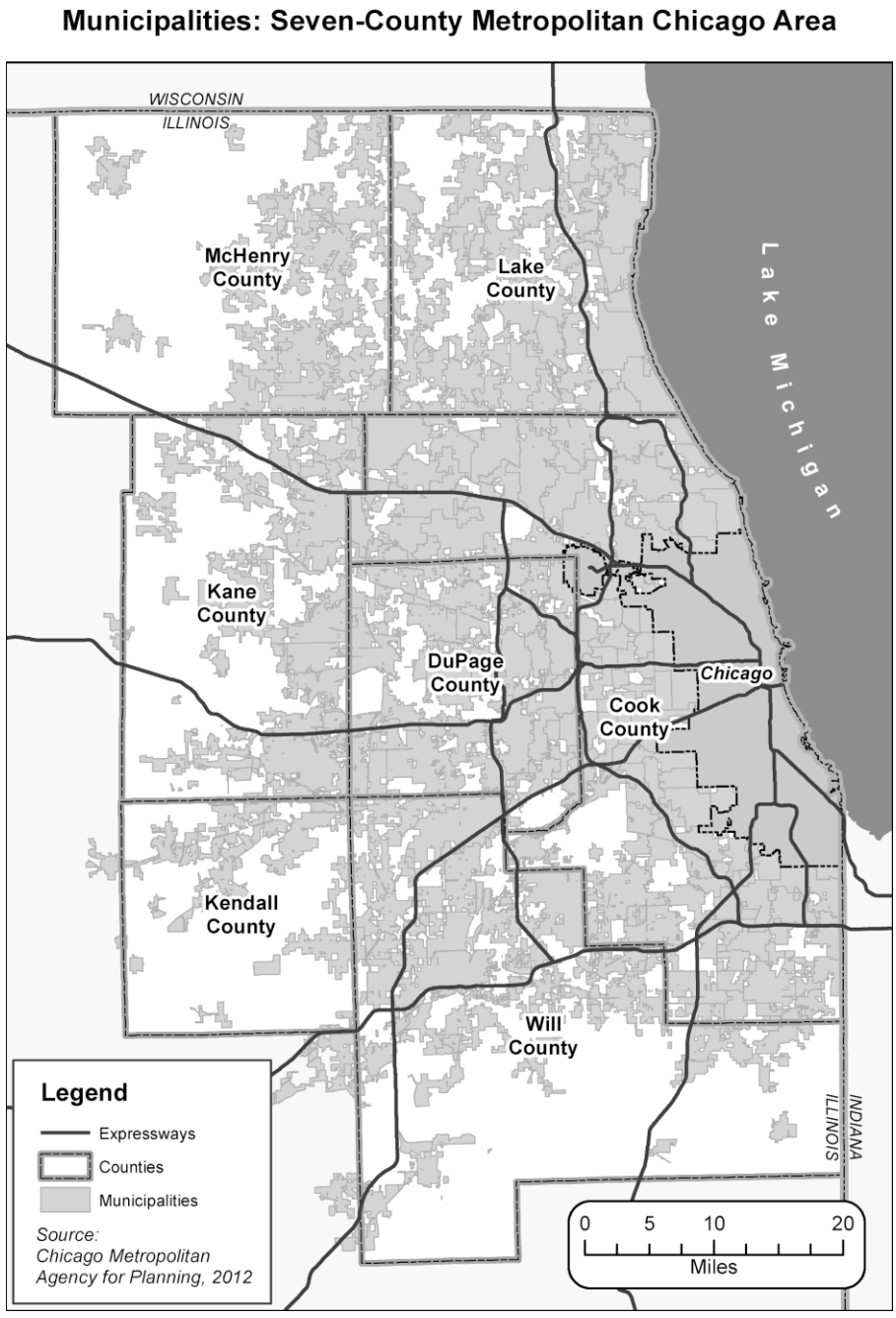

Figure 7-3

The city of Chicago and its galaxy of suburbs, 2012. Areas shown in white are "unincorporated" and are under county rather than municipal jurisdiction. Courtesy of the Chicago Metropolitan Agency for Planning.

balance of this chapter turns to the legal powers and functions of the various types of incorporated local and regional units of government. These governmental units are considered under three headings: (1) *general-purpose municipalities*, including cities, New England towns, townships (other than in New England), boroughs (New Jersey and Pennsylvania), and incorporated villages (New York and Maine); (2) *counties*, which serve as the default local government for areas outside of any municipality ("unincorporated areas"); and (3) *special-purpose districts and regional authorities*: incorporated governmental units established under state law to provide particular public services (e.g., school districts, park districts, regional transportation districts, water and sewer districts, housing authorities, highway and airport authorities).

Municipalities

Despite small variation in terminology and functions from one state to another, municipal units of government have certain common attributes wherever they are found:

- They are *creatures of the state* in that their incorporation and operation over time is subject to the laws and court decisions of the state in which they are located. (Some states allow a certain degree of "home rule" to municipalities on specified matters.)
- They lie *within a single state*, although they may spread across multiple counties within a state. (Metropolitan areas, of course, often spread into more than one state.)
- They are *mutually exclusive* in their territories. No location can be simultaneously within more than one general-purpose municipality or county, although parcels of land under one ownership may straddle political boundaries.
- They may expand geographically with the *annexation* of adjoining unincorporated land, if any, but no municipality may poach territory from a neighboring municipality. (In New England, all land except parts of remote northern Maine is divided among incorporated towns and cities so there are no unincorporated areas and no annexation or boundary changes.)
- Annexed areas must normally be *contiguous* (physically connected) to the annexing municipality. (This requirement is sometimes achieved through the artful use of narrow strips of incorporated land to connect a municipality to an isolated tract, like Chicago's annexation of a highway corridor to gain contiguity to the site of O'Hare Airport.)
- Annexations must usually be *mutually agreeable* to the annexing municipality and the owner of the unincorporated land subject to annexation.
- Many states permit *preannexation agreements* between owners of land and the annexing municipality regarding public services, zoning, and other issues relating to prospective development of a site.

The origins of local government unit boundaries are often obscure. In areas covered by the Federal Land Survey, the straight-line borders of many local governments, counties, and states follow the north-south, east-west alignment of survey townships and sections. Other political boundaries follow physical features such as rivers, lakes, or tidal coastlines, or upland ridgelines. Streams that serve as political boundaries are thus bordered by different jurisdictions on each side, leading to conflicts over the management of floodplains and waterfronts. Some boundaries follow highways, railroads, or other cultural features. Many boundaries, however, seem to be entirely arbitrary zigs, zags, and jogs resulting from long-forgotten (and sometimes dishonest) past dealings between property owners, builders, real estate brokers, lenders, and political officials.

No matter how arbitrary and bizarre local political boundaries are, they define where the legal "writ" or legal authority of a municipal or county government applies. The powers of cities and towns within their corporate boundaries have changed little since medieval times, namely: (1) to sue and be sued as *legal persons*; (2) to enter into contracts; (3) to acquire, hold, and dispose of property; (4) to adopt local laws; and (5) to possess a corporate seal to authenticate municipal documents. To these must be added the modern necessities: (6) to borrow against future revenues and (7) to levy taxes and fees.

Recitation of these broad powers, however, does not suggest the potential scope of their application. For what purposes may municipalities enter into contracts, buy land, make ordinances, or impose taxes? How much autonomy and immunity from state review may local governments claim? Historically, local governments have been treated as the "sacred cows" of the U.S. political system. According to historian Jon C. Teaford, "*Local government was a sacred element of the American civil religion,* and the nation's lawmakers were devout in their adherence to the faith."[18]

As with other religions, however, the hopes of the faithful were sometimes badly served. In the early twentieth century, U.S. cities were dominated by bosses and political machines that turned the ancient municipal prerogatives to personal gain. Abuses were (and still are) rampant with respect to municipal contracts, zoning changes, and patronage in public employment. Municipal corruption prompted progressive reformers of the 1920s to call for tighter control by states over their wayward municipal progeny (assuming that states were less corrupt than cities).

Local governments in their diverse forms are incorporated under state laws and thereafter are controlled by the state in many respects, such as selection of officials, contracts, bonded indebtedness, taxation, environmental laws, land use control, public hearings, equal opportunity, and workplace harassment. The history of municipal government in the United States has been a continuing struggle between states and local governments regarding the relative degree of control imposed by the former over the latter.[19]

One outgrowth of this struggle was the *home rule movement* under which certain states, beginning with Missouri in 1875, adopted state constitutional amendments expanding the scope of municipal autonomy. Under this doctrine, a community could perform functions if those functions were not forbidden by the state legislature or otherwise in conflict with a state's constitution, laws, or court decisions. The home rule movement reached only about fifteen states, however, and has been characterized as "an uncertain privilege, for it depends entirely upon the whim of the legislature and may at any time be repealed or modified."[20]

Regardless of home rule status, questions arise frequently as to the validity of a municipal action in light of state delegation of authority. Clearly, latitude is needed to go beyond the literal provisions of state law; without it, municipal governments would be stifled in responding to local needs and circumstances. The fundamental question is therefore, How may a municipality ascertain the limits of its available powers? The classic response to this question is *Dillon's rule*, first expressed in 1911 at the height of the municipal reform movement:

> A municipal corporation possesses and can exercise the following powers and no others. First, those granted in *express* words; second, those necessary or fairly *implied* in or incident to the powers expressly granted; third, those *essential* to the accomplishment of the declared objects and purposes of the corporation—not simply convenient but indispensable.[21]

Dillon's rule is a long-settled principle that is recited by courts in resolving challenges to municipal innovation. It is an elastic test, however, and affords much judicial discretion in applying it to actual controversies.

As stated earlier, the powers of municipalities are usually confined geographically to areas within their corporate boundaries. Some states, though, authorize *extraterritorial* powers to develop public water supplies because many communities do not have adequate water sources within their incorporated areas. Extraterritorial land also may be acquired in some states for nature refuges, parks, sewage treatment plants, and airports. Municipal services are often sold extraterritorially; Chicago, for example, supplies water from its Lake Michigan treatment works to suburban communities (at higher rates than its own residents pay).

Counties

A total of 3,041 counties almost blanket the nation's land area. Each state is divided into counties or equivalent units (e.g., parishes in Louisiana). A few cities are independent

of any county, notably Baltimore, St. Louis, and some forty cities in Virginia. The City and County of Denver is a combined unit of government. In the 1960s, several partial or complete mergers of city and county functions were achieved, as in Miami-Dade County, Florida; Indianapolis-Marion County, Indiana; and Nashville-Davidson County, Tennessee. In Maryland and Virginia, counties serve as the basic units of local government, except in independent cities like Baltimore. At the other extreme, Connecticut, Rhode Island, and Massachusetts have abolished counties as governmental units. Elsewhere in the nation, counties generally provide local government services such as police and fire protection, parks, and local road repairs in rural areas and unincorporated settlements.

Some metropolitan counties are major regional governments, such as Cook County, Illinois (containing Chicago), and Nassau and Suffolk Counties on Long Island, New York. Los Angeles County, with about ten million people, has an annual budget of more than $20 billion. Municipalities within the county, including the city of Los Angeles and some seventy-six suburban jurisdictions, retain their local zoning prerogatives. The county or its surrogate special districts, however, influence land use within municipalities indirectly through the location, timing, and capacity of regional facilities such as flood control, stormwater drainage, sewage treatment, and water supply.

Special Districts and Regional Authorities

Special districts and regional authorities have proliferated in many states to provide diverse public services at various geographic scales. Special districts (other than school districts) increased in number from 12,319 in 1952 to 37,203 in 2012.[22] Functions performed by special districts range from aviation to zoo administration. In some metropolitan areas, special districts provide such critical services as mass transportation, water supply, sewage treatment, solid waste disposal, parks and recreation, and air and water pollution control. Most districts and authorities provide only a single function. Districts serving different purposes may overlay one another, as well as general-purpose units of government, but districts performing the same function are mutually exclusive in their service areas.

Special districts almost never engage in land use planning and zoning, which remain municipal and county prerogatives. Some, however, especially those operating at a regional scale, clearly influence land usage through the spatial distribution of their services and facilities. The location and capacity of sewer and water lines, for instance, is a crucial factor in land-development patterns.

Many special districts operate as "phantom governments," largely unknown to the people served by them and paying for their operation.[23] By contrast, some special districts or authorities are highly visible and powerful units of regional government with thousands of employees, extensive revenue sources, and bonded indebtedness in the billions

of dollars. Examples include the Metropolitan Water District of Southern California, the Cook County Forest Preserve District in Illinois, the bistate Port Authority of New York and New Jersey, and the Massachusetts Water Resources Authority. Regional entities of this scale are major providers of water, sewage treatment, transportation, parks, and other vital services in many metropolitan areas.

Ideally, special districts bring professionalism and freedom from political influence to the management of urban problems. In some cases, though, they can also be highly political and unaccountable. New York's Robert Moses, whose biography was aptly entitled *The Power Broker*,[24] was the archetype technocrat in the tradition of Georges Haussmann, who redesigned Paris in the nineteenth century. Never elected to any office, Moses assembled a network of state and regional authorities that reshaped the face of New York City, Long Island, and portions of New York State. The centerpiece and "cash cow" for his construction program in New York was the Triborough Bridge and Tunnel Authority. Besides public housing and urban renewal projects, he created many state and city parks, including the immensely popular Jones Beach on the south shore of Long Island. He also built highways, parkways, playgrounds, swimming pools, the United Nations complex, the 1939 and 1964 World's Fair grounds, the New York Coliseum, and the Lincoln Center for the Performing Arts. The memory of Robert Moses still rankles among those he overwhelmed legally or politically to push his projects through, but many of those projects have proven indispensable. The inevitable question is, Did the ends achieved justify the means used by Moses and his counterparts elsewhere?[25]

Revenue and Debt

Revenue is a perpetual and critical need for all units of government: local, county, state, and federal. General-purpose municipalities and counties are funded from a limited number of sources, which they constantly seek to augment.

The fundamental revenue source for most municipalities and counties is the *ad valorem property tax*, the dreaded tax imposed on privately owned, taxable real property. Property tax assessment in the United States originated in the colonial era when local assessors counted windows as an indicator of home value. Today, property taxation is based on a specified percentage of the *assessed value* of each parcel, including land and buildings. The *tax rate* (percentage applied to the assessed value to determine the tax owed) is uniform for similar classes of property throughout a particular municipality or county, although tax rates often differ substantially among local and county governments.

Tax rates are usually expressed in terms of "mills per dollar of assessed value" or "dollars per $1,000 of assessed value." The local *tax base* is the aggregate value of taxable assessed value within a local jurisdiction. By definition, land and buildings owned by government

agencies or certain nonprofit organizations is "tax-exempt" and not part of the local tax base. Raises in property tax rates over time may be constrained by tax limitation laws in some states, such as California's Proposition 13 and Proposition 2.5 in Massachusetts.

Subject to such constraints, computation of the municipal or county tax rate and individual tax payment (*tax levy*) is simple in concept. First, the local government determines its budgetary needs for the next fiscal year. It deducts revenue from nontax sources such as federal and state transfer payments to determine the net amount that must be obtained from property taxes. It then divides the needed revenue figure by the total taxable assessed property value within the jurisdiction to yield the tax rate. Thus, if a small town needs $750,000 from property taxes and has $50 million total assessed property valuation, the computation is as follows:

1. Tax rate = needed revenue divided by total assessed value (AV), or $750,000/$50,000,000 = 1.5% (or $15 per $1,000 of AV).
2. Applying the tax rate to a parcel of real property assessed at $80,000, the tax levy paid by the owner is $15 x 80 = $1,200.

Certain kinds of local public improvements—for instance, the repaving of sidewalks or replacement of local sewers—may benefit particular property owners more than the public at large. Such improvements may be financed through a *special assessment* instead of the general property tax. A special assessment is a tax imposed on property benefited by a local public improvement. It may be one lump sum or payable over several years.

Large-scale public projects such as new or renovated bridges, police and fire stations, public garages, schools, libraries, and parks require a sizable outlay of funds at one time. The normal mechanism to assemble such funds is the *general obligation bond*. These bonds, issued by a governmental unit, are repaid out of property tax revenue and other available sources of revenue over time. Bonds repayable from future tax revenues are said to be backed by the *full faith and credit* of the borrowing government unit, which must raise taxes (or cut other expenses) if necessary to protect bondholders. (Today, in the face of economic downturn and resistance to raising taxes, many cities, counties, and states must balance bond payments with pension and health care obligations for their present and retired employees.)

Bonds are sold to investors through national and international bond markets. The rate of interest payable over the term of the bond is a function of the creditworthiness of the issuing unit of government as well as the term of the bond and the general economic climate. Some states impose constitutional limits to the amount of bonded indebtedness that a municipality or county may incur in relation to its total assessed value. Such limits,

however, do not usually apply to special districts. Thus states such as Illinois with strict debt ceilings are awash in special districts created to circumvent debt limits on general-purpose local governments.

Certain public facilities such as swimming pools, golf courses, and solid waste disposal facilities are expected to pay for themselves over time through fees paid by users. Such facilities may be funded through *revenue bonds*, which are exempt from ceilings on general obligation bonds. Revenue bonds are repaid from fees generated by the facility in question and are not backed by the borrower's general tax receipts, if any.

Fees for permits and services make up a growing source of local government revenue. In Massachusetts, for instance, when "Proposition 2.5" limited property tax increases in many communities, fees for sewer, water, sanitary landfill, and other services were raised to offset revenue shortfalls.

Finally, intergovernmental transfers are a significant proportion of revenue to municipalities, counties, and some special districts. During the 1970s and 1980s, the federal government consolidated many of its individual grant programs to local governments under programs of *revenue sharing* and *community development block grants*. State governments also transfer large sums of money (mostly from sales and income taxes) to local governments. Such allocations are usually earmarked for specific purposes such as schools, welfare, health services, housing, and conservation areas.

Beginning in the 1980s, many cities adopted variations of two new kinds of revenue-enhancement devices: *tax increment financing districts*, or TIFs; and *business improvement districts*, or BIDs. A TIF is a special district established by a local government for a geographic area targeted for new commercial, industrial, or residential development. Any increase in property tax revenue due to future private investment is earmarked in advance to defray the immediate costs of site preparation and infrastructure. Revenue bonds to be repaid with such future tax increment revenue are issued to fund site improvements intended to lure private investments in the target area. Chicago under Mayor Richard M. Daley embraced the TIF strategy robustly. More than 135 TIF districts in Chicago cover about 30 percent of the city's land area, whose "combined assessed value rose by $11.4 billion, or nearly 16,000 percent, between 1986 and 2005," according to the Civic Federation.[26]

A BID is another type of urban special district whose purpose is to enhance the cleanliness, safety, and "image" of a business or residential area. A BID is created by a local government if a sufficient proportion of property owners within the proposed district vote to approve it, as provided by state law. Participating businesses and property owners within the BID boundaries pay annual fees to support the BID. (Nonparticipating businesses are "free riders" unless state law requires them to share in BID expenses.) The fee revenue is

used by the BID to enhance street cleaning, park maintenance, signage, pedestrian and bicycle safety, and other services that help raise property values and attract new investment. Whereas a TIF is purely a revenue-enhancement device, BIDs are operating units with offices, staffs, consultants, and management functions. BIDs come in many sizes and flavors. The BID in Northampton, Massachusetts, has helped make the downtown more colorful, festive, and lively as the sponsor of activities to promote the city's shops, restaurants, arts, and street life. On a much larger scale, the 34th Street Partnership in midtown Manhattan has entirely revamped several of New York's best-known outdoor spaces. In cooperation with the administration of Mayor Michael R. Bloomberg, the partnership transformed (some would say sanitized) Times Square from a squalid entertainment district choked with traffic into a venue for café tables, outdoor music, cyclists, and pedestrians, with traffic permanently diverted to other streets.

Despite such success stories, many American cities today are on life support. Buffalo, New York, the nation's tenth largest city in 1910, now ranks number seventy-two after declining from 580,000 inhabitants in 1950 to 261,000 in 2011.[27] Detroit, which also has lost more than half its population since 1950, is in state receivership after undergoing the largest municipal bankruptcy in U.S. history. California is littered with fiscal crises, from the tiny city of Cloverdale (population 12,000) in Sonoma County to bankruptcies of such major cities as San Bernardino, Stockton, and Vallejo, with even Los Angeles at risk of default.[28] Countless other municipalities and counties are confronted by a toxic mix of loss of jobs, shrinking tax revenue, and rising costs of health insurance and pensions for their past and present municipal workers. As they struggle for fiscal survival, central cities remain geographically surrounded and politically shunned by conservative and self-regarding suburbs.

Once the proud legal expression of the autonomous medieval city, the municipal government in the United States is now an ironic metaphor for governmental inadequacy in the face of external economic, political, and environmental forces. It is a victim of its own success, having been replicated in such vast numbers that each individual municipality retains only a fragmentary role in the management of overall metropolitan regions. The last word here on the chaotic geography of metropolitan America comes from political scientist Robert Wood, who wrote the following in 1963:

> On the eastern seaboard of the United States, where the state of New York wedges itself between New Jersey and Connecticut, explorers of political affairs can observe one of the great unnatural wonders of the world: this is a governmental arrangement perhaps more complicated than any other that mankind has yet contrived or allowed to happen. A vigorous metropolitan area, the economic

capital of the nation, governs itself by means of 1,467 distinct political entities (at latest count), each having its own power to raise and spend the public treasure, and each operating in a jurisdiction determined more by chance than by design. The whole 22-county area that we know as the New York Metropolitan Region provides beds for about 15 million people and gainful employment for about 7 million of them. Its growth, which is rapid, takes place almost entirely in its outer, less crowded parts, and this means that the Region is becoming more alike in the density of its population and jobs, more alike in community problems. *But the responsibility to maintain law and order, educate the young, dig the sewers, and plan the future environment remains gloriously or ridiculously fragmented*.[29]

8.
Zoning, Regionalism, and Smart Growth

The lack of any substantial relationship between the legal machinery and a clear concept of city planning is the firmest impression left by the origin and later course of land use control in America.

John Delafons, *Land Use Controls in the United States*, 1969

In America, sprawl is the law of the land. Of the many laws that prescribe or induce sprawl, municipal zoning laws are the most direct, pervasive, and important.

Henry R. Richmond, "Metropolitan Land-Use Reform," 2000

Local governments are the primary public overseers of private land use and building practices in the United States. As displayed in Figure 8-1, local governments are vested with a broad range of legal powers and tools relating to the regulation, acquisition, and taxation of real property (land and buildings) within their jurisdictions.

Since its advent in the early twentieth century as discussed in Chapter 4, zoning has been the primary weapon of choice for local land use regulation. Although it originated in Germany in the late nineteenth century, zoning is quintessentially American, with the peculiar blend of idealism and greed which that implies.[1] Zoning was the proudest achievement of early-twentieth-century progressivism and in hindsight its most reviled legacy. As colorfully described by planning lawyer Richard M. Babcock, zoning is a relic of the "Roaring Twenties": "Zoning reached puberty in company with the Stutz Bearcat and the speakeasy. F. Scott Fitzgerald and the Lindy Hop were products of the same generation."[2]

Zoning burst onto the American scene in the decade between 1916 when New York

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_9,

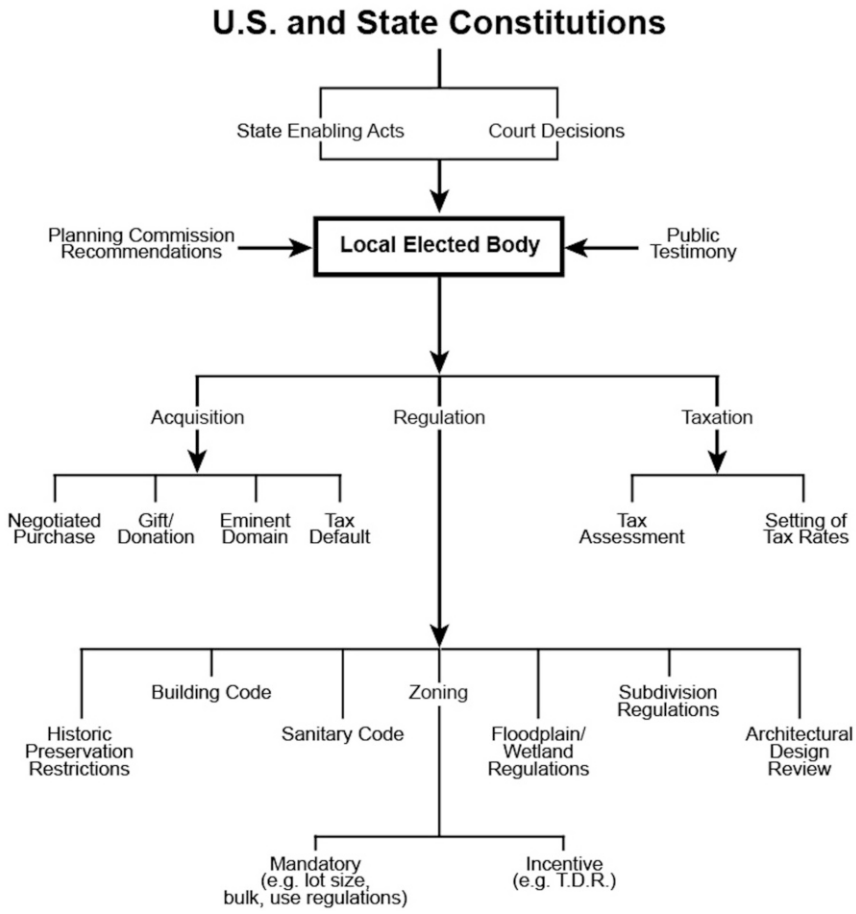

Figure 8-1
Diagram of legal powers available to local governments relating to land within their jurisdictions.

City adopted the nation's first comprehensive zoning law and 1926 when the U.S. Supreme Court gave zoning its blessing in its famous (or infamous) decision in *Village of Euclid v. Ambler Realty Company.*[3] (*Euclid* is fully discussed in Chapter 9.) Midway through that decade, the 1920 U.S. Census reported that urban Americans outnumbered rural inhabitants for the first time. *Euclid* was an example of law evolving in step with changes in the larger society.

The 1926 *Euclid* decision essentially ratified a fait accompli: zoning was already adopted in some form by hundreds of local governments. Virtually all cities and many counties joined the zoning bandwagon before World War II (except Houston, which long remained a holdout). Zoning is the broadest of land use control techniques, applying to virtually any private use of land and many public uses within zoned jurisdictions. It

has certainly been the most contentious of land use institutions, generating passionate advocacy during the 1920s and 1930s, equally vehement denunciation and proposals for reform during the 1960s and 1970s, and weary resignation since the 1980s. In the 1990s, an aroused property rights movement hindered the efforts of planners and zoning officials to restrain the excesses of a rampant building boom. Zoning is politically ambiguous: conservatives and liberals alternately brandish it and denounce it, depending on who is proposing what. Despite recurrent efforts to bury, reform, replace, or strengthen it, land use zoning remains a mainstay of local development regulation, for better or worse.

Euclidean Zoning

Conventional land use zoning, known as *Euclidean zoning* after the 1926 *Euclid* case that held it to be constitutional, specifies how private land within a local zoning jurisdiction (city, town, or county) may or may not be used. Like highway speed limits and public smoking ordinances, zoning is an exercise of the "regulatory power" (or *police power* in legalese) for which no compensation is paid to affected private parties. When zoning severely limits certain uses of property, the owner may seek an administrative zoning variance or, in extreme cases, a property owner may challenge the constitutionality of a zoning measure in a lawsuit against the local zoning authority.

Authority to plan and zone land use is delegated to municipalities and counties by state zoning acts. Most state zoning acts were based originally on the Standard Zoning Enabling Act (SZEA) developed in 1924 at the direction of Herbert Hoover, then U.S. Secretary of Commerce. Communities are not required to adopt land use zoning, but if they do so (and most have), they must follow the requirements of their state law. These requirements are largely procedural rather than substantive: they address *how* zoning must be adopted and administered, with less attention to *what* local zoning regulations may require. Limitations on the latter have been gingerly and unevenly imposed in court decisions in specific lawsuits rather than by state legislation.

Local zoning laws, as authorized in state laws based on the SZEA, are intended to protect the "public health, safety, and welfare." Zoning was promoted by its progressive backers as an all-purpose instrument for urban improvement that would "lessen congestion in the streets; secure safety from fire, panic, and other dangers; promote health and the general welfare; provide adequate light and air; prevent the overcrowding of land; to avoid undue concentration of population."[4]

An article of faith for the pioneers of zoning, as worded and enshrined in the SZEA and most state laws based on it, was that zoning must be "in accordance with a comprehensive plan." Indeed, the constitutionality of zoning was based on that "accordance" with planning, as argued before the Supreme Court in the *Euclid* case:

> Zoning is based upon a thorough and comprehensive study of developments of modern American cities, with full consideration of economic factors of municipal growth, as well as the social factors. . . . The zone plan is one consistent whole, with parts adjusted to each other, carefully worked out on the basis of actual facts and tendencies, including actual economic factors, so as to secure development of all the territory within the city in such a way as to promote the public health, safety, convenience, order, and general welfare.[5]

Unfortunately, this precept was long ignored in practice. In the mid-1950s, planning law professor Charles M. Haar charged, "For the most part, zoning has preceded planning in the communities which now provide for the latter activity, and indeed, nearly one-half the cities with comprehensive zoning ordinances have not adopted master plans at all."[6] More recently, state laws and court decision have increasingly mandated comprehensive planning and required zoning to be consistent with it.[7]

Zoning Administration

The key decision maker in the zoning process is the "local elected body," such as a city council, town meeting, or board of county commissioners. The local elected body assimilates three streams of inputs: (1) legal advice from the municipal attorney on applicable legislation, case law, and administrative rules; (2) technical advice from the plan commission (or planning board) based on recommendations of planning department staff or consultants; and (3) public testimony presented at a public hearing or communicated through other means (see Figure 8-1). In addition to the plan commission, the *zoning board of appeals* is a local administrative panel that decides appeals from property owners seeking a *variance* from the strict rules of the zoning ordinance as applied to their property. Both the plan commission and the zoning board of appeals consist of lay citizens elected or appointed from the local community. (In many cases, local board members learn on the job when navigating the often complex and nitpicking provisions of local zoning laws.) Decisions of the zoning board of appeals may be further appealed to the state court system.

Another key participant in the local land use development process is the *building inspector*, who is a paid municipal employee charged with the administration of building permits for new construction or alterations of existing buildings. Issuance of a building permit requires the inspector to ensure that the proposed work will conform to applicable zoning and building regulations. (Building codes are usually statewide laws that regulate the quality of construction, including electrical, plumbing, and other technical standards.) Decisions by the building inspector may be reviewed by the zoning board of

appeals if challenged by a property owner (for permit denials) or opponents to the proposed work (for granted permits).

Local planning and zoning boards as well as other such bodies established by state law, are charged with conducting their business in *open meetings* whose time, place, and purpose must be locally publicized. The public is invited to attend such meetings but not necessarily to express personal views. Most decisions by either board, as with other public bodies, must be preceded by a *public hearing*, where any interested individual (from the local community or not) may present oral or written testimony on a pending decision. Failure of local boards to comply with these "transparency" requirements may result in a procedural challenge by any party with a stake in the outcome.

Euclidean zoning divides communities into three classes of use districts: *residential*, *commercial*, and *industrial*. These classes are normally divided into subclasses such as single-family residence, one- or two-family residence, rural residence, neighborhood business, and highway business. For each class of district, zoning regulates (1) the *use* of land, (2) the *density* of structural development per unit of land, and (3) the dimensions or *bulk* of buildings. Zoning specifies for each district which activities are (1) *permitted* as of right, (2) *prohibited*, or (3) *conditionally allowed* by special permit from the zoning board of appeals.

Originally, most zoning codes were *cumulative* in structure, establishing a pyramid of land use districts whose apex was the single-family residence zone from which all other uses were banned. Below that was the multiple-family zone, where either single- or multiple-family dwellings were allowed (Figure 8-2). The next level, commercial, allowed both businesses and residential uses. Industrial zones at the bottom of the hierarchy were essentially unrestricted. Cumulative zoning thus protected residential areas from nonresidential activities, but not vice versa.[8] It has been widely replaced by *noncumulative* zoning, in which each class and subclass of zone is mutually exclusive as to use. Thus homes cannot be built in commercial districts, just as businesses are barred from residential zones. Noncumulative zoning has contributed to the spatial segregation of residential and commercial activities from each other, which is a major complaint of today's smart growth–new urbanist movement, which advocates mixed uses in urban neighborhoods, as discussed subsequently.

Housing density is regulated through establishment of minimum lot sizes for dwellings. Lots for single-family homes typically range from 12,000 to 80,000 square feet (about 0.25 to 2 acres). Lot size roughly correlates with size and cost of the home, with less expensive dwellings usually built on land zoned for smaller lots. In the 1920s, the average home was 700 to 1,200 square feet on a 6,000-square-foot lot (about one-seventh of an acre).[9] In 1950, the average home was 1,000 square feet, which doubled to 2,000

Figure 8-2
A typical older mixed residential neighborhood in Pittsburgh, with 1920s single-family homes on small lots adjoining 1950s row houses and 1960s apartments (with balconies at rear).

square feet in 2000. Homes smaller than 2,000 square feet accounted for 89 percent of new housing in 1973 but only about 30 percent in 2012. A fourth of all new homes built in the latter year were larger than 3,000 square feet, some much larger.[10]

Density for multistory buildings is regulated by establishing a *floor area ratio* (FAR), which specifies the maximum floor area for a structure as a multiple of the site area. Thus a FAR of 10 allows a ten-story building to cover an entire building site or allows a twenty-story building on half the site. FAR may be increased as a *density bonus* for development that includes public amenities such as an outdoor plaza, indoor public space, off-street parking, or mixture of uses.[11]

A local zoning ordinance consists of two formal documents: (1) the *zoning map* that delineates zone boundaries and (2) the *zoning text* that defines the land use regulations for each class of district. For each class of zone identified on the zoning map, the zoning text specifies what types of land uses are allowed "as of right" and other uses that may require a "special permit" from the local zoning board of appeals or other body. For

buildable parcels, the zoning text establishes dimensional requirements for each class of zone: minimum lot size and setbacks from lot lines, maximum height, and FAR for high-rise buildings. Other sections of the zoning text deal with such matters as parking, signage, wetlands and floodplains, and historic districts. Some local governments address those issues in separate ordinances that supplement zoning.

Existing uses of land or buildings in place when a parcel is zoned for other purposes are grandfathered (i.e., allowed to continue) under standard Euclidean zoning. Such *nonconforming uses* were long regarded rather like unwelcome family relatives living in one's home, tolerated grudgingly and sped on their way when possible. Nonconforming uses usually may not be enlarged physically or converted to a different use unless it brings them into conformity with zoning. If a nonconforming use is discontinued for a period of time, it may be viewed as abandoned and not eligible to resume. Nonconforming structures that are destroyed by fire, flood, or other calamity may be rebuilt only in conformity with applicable zoning and building restrictions.

Zoning Flexibility and Evolution

Zoning theoretically predetermines the use of all vacant private land in the community "in accordance with a comprehensive plan." This quixotic venture, of course, continually encounters the windmills of reality. One of the claims made on behalf of zoning from its inception was that it would provide stability and predictability for the benefit of property owners and investors. Although it has done so to some extent, there is a contrary trend in the evolution of zoning toward greater flexibility to cope with the unexpected and the unfair. From its earliest days, zoning involved two devices to provide flexibility: *amendments* and *variances*. Later, these two were joined by special permits as well as floating zones, cluster zoning, planned unit developments (PUDs), transfer of development rights (TDRs), and "performance zoning," among other devices.

Zoning amendments are formal changes to the zoning ordinance that are adopted, like the original ordinance, by the local elected body in response to advice of the planning board and public testimony. Amendments may alter the text of the zoning ordinance, the zoning map, or both. A map amendment involves a change of boundaries and possibly the redesignation of certain areas to a different class of zone. If a new zone class is created through a text amendment, it is usual (but not absolutely necessary) to rezone some land on the map to that class. If no land is immediately rezoned for that purpose, the new class is said to be a *floating zone*, which may come down to earth in a later map amendment.

Amendments of either the zoning text or map are intended to remedy area-wide needs or problems and should normally involve multiple parcels of land. Amendments that

benefit only one property owner are subject to challenge (usually by neighbors) as unconstitutional *spot zoning*.

By contrast, variances always involve a single parcel. A variance is an administrative exception granted by the zoning board of appeals to relieve a hardship to property owners who cannot make reasonable use of their land if the applicable zoning rules are strictly enforced. The burden of proof is on the owner to demonstrate such hardship. The variance is essentially a constitutional safety valve to remedy cases in which zoning unreasonably restricts the use of a single parcel. Because variances invite favoritism, courts view them sternly when compared with amendments. Reads one decision: "The strict letter of the ordinance may be departed from only where there are practical difficulties or unnecessary hardships in the way of carrying it out. . . . No other considerations should enter into the decision."[12]

Special permits entered zoning practice after World War II to provide municipalities with greater discretion in dealing with development proposals than amendments or variances could afford. The special permit (also known as a conditional use permit) is essentially a "maybe." Rather than list a particular use as either "allowed" or "prohibited" in specific zones, it is listed "SP" in the Table of Use Regulations, meaning that the use may be permitted in that zone by a special permit from the board of appeals pursuant to a public hearing. Unlike variances, special permits do not require the applicant to prove a hardship but only to show that the proposed location is reasonable for the proposed use.

Cluster zoning and *planned unit developments* (PUDs) are outgrowths of public concern about urban sprawl and loss of open space dating to the 1960s. Both techniques involve a relaxation of minimum lot-size requirements in exchange for setting aside some of the project site as natural or recreational open space. A PUD also involves the possibility of mixed land uses and house types. In effect, it substitutes a set of special rules negotiated between the municipality and the developer in place of the existing conventional zoning rules. The goal is to achieve a higher quality of development with diversity of uses and retention of open land. Although a number of excellent PUDs have been constructed, the technique is applicable primarily to large developments. Small-scale developers often cannot afford the front-end legal and design costs of a PUD and opt instead to follow prevailing zoning rules.

Transfer of development rights (TDR) seeks to allow better regulation of growth while avoiding the problem of compensating the owner of land desired for preservation.[13] TDR involves severing the development rights from a "preservation site" to be retained in its existing condition (e.g., natural, agricultural, or historic) and transferring those rights to a "receiving site" where higher than normal density is acceptable. The seller of the development right records a permanent restriction on the future development, subdivision, or

alteration (in the case of historic preservation) of the site. The buyer of the development right would then be issued a density bonus usable at the receiving site. The owner of the preserved site retains existing use rights while receiving compensation for the developmental value forgone. The public ensures the preservation of the site without paying for it, and the buyer of the development right gains legal approval for a more intensive and profitable use of his or her own land. Since the TDR concept was approved by the U.S. Supreme Court in 1978,[14] the device has been widely by churches, owners of historic properties, and farmers to gain revenue while protecting the existing use and character of a site. Montgomery County, Maryland, outside Washington, D.C., has achieved one of the nation's most successful farmland preservation programs, protecting more than 52,000 acres of farmland through development rights transfers to more urban locations, along with another 8,300 acres protected through agricultural easements.[15]

Another alternative to Euclidean zoning is *performance-based zoning*, which discards land use and density requirements in favor of performance standards to encourage good design.[16] These standards basically follow the PUD approach by negotiating a detailed project plan that then is subject to approval by the local zoning authorities. The community's objective is to gain concessions from the developer in the form of affordable housing, mixed uses, recreational amenities, greenspaces, and distinctive architecture in exchange for allowing a more dense and profitable use of the land than could be achieved under the old Euclidean regimen.

Critiques of Zoning

With great irony, land use zoning—the capstone achievement of the progressive city planning movement in the 1920s—would become the primary instrument of suburban rejection of demographic and economic diversity in the decades following World War II. In the backslapping world of local politics, zoning became a parody of the high expectations of its early supporters. In 1964, planning historian John W. Reps called for a "Requiem for Zoning":

> Zoning is seriously ill and its physicians—the planners—are mainly to blame. We have unnecessarily prolonged the existence of a land-use control device conceived in another era when the true and frightening complexity of urban life was barely appreciated. We have, through heroic efforts and with massive doses of legislative remedies, managed to preserve what was once a lusty infant not only past the retirement age but well into senility. What is called for is legal euthanasia, a respectful requiem, and a search for a new legislative substitute sturdy enough to survive in the modern urban world.[17]

Since that was written, zoning remains very much alive and no "legislative substitute" has fully replaced it despite decades of tinkering with it. It may be a case of "better the devil you know" than anything else. A major problem with zoning has been its dependence on volunteer planning and zoning boards that collectively make decisions affecting the value of countless parcels of real estate. Despite conflict of interest laws, many of these citizen board members have close ties to the local real estate market as builders, lenders, or contractors. As taxpayers of the community, all have a vested interest in promoting the local tax base and resisting development that will impose net costs on local budgets. As planning lawyer Richard M. Babcock fulminated in his 1966 critique *The Zoning Game*:

> The running, ugly sore of zoning is the total failure of this system of law to develop a code of administrative ethics. Stripped of all planning jargon, zoning administration is exposed as a process under which multitudes of isolated social and political units engage in highly emotional altercations over the use of land, most of which are settled by crude tribal adaptations of medieval trial by fire, and a few of which are concluded by confessed ad hoc injunctions of bewildered courts.[18]

Although most zoning decisions are less acrimonious than Babcock's parody, even the most conscientious planning or zoning board member is faced with a baffling convergence of economics, design, public interest, and legal complexity. Volunteer boards may receive technical advice from the municipal planning department or from ad hoc consultants, if available; otherwise, they are on their own. Even professional planners may reflect a standard template of "what a community is supposed to look like" according to the conventional wisdom when they received their planning degrees. As James Howard Kunstler wrote in 1993: "The professional architects [and planners], who ought to know better, have lost . . . the ability to discern the good from the bad, the human from the antihuman. The consequence of losing our planning skills is the monotony and soullessness of single-use zoning, which banished the variety that was the essence of our best communities."[19]

While new urbanists like Kunstler, Peter Calthorpe, Andrés Duany, and Elizabeth Plater-Zyberk have focused on the "look and feel" of the American metropolis, many other critics have denounced the use of zoning as a barrier to equal access to affordable housing and jobs. Contrary to the hopes of its early backers, zoning has operated largely to reflect *parochial* rather than *regional* priorities. Zoning has contributed to the balkanizing of U.S. metropolitan areas into warring fiefdoms, each seeking to promote its own fiscal and social well-being at the expense of its neighbors and especially the central cities.

In particular, many suburbs have peevishly (and perversely) used zoning to attract new growth and jobs while simultaneously excluding affordable housing for people seeking

those jobs. Thus lower-income, minority households living by default in the inner city or in older, inner-ring suburbs became increasingly isolated from new opportunities on the suburban fringe. During the decade 2000–2010, the share of jobs near city centers declined in ninety-one of the largest one hundred U.S. metropolitan areas.[20] Because the suburbs were (and still are to a lesser extent) predominantly white and upscale, this change requires inner-city and inner-ring black and Hispanic residents to endure costly and time-consuming commutes to reach jobs in the outer suburbs. Needless to say, the spatial disconnect between jobs and workers has vastly magnified traffic congestion, pollution, and skewing of federal transportation funds to building and enlarging urban highways rather than mass transportation.

Until recently, social justice was alien to design-based standard planning education and practice. As noted by urban journalist Anthony Flint in 2006:

> Advocacy for the poor through planning [and zoning] took on a low profile in the Reagan years and into the 1990s. Most planners concentrated on the technical aspects of the job—during the very time that sprawl was building a head of steam to become the dominant force that it is today. It was only after the millennium that liberal advocacy organizations began to see the anti-sprawl movement as a new way to breathe life into their cause.[21]

Critics of zoning have generally focused on three major areas of parochialism in the administration of local zoning laws:

1. *Exclusionary zoning*: the use of zoning to restrict or prohibit apartments or smaller homes affordable by families of modest means (especially members of racial or other minorities)
2. *Fiscal zoning*: the use of zoning to minimize local property taxes by encouraging revenue-generating activities such as shopping centers and industrial parks while discouraging revenue demanding uses such as lower-cost homes for families with children (regardless of race)
3. NIMBYism ("not in my backyard"): the use of zoning and other legal means to resist the location of unwanted uses, facilities, or activities within the municipality (e.g., regional incinerators or toxic waste disposal sites, prisons, mental health facilities, oil refineries, halfway houses, drug clinics)

To a certain degree, the widespread dissatisfaction with the performance of zoning is misplaced. As Reps noted in his "Requiem," zoning was designed for an earlier, simpler

era. Its municipal focus is too large to analyze site-level effects and too small to embrace a metropolitan or regional perspective. Furthermore, the attempt to anticipate or determine future land uses, densities, and development patterns through zoning is often premature, contentious, and insensitive to economic, social, and cultural trends.

Subdivision Regulation

Euclidean zoning regulates the use of land, housing density, and dimensions of new or renovated structures. For development that involves subdividing larger tracts of land into smaller lots to be sold for home sites, another level of local review comes into play: *subdivision regulation*. To be marketable or buildable, individual lots created through subdivision must be part of a plan that is legally approved by the municipality or county.

Subdivision regulation allows local authorities and the interested public to scrutinize the detailed plans for a proposed subdivision to ensure that, in addition to conformity with zoning provisions, it will also meet a variety of technical requirements concerning the layout and construction of streets, sidewalks, storm and sanitary drainage, utilities, and other infrastructure elements of the development. The rationale is to protect future home buyers and their mortgage lenders from shoddy construction practices and to protect the community from the costs of repairing substandard streets. (Typically, except in gated subdivisions that restrict public access to internal streets and common spaces, streets in a subdivision are transferred to the local government for maintenance.) Subdivision review also applies to condominium developments, but not to rental projects where the ownership is not divided. Once approved by local authorities, a subdivision plat or plan (Figure 8-3) is recorded in the local registry of deeds. Without an approved and recorded plan for a subdivision, lenders will not provide mortgage loans to potential buyers.

Subdivision approval requires developers to provide streets and other infrastructure according to a phased development schedule. Because this process usually requires years after the subdivision plan is approved, the developer may be required to guarantee its future commitments through (1) a *surety bond* for an amount of money sufficient to cover the costs of completing the necessary work if the developer fails to do so, or (2) *restrictive covenants* on each lot that must be released by the local authority before a lot may be sold. Sometimes both are required. If infrastructure serving a lot or group of lots has not been constructed, the municipality will refuse to release its covenant, and the developer cannot sell those parcels.

Subdivision Exactions and Impact Fees

Residential subdivisions often generate costs to the host municipality that exceed the tax revenue produced by the development. New demands are placed on the community's

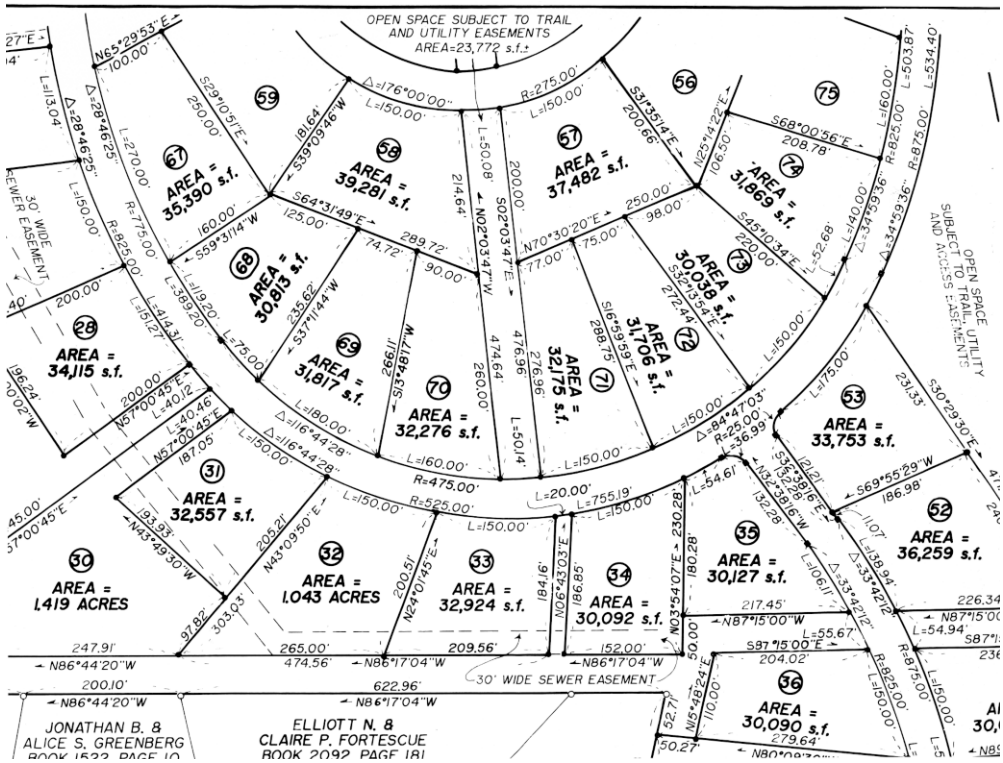

Figure 8-3

Typical subdivision plat (plan) showing streets, utility easements, and exact boundaries of lots to be developed or sold.

schools, its water and sewage treatment facilities, its police and fire departments, and its parks and recreation areas. A number of states, led by California, have authorized municipalities to require, as a condition of subdivision plan approval, that the developer *dedicate* (donate) land within the subdivision for necessary park and school sites in addition to the usual street requirements. If the subdivision is very small or has no land suitable for school or park sites, the developer is required to pay a *fee in lieu* of dedication equal to the value of the land that would otherwise be required. These payments are called *subdivision exactions*.

Subdivision exactions must be set according to a local standard applicable to all new subdivisions. The critical constitutional issue, however, is how much land or fees in lieu of land the community may reasonably require. In 1971, the California Supreme Court upheld the community requirement of 2.5 acres per one thousand new residents or a fee equal to the value thereof, rejecting a developer's claim that exactions must be limited to meeting needs attributable only to the subdivision, not those of the larger community:

> We see no persuasive reason in the face of these urgent needs caused by present and anticipated future population growth on the one hand, and the disappearance of open land on the other, to hold that a statute requiring the dedication of land by a subdivider may be justified only upon the ground that the particular subdivider upon whom an exaction has been imposed will, solely by the development of his subdivision, increase the need for recreational facilities to such an extent that additional land for such facilities will be required.[22]

A further refinement of subdivision exactions has been to impose *impact fees* on all new development, not simply subdivisions or residential property. An impact fee is a charge levied when a building permit is issued to defray public costs for roads, sewer and water facilities, and police and fire stations related to the new project. Impact fees may be imposed on virtually any type of private construction. San Francisco, Boston, and a few other cities have also imposed *linkage fees* on new commercial construction to contribute to the cost of affordable housing for people who will work in the buildings to be constructed.

Local control over the subdivision of land has thus expanded since the 1920s from a concern with the layout and paving of streets to a broad range of exactions and fees for both on-site and off-site facilities and services. Traditional subdivision review was primarily a means for regulating the internal planning and habitability of the development and providing for its orderly integration into the physical framework of the community. It still serves this purpose in the majority of states and communities. Impact fees and linkage assessments, however, have augmented these public purposes to include reallocation of fiscal burdens from the existing taxpayers to newcomers. This function has little to do with the habitability of the development in question or with land planning in the community at large. If anything, it may aggravate the tendency to use zoning and other planning tools as a means of optimizing revenue and minimizing public costs. Such goals, which have characterized "fiscal zoning" for many years, are likely to conflict with the explicit purpose of local land use control: to ensure efficient, equitable, and balanced use of available land in the community.

Private Deed Restrictions

Besides the public controls of zoning and subdivision requirements, residential subdivisions are internally regulated through *private deed restrictions*. Such restrictions originated in seventeenth-century England, where the landed aristocracy sought to control the long-term use of land through restrictions written into property deeds or leases that were enforceable by courts against future occupants of the premises. Today, buyers of real estate

in a subdivision similarly must agree to comply with private deed restrictions controlling the development and use of the property.

Deed restrictions are useful to control many aspects of a land subdivision. Because they arise by contract between the developer and the lot purchaser, they can be more restrictive and picky than zoning regulations. They may, for instance, regulate the external appearance of a dwelling, landscaping, signage, or the parking of commercial vehicles in driveways. Minor alterations of a premises that would not involve zoning approval may be prohibited by deed restrictions. Condominium developments as a form of subdivision are often tightly controlled through private restrictions.

Enforcement of private deed restrictions may take several forms. They may, of course, be enforced through legal action by the developer/seller against lot purchasers who violate the contractual restrictions. Other property owners, who are subject to similar restrictions, may enforce such provisions against recalcitrant neighbors. Homeowners or condominium associations established to own and maintain common facilities after the developer departs from the scene are also legally vested with power to enforce deed restrictions.

Some communities include specific amenities in their subdivision requirements such as sidewalks and bike paths; landscape buffers or fences along public roads; and the retention of large trees, wetlands, and natural drainage features. The aesthetic appearance of a subdivision over time is the combined result of public zoning and subdivision regulations, deed restrictions, and the homeowners' own tastes in landscaping. Subdivision regulation and its offshoots operate at the scale of individual land developments, however, so the overall metropolis continues to grow and grow and grow.

Regionalism and Partnerships

Given the fragmented political geography of U.S. metropolitan areas, intergovernmental cooperation is needed to acquire and manage land and provide facilities that lie within or serve multiple political units. Regional special districts and nongovernmental organizations play critical roles in the planning and acquisition of open space networks, water supply, and other regional needs that transcend municipal boundaries. An early example of regionalism was the landmark 1909 *Plan of Chicago* by Daniel Burnham ("Make no little plans"; see Chapter 4 opening epigraph) and Edward Bennett, sponsored by the Commercial Club of Chicago. Among other elements, the Chicago Plan proposed a network of regional forest preserves protecting stream corridors and wooded lands, which has largely been accomplished by the Forest Preserve District of Cook County and its counterparts in neighboring counties. In 1999, the Commercial Club and other regional organizations issued a new study, *Chicago Metropolis 2020: The Chicago Plan for the Twenty-First Century.*[23]

The Regional Plan Association (RPA), serving the tristate New York metropolitan

region, is another private-sector leader in regional coordination. A product of progressive business and civic leadership, RPA has published three major regional plans for the New York area, in 1929, 1968, and 1996. Each has addressed a broad range of regional issues, including transportation, economic development, education, health, and public parks and greenspaces. Its 1996 plan, *A Region at Risk*, proposed a twenty-five-year, $75 billion program to invest in infrastructure, the environment, education, and cities.[24] A central element of *A Region at Risk* is the *Regional Greensward Plan*, which envisions a vast network of existing and proposed open spaces extending from the Litchfield Hills in northwestern Connecticut to the Pinelands in southern New Jersey.

Elsewhere, new regional plans are appearing in places not usually associated with public support for planning and environmental protection. Riverside County, California, directly east of Los Angeles, gained 375,000 people during the 1990s, a decadal growth rate of 32 percent, one of the fastest in the United States. The Riverside–San Bernardino metropolitan area gained more than 666,000 people or 25.7 percent during the same period and was ranked first in the nation in urban sprawl by Smart Growth America.[25] Riverside County is a semiarid region of scrub sage and high desert where water is scarce and the variety of endangered species is remarkable. It is also a region of ethnic and cultural diversity: during the 1990s, the county's non-Hispanic white population changed from 85 percent to 51 percent as Hispanic families moved into the county in search of affordable housing. In the face of ill-coordinated development of housing and infrastructure, public and private stakeholders led by former county commissioner Tom Mullins spent four years preparing the *Riverside County Integrated Plan*.[26] This plan addresses the full spectrum of development issues facing the county, including housing, employment, transportation, education, water resources, environmental protection, and endangered species' habitat protection. Like most regional plans, it is advisory, and its effect on the county's future growth and evolution remains to be seen.

Some important regional plans are based on *urban watersheds* that overlap multiple cities, counties, and sometimes states. Houston's principal drainage system is Buffalo Bayou, a muddy and flood-prone stream that meanders past wealthy and poor neighborhoods before flowing through downtown Houston and an industrial corridor to its mouth at the Houston Ship Channel. Houston's early settlement and growth were closely tied to Buffalo Bayou. Beginning in the 1950s, portions of the bayou were channelized, and two upstream dams and reservoirs were constructed to control downstream flooding. Efforts by the Bayou Preservation Association beginning in the 1970s helped persuade the county flood control district and the U.S. Army Corps of Engineers to cease further structural flood control projects in favor of floodplain land acquisition and the use of vegetation and landscape techniques (*bioengineering*) to stabilize stream banks. In

2002, the *Master Plan for Buffalo Bayou and Beyond*, prepared jointly by the Buffalo Bayou Partnership, the city of Houston, Harris County, and the Harris County Flood Control District, addressed the need to create new park areas, identify sites for new development, reduce flood risk, expand the network of trails, reclaim brownfields, and design landscaping along the bayou.[27]

Although most regional plans apply to multiple jurisdictions, in some cases a regional plan applies to a specific subarea of one city, as with the *Calumet Area Land Use Plan* developed by the city of Chicago for the redevelopment of a former industrial district surrounding Lake Calumet on the city's far south side. The Lake Calumet region in its presettlement state has been described as "flat, grassy, and wet. It varied from stretches of relatively dry prairies on slight ridges, to sedge meadows and marshes in low swales, to the open water of the lakes and seasonal ponds."[28] In the mid-nineteenth century, the Calumet area was crisscrossed by railroads connecting Chicago to the South and East, followed by dredging and channelizing of the Calumet River and Lake Calumet to accommodate deep-draft lake vessels. With rail, navigation, and, later, highway access immediately at hand, the region became the heavy industrial zone for Chicago, with grain elevators as well as steel, automobile, oil, chemical, and building material plants lining the ever-shrinking lake and the waterways connected to it.

In the 1990s, global restructuring forced many Calumet industrial operations to close, leaving a wasteland of abandoned plants and industrial brownfields lying amid some 3,000 acres of surviving wetlands. The area is surrounded by distressed older working-class neighborhoods of varied socioeconomic character. In 1999, the city launched a new comprehensive planning initiative for the Calumet area supported by a $200,000 sustainable development challenge grant from the federal Environmental Protection Agency.[29] Like the plan for Buffalo Bayou, the Calumet plan seeks to promote both economic redevelopment and environmental protection. The state-city initiative involves citizen volunteers organized under the Southeastern Environmental Task Force (Figure 8-4) founded in 1979 by local resident Marian Byrnes, known as the "Conscience of the Calumet."[30]

Certain states and metropolitan areas have transferred various functions from local governments to *regional authorities* created by state law. The Cook County Forest Preserve District and its counterparts in other Illinois counties is one major example. In the Boston area, water supply and sewage systems were transferred to regional districts in the 1890s to permit nearby suburbs to benefit from these services without having to be annexed to the city of Boston. In 1919, the metropolitan water, sewer, and parks districts were merged to form the Metropolitan District Commission, a state agency. In 1985, the water and sewage treatment services were retransferred to a new state agency, the Massachusetts Water Resources Authority (MWRA), whose immediate charge was to build a new sewage

Figure 8-4
Grassroots planning group meeting at Southeastern Environmental Task Force in Chicago, ca. 2005. Photo by author.

treatment plant to relieve pollution of Boston Harbor. Today, MWRA provides water and sewage treatment to some fifty Boston-area cities and towns with a total population of about 2.5 million.[31]

Greenways and rail trails across the United States are showcases of cooperative regionalism. The modern trails movement dates to the literally pathbreaking proposal for the Appalachian Trail in 1921[32] by Benton MacKaye, as later refined in his 1928 book *The New Exploration*.[33] The Appalachian Trail eventually became the 2,100-mile hiking route along the Appalachian highlands from Georgia to Maine. The National Trails System Act of 1968,[34] inspired by the Appalachian Trail, initiated the creation of today's network of twenty national trails (eight scenic trails and twelve historic trails) extending almost 40,000 miles.[35]

The urban rail trail movement originated with a letter published by the *Chicago Tribune* (September 25, 1963) from naturalist May Theilgaard Watts that called for establishing a pedestrian and bike path along a 27-mile abandoned rail right-of-way through

Chicago's western suburbs. As realized by a nonprofit organization created in 1964,[36] the Illinois Prairie Path now extends a total of 61 miles (Figure 8-5).

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991[37] for the first time authorized a portion of the federal Highway Trust Fund to be devoted to recreational and urban trails. The law resulted from advocacy by the national Rails to Trails Conservancy, established in 1986. Under ISTEA and its successor laws in 1998 and 2003, federal funds, amounting to $50 million in 2010, have assisted in the establishment of nearly 20,000 miles of rail trails and greenways: off-road corridors for walking, jogging, cycling, in-line skating, cross-country skiing, and other recreational uses.[38]

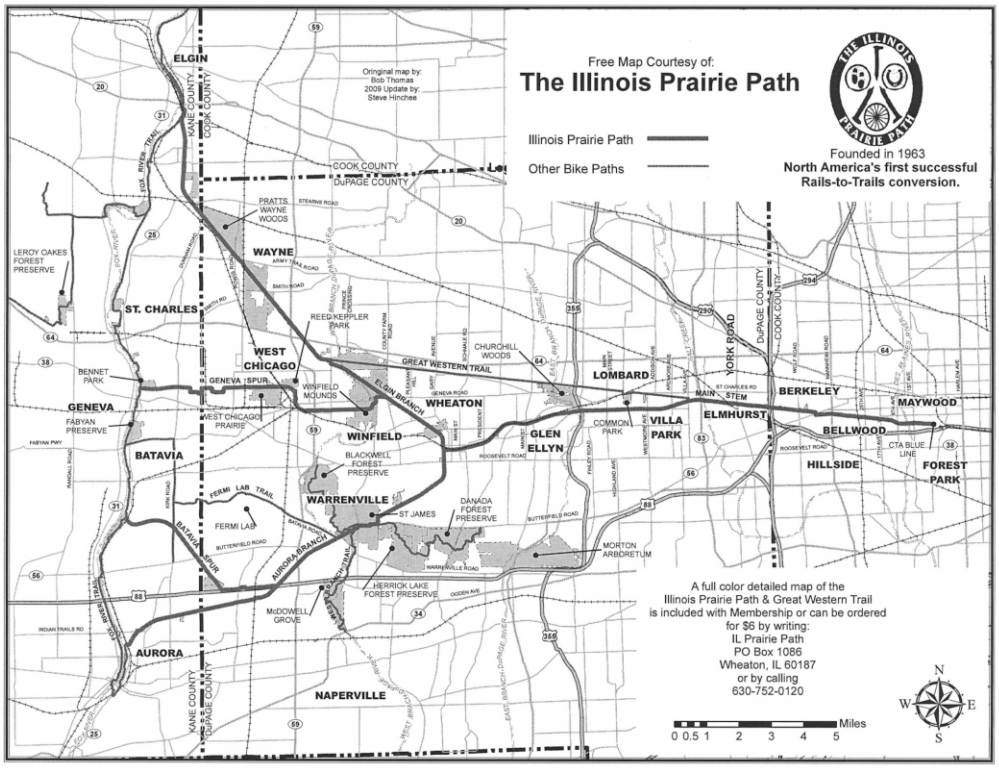

Figure 8-5

Map of the Illinois Prairie Path, one of the first and most heavily used urban rail trails in the United States. Map provided by The Illinois Prairie Path not-for-profit corporation.

Smart Growth and New Urbanism

By the beginning of the twenty-first century, urban sprawl had defied eight decades of planning, zoning, and other strategies of "growth management." Urbanization of land far exceeded population growth in most metro regions, yielding lower average densities,

longer hours of suburban driving, more ozone pollution, and decline of traditional community centers.[39] Metropolitan Atlanta, for example, doubled in size during the 1990s to a north-south extent of 65 miles, with its commuters spending an average of 68 hours a year trapped in gridlock.[40] By 2009, according to the Texas Transportation Institute, "drivers wasted 5.7 billion gallons of fuel, or about 42 gallons per person" in the seventy-five largest urbanized areas.[41] Traffic congestion now requires 3.5 billion hours of extra travel time. In addition, the economic costs of congestion were estimated by the institute at nearly $70 billion for 2009, an increase of $4.5 billion over the preceding year. The average annual cost per commuter was $808 in 2009, compared with an inflation-adjusted total of $351 in 1982.[42]

These kinds of statistics and the social, health, and environmental costs that they represent helped stimulate the *smart growth* movement in the mid-1990s. Like the urban progressives of the 1920s, the conservation movement of the 1960s, and later efforts to manage growth, smart growth advocates deplore the loss of open space; the waste of time, energy, and land resources; and the visual monotony of most recent suburban development.[43] Unlike previous movements, however, smart growth actively seeks to enlist the development community and local government—the *bêtes noir* of past crusades—as allies rather than opponents. Henceforth, the emphasis would be not to slow or stop growth, but to guide it toward better locational and design results through partnerships of environmentalists, builders, local officials, and design professionals. As Donald Chen explains: "As communities become dissatisfied with haphazard growth, they are rebelling against the conventional wisdom that continued sprawl is desirable, immutable and inevitable. Urban, suburban and rural residents have joined forces in coalitions that would once have seemed improbable."[44]

Smart growth strategies draw in part from the open-space and outdoor recreation movement summarized in William H. Whyte's 1968 book *The Last Landscape*.[45] They also address concerns of more recent vintage, including the decline of public transportation and traditional business centers, degradation of air and water resources, lack of affordable housing, and fiscal and environmental inequities borne by people of different income and race (*social justice* and *environmental justice*). One definition of smart growth is "a view that metropolitan growth patterns can and should serve the environment, the economy, and the community equally."[46]

Many organizations, states, and local governments have adopted smart growth statements and policies that emphasize their particular goals. For instance, "Statement of Policy on Smart Growth" of the National Association of Home Builders identifies the following principles: (1) meeting the nation's housing needs, (2) providing a wide range of housing choices, (3) a comprehensive process for planning growth, (4) planning and

funding infrastructure improvements, (5) using land more efficiently, and (6) revitalizing older suburban and inner-city markets.[47] Common elements of smart growth policies include the following:

- Open-space conservation
- Urban growth boundaries
- Compact, mixed-use developments
- Revitalization of older downtowns and inner-ring suburbs
- Viable public transit
- Regional planning coordination
- Equitable sharing of fiscal resources across metropolitan regions[48]

New urbanism, a close cousin of the smart growth movement, is an urban design paradigm that promotes development by providing increased density of housing, diversity of building styles, mixed-use neighborhoods, front porches, walkability, use and visual effect of motor vehicles, and protection of mature trees and patches of habitat. The Congress for the New Urbanism was founded in 1993 by architects Andrés Duany, Peter Katz, and Peter Calthorpe to promote new urbanist principles. In short, "Based on development patterns used prior to World War II, the New Urbanism seeks to reintegrate the components of modern life—housing, workplace, shopping, and recreation—into compact, pedestrian-friendly neighborhoods linked by transit and set in a larger regional open-space framework."[49]

Like the city beautiful devotees a century earlier, new urbanists are principally interested in the *design* of buildings and communities. Writes Andrés Duany: "Whether it is street width, housing density, building placement or landscape layout, no design decision should come in isolation. This is the fundamental insight of the New Urbanists: paying careful attention to how the urban design coheres, drawing on the lessons of prewar developers."[50]

Paradoxically, the unplanned "clutter" of prezoning-era communities that offended Euclidean purists of the past became instead a holy grail for smart growth and new urbanist devotees. Older communities where uses and building types are mixed, as in most historic New England towns and streetcar suburbs, became the new models for how communities should strive to look. Today, many older communities treat their prezoning and preurban renewal neighborhoods and business streets as assets to be marketed rather than suppressed. The resurgence of Lower Manhattan from Chelsea to the Financial District, along with West Harlem and Hell's Kitchen, attest to the market demand for funky neighborhoods with mixed uses and building styles. As Alan Ehrenhalt has observed,

long-neglected districts in cities like Boston, Baltimore, Atlanta, Cleveland, Detroit, Houston, San Diego, and Seattle are reviving as mixed-use, non-car-dependent, socially diverse neighborhoods.[51] Eclecticism is the "new normal" as an antidote to the boring results of conventional zoning and urban renewal. New *form-based zoning* codes have sought to transplant new urbanist principles of mixed uses and walkability from genuine older communities to brand-new developments designed to look old, with small lots, front porches, and colorful carpenter gothic exteriors.[52]

Parallels with Ebenezer Howard's garden city concept come to mind. Garden cities, however, were to be financed by public-spirited investors to help the working classes, whereas new urbanist model towns like Seaside and Celebration in Florida are upscale and modish alternatives to conventional subdivisions. The latter represent a clever, and in some respects, a desirable, marketing vision.

New urbanist however does not equate with *urban*. The hurly-burly of real urban neighborhoods and downtowns revered by William H. Whyte and Jane Jacobs will not be found in poster-child new developments like Disney's Celebration, Florida, where the public spaces and commercial buildings are controlled by the corporate owner like a giant shopping mall. With initial prices ranging between $120,000 and $1 million in the mid-1990s, Celebration and its counterparts have proven to be expensive, automobile-dependent, and lacking true urbanity.[53]

Those cities are easy targets because they were so heavily hyped as prototypes. Smart growth, however, is broader than architectural design. The importance of smart growth is its emphasis on (1) mixture of uses at the neighborhood scale, (2) alternatives to automobile dependence, (3) a broad range of objectives, and (4) consensus-building through local coalitions. These ideals represent a fundamental paradigm shift away from the top-down, one-size-fits-all approaches of Euclidean zoning and urban renewal in the early decades following World War II.

As smart growth correctly advocates, we can no longer address such issues as transportation, housing, and environmental quality in isolation, that is, through separate "stovepipe" agendas of particular bureaucracies and stakeholder interest groups. Decentralized grassroots urban advocacy involves creative blending and layering of diverse programs, laws, and funding sources. Smart growth and new urbanism continue to help energize and mobilize local shirtsleeve efforts to make ordinary places more habitable, without prescribing what physical form those efforts must take. From here on, it is the *process* rather than the *product* that counts most.

9.
Land Use and the Courts

The general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far, it will be recognized as a taking.

Oliver Wendell Holmes Jr., Majority Opinion in *Mahon* Decision, 1922

Restriction imposed to protect the public health, safety, or morals from dangers threatened is not a taking.

Louis Brandeis, Dissent in *Mahon* Decision, 1922

As these quotations indicate, great minds differ over the appropriate balance between *private property rights* on one side and the *public interest* on the other. The success of zoning and other public regulations of land use in balancing these competing interests ultimately rests in the hands of the courts that must rule in individual challenges whether a particular measure is "constitutional." That task has yielded hundreds of reported decisions by higher courts reviewing individual challenges to land use regulations "in tedious and minute detail" (as the Supreme Court predicted in *Euclid*). And as land use law has evolved beyond Euclidean zoning to embrace such topics as environmental regulations, floodplains, wetlands, historic preservation, and metropolitan housing needs, the courts have been called upon to consider the validity of these measures as well. In the process, some judges have displayed a genuine interest in understanding the science, economics, and geography that underlie virtually all land use legal issues. Others have applied boiler plate rubrics like "reasonableness" as a litmus test of constitutionality. Either way, state and federal courts have issued myriad opinions that make up the judicial corpus of land use law in the United States.

Rutherford H. Platt, Land Use and Society: Geography, Law, and Public Policy,
DOI 10.5822/ 978-1-61091-455-0_10,

The Basic Constitutional Provisions

The framers of the U.S. Constitution in 1787 could scarcely have foreseen that the United States would eventually be a "nation of cities."[1] Reflecting the writings of English political theorists such as John Locke and William Blackstone, however, they were acutely concerned with the protection of private property ownership against unreasonable governmental seizure. Private property rights as such were not directly mentioned in the original Constitution but were addressed by the Fifth Amendment in the Bill of Rights, added in 1791: "No person shall be . . . deprived of life, liberty, or property, without *due process of law*; nor shall private property be *taken for public use without just compensation*." This concern was addressed again in the Fourteenth Amendment, added in 1868, with reference to states and, by implication, local governments: "No State shall . . . deprive any person of life, liberty, or property, without *due process of law*; nor deny to any person within its jurisdiction the *equal protection* of the laws" (emphasis added).

These pithy phrases—"due process," "equal protection," and "taken for public use"—in themselves reveal little as to their meaning and intent. As with the Constitution in general, the literal words assume substance through two centuries of court decisions that have attempted to interpret and apply them to real-world controversies. As discussed in Chapter 2, the genius of the Anglo-American legal system is the reverence for *precedent*, namely the analysis of cases involving similar issues by earlier courts. Like a snowball gathering mass as it rolls downhill, constitutional law consists of the accumulated wisdom and meaning attributed to the founders' cryptic words in court decisions over time. As applied in the land use context, that has involved an endless quest by judges to define the boundary between public versus private interests and between permissible versus unacceptable attempts to regulate the use of private property.

The typical land use case involves a lawsuit filed by one or more property owners (the plaintiffs) who challenge the constitutionality of a land use regulation imposed on them by a local, state, or federal entity (the defendant). Such a case is usually filed in the state trial court for the vicinity where the property is located, although some cases are filed in the federal court system when a federal issue or law is involved. Depending on the outcome in the state or federal trial court, the losing party may appeal the decision to the next higher level of court (state appellate or supreme court, or federal circuit court of appeals). A few decisions at that level may be appealed to the U.S. Supreme Court, which selects which lower court decisions it chooses to review. Naturally, the higher the level of the deciding court, the greater the legal significance of its decision and the higher the legal costs to both sides. (Box 9-1 reviews the form of legal citation used in this book.)

In "due process" challenges to public land use regulations, courts generally apply a twofold test. First, is the *purpose* of the regulation legitimate; that is, does it protect the

Box 9-1. A Note on Legal Citations

Formal expressions of law in addition to the federal and state constitutions include (1) *legislation* adopted by Congress and state legislatures (also referred to as *statutes*); (2) *judicial decisions* or *opinions* or *cases* issued by federal and state courts; and (3) *administrative regulations* issued by federal, state, or municipal agencies pursuant to legislative authority. All these legal documents may be obtained either in bound volumes or from databases (such as Westlaw or Lexis) in a law library. Many of these documents are also available for free on the Internet.

Forms of citation for these and other legal documents are prescribed in *The Bluebook: A Uniform System of Citation* ("*Bluebook*"), which is available in any law library or can be purchased on the Internet. In the interest of simplification, this book does not adhere strictly to *Bluebook* rules of style. Federal statutes here are usually cited by their *Public Law* (P.L.) number, which refers to the original text of a law when it is adopted by Congress. For example, the National Environmental Policy Act of 1969 (P.L. 91-190) was the 190th act to be passed by the 91st Congress.

The Public Law text of a statute of course does not usually reveal how it may have modified earlier legislation and obviously does not include later amendments. The current version of a federal statute, reflecting all additions and deletions by various public laws passed at different times, is arranged or "codified" by subject matter in the official edition of the *U.S. Code* (U.S.C), published every six years and updated annually. Unofficial versions of the *U.S. Code* are the *United States Code Annotated* (U.S.C.A.) and *United States Code Service* (U.S.C.S.). They are updated throughout the year and available in print or online through Westlaw (U.S.C.A.) or Lexis (U.S.C.S.). In addition to the current text of a statute, the U.S.C.A. and the U.S.C.S. provide a wealth of additional information on legislative history, changes in language, court decisions, and law review articles that discuss the statute.

Discussion of land use law in this book is primarily historical, focusing on the evolution of public response to perceived societal needs. The use of Public Law citations is appropriate for this purpose because we are interested in the language of a law as adopted at a particular time. Those who wish to research the current status of a federal law must consult the U.S.C.A. or the U.S.C.S., however. These sources are indexed by subject matter and include a table listing the popular name of statutes that cross-references the popular name with its Public Law number(s) and U.S. Code section number(s). State laws follow the same twofold form of citation—namely by (1) chronological order of adoption (*session laws*) and (2) subject matter (*annotated code*)—and are available in print and electronic format.

continued on next page

Judicial opinions are published in series of "Reporters" by West Publishing Co., which are available in law libraries or at www.westlaw.com. The standard form of citation for state supreme court decisions is as follows:

Plaintiff(s) v. Defendant(s), Reporter Citation (State, Year).

For example, *Just v. Marinette County*, 201 N.W.2d 761 (Wis., 1972) refers to volume 201 of the Northwest Reporter, Second Series, beginning on page 761. Consult a law librarian for explanation of other reporter abbreviations and federal court decisions.

"public health, safety, and welfare"? Second, if the purpose is valid, is the regulation a reasonable *means* to achieve that purpose? For instance, a regulation that requires all homes in a community to be painted the same color would probably flunk the first test because there is no public interest to be served by such a requirement (except possibly in a historic district). A regulation that limits building height to two stories as a means of alleviating traffic congestion might be held invalid under the second test because traffic volume is not necessarily related to building heights.

Courts, however, seldom invalidate public regulations unless "fundamental constitutional rights" such as racial discrimination or extreme economic impact are proven. Courts try to avoid second-guessing public authorities whose actions are normally subject to a *presumption of validity* (benefit of the doubt). To overturn that presumption, the plaintiff has the burden of proof that the public regulation is "arbitrary, capricious, or unreasonable." Most of the time, courts will uphold a challenged land use regulation under the mantra: "If the validity of the legislative classification for zoning purposes be *fairly debatable*, the legislative judgment must be allowed to control."[2] The challenging property owner must therefore prove that the regulation is "arbitrary, capricious, and unreasonable" and not merely "fairly debatable."

The equal protection clause of the Fourteenth Amendment poses the issue of equity or fairness of treatment of citizens. The Constitution does not forbid treating different property owners differently, which would prohibit any form of land use zoning. It does require, however, that rules be uniform within zoning districts and that the boundaries between districts be drawn with some planning rationale, not arbitrarily. "Equal protection" requires that similarly situated property owners must be treated similarly.

In actual litigation, the various constitutional grounds tend to become blurred. The plaintiff typically alleges that all possible constitutional guarantees have been violated, as in the following laundry list:

> [The challenged zoning regulations] . . . work an undue hardship as to use, destroy the greater part of its value, are discriminatory as a denial of the equal protection of the law, and amount to a taking of private property without just compensation contrary to due process and, as such, are invalid and void.[3]

Such a shotgun approach invites a nonanalytical, all-purpose response by the courts. Rather than examining each allegation in detail, the court applies a single litmus test: Does the measure seem "reasonable" in light of prevailing social norms? The court in the decision just quoted simplified the plaintiff's allegations as follows: "While the common council has the unquestioned right to enact zoning laws respecting the use of property . . . it may not be exerted *arbitrarily* or *unreasonably*."[4]

"Reasonableness" is thus often used as a surrogate for "constitutionality." Although it may beg the question, reasonableness has provided a convenient rubric for courts to resolve zoning challenges: Is the measure "reasonable" with respect to both its public *purpose* and its *impact* on affected private parties? The inquiry takes the following form: Is the ordinance reasonably related to a valid purpose of the police power and does it reserve for the owner some reasonable way to use the property (although not necessarily the most profitable use)? Even though the plaintiff bears the burden of proof that a zoning measure is unreasonable, courts normally expect the defendant city or town to present some valid planning reasons for its action. The court will not usually second-guess the wisdom of a land use plan, but a total absence of planning strongly suggests arbitrary and capricious use of the regulatory power. In short, the reasonableness (read "constitutionality") of a land use regulation depends on its basis in planning. In recent decades, though, challenges to zoning have less often involved the *planning* rationale for a land use measure than its *economic* impact on individual property owners. Enter the takings issue.

The Takings Issue: The *Mahon* Decision

The most enduring and vexing constitutional question confronting zoning and other public regulation of private property is the *takings issue*, namely to what extent can regulations reduce the value of private property without compensation to the owner? The issue arises from the final clause of the Fifth Amendment to the U.S. Constitution, as quoted earlier in this chapter: "*nor shall private property be taken for public use without just compensation.*"

When private property is in fact "taken for a public use," such as for streets, parks, or schools, the public authority clearly must compensate the private owner. (Measures that compel the sale of private property to a government are an exercise of *eminent domain*,

also known as *condemnation*.) When land is regulated but not purchased, however, the public neither seeks legal ownership of the property nor pays compensation to the owner. Instead, as per the Brandeis dissent at the beginning of this chapter, the use of property by private owners is restricted to protect the "public health, safety, and welfare." Is that a "taking for public use without just compensation"? The answer: It depends!

The takings issue originated in a famous 1922 Supreme Court opinion by Justice Oliver Wendell Holmes Jr. in *Pennsylvania Coal Co. v. Mahon*.[5] This case involved a Pennsylvania statute that limited the right of coal producers to mine underneath inhabited areas if collapse of the surface might result. The plaintiff coal company, which had purchased the mineral rights to all the coal under the defendant's (Mahon) land, claimed that the statute "took" its property right in the coal without compensation. Mahon invoked the Pennsylvania statute to prevent his house from being threatened with collapse, although a preceding owner had sold the underlying mineral rights to the coal company. The Supreme Court in an 8–1 decision agreed with the coal company that the state law unreasonably deprived it of the right to mine all the coal that it had previously purchased.

Holmes's opinion for the majority conceded that some reduction in property values due to necessary public regulations is acceptable: "Government hardly could go on if, to some extent, values incident to property could not be diminished without paying for every such change in the general law. As long recognized, some values are enjoyed under an implied limitation, and must yield to the police power."[6] Holmes, however, then dropped the bombshell that has been cited by thousands of irate property owners ever since (and in the epigraph at the start of this chapter): "*The general rule at least is, that while property may be regulated to a certain extent, if regulation goes too far, it will be recognized as a taking*."[7] Just how far is "too far" is the essence of the takings issue that has been debated in case after case ever since.

The lone dissenter, Justice Louis Brandeis, urged that the challenged regulations were intended to protect life and property from the hazard of surface collapse, and as such no compensation was required. Although Holmes viewed the issue as a "case of a single private house," Brandeis took a broader geographic perspective, regarding land subsidence as a matter of public safety affecting a much broader public:

> Restriction imposed to protect the public health, safety, or morals from dangers threatened is not a taking. The restriction here in question is merely the prohibition of a noxious use. The property so restricted remains in the possession of its owner. The state does not appropriate it or make any use of it. The state merely prevents the owner from making a use which interferes with paramount rights of the public.[8]

The contrasting perspectives of Holmes and Brandeis concerning the role of law in balancing property rights and the public interest define, respectively, the "conservative" position on the one hand and the "progressive" or "liberal" position on the other hand. The former position views the role of law as affirming rather than diminishing private property values. The latter views law as an instrument for the protection of the public welfare to which property ownership is subordinate. (President Theodore Roosevelt's view, quoted as an epigraph to Chapter 6, reflects the progressive position in contrast with that of Holmes, whom he appointed to the Supreme Court!)

In the view of some planning lawyers, the Holmes opinion in *Mahon* "rewrote the Constitution" and interpreted the Fifth Amendment to imply that the difference between regulation and taking is a "difference of *degree not kind*."[9] Holmes's formulation, however, has withstood the test of time, challenging courts ever since to determine whether a regulation "goes too far."

Zoning: The *Euclid* Decision

Four years after *Mahon*, the constitutionality of land use zoning itself was directly presented for review by the Supreme Court. By the mid-1920s, zoning had spread like dandelion seeds across the United States, and property interests sought a test case to cast a constitutional death blow to zoning everywhere. The case that ultimately became the landmark decision in U.S. land use law involved the zoning ordinance of the Village of Euclid, Ohio, a newly developing industrial suburb of Cleveland (little known for anything today except this decision). The facts involved in *Euclid* prompted an English commentator to write that "a severer test for zoning could hardly have been devised. The merits of the case were certainly dubious and the damage to private property values was impressive."[10]

The site in contention consisted of 68 acres of vacant land bordered by rail lines on the north and a major avenue on the south. It was divided by Euclid's zoning ordinance into two zones with a buffer strip between them. The northern portion was zoned for industry and virtually anything else. The owner, however, objected to having the southern part of the tract zoned for residence only (under cumulative zoning) and provided evidence that the value of the latter would be $10,000 per acre for industry but only $3,500 for residential use.

The Federal District Court for Northern Ohio (as trial court) emphatically decided that Euclid's zoning ordinance violated the equal protection and due process clauses in its tendency to stratify the population by socioeconomic status:

> The plain truth is that the true object of the ordinance in question is to place all the property in an undeveloped area of 16 square miles in a strait-jacket. The

> purpose to be accomplished is really to regulate the mode of living of persons who may hereafter inhabit it. In the last analysis, the result to be accomplished is to classify the population and segregate them according to their income or situation in life.[11]

If the Supreme Court had affirmed that prescient lower court opinion, the face of metropolitan America might look quite different today, but the Court reversed it.

The full story of the dramatic rescue of zoning before the Supreme Court is recounted by planning lawyer Seymour Toll in his book *Zoned American*.[12] After a full hearing before the Court, it appeared that the defendant Village of Euclid would lose, and an unusual rehearing was requested and granted. To bolster the municipal position in the rehearing, Alfred Bettman, a Cincinnati planning lawyer, was retained by the National Conference on City Planning and other pro-zoning interests to submit a brief as *amicus curiae* ("friend of the court"). Bettman's brief, one of the seminal documents in the history of zoning, sidestepped the facts of the *Euclid* case in favor of broadly addressing the theory and constitutionality of zoning, including the issue of compensation.

Bettman argued that reduction of value per se cannot be the test of constitutionality because that "begs the question." Any police power measure involves actual and perhaps severe economic impact to affected property owners. If the purpose is appropriate and necessary, Bettman maintained, loss of value is constitutionally tolerable. He compared it with the familiar governmental function of abating public nuisances, arguing that modern urban development was producing unprecedented congestion and inefficiency and urged that promoting orderly patterns of land use pursuant to a master plan is a proper use of the regulatory power. In effect, he urged in Holmes's terms that zoning did not go "too far" and did not amount to a compensable "taking."[13]

The constitutionality of zoning was ultimately affirmed in a 6–3 decision (both Holmes and Brandeis voted with the majority). The majority opinion by Justice George Sutherland reflected Bettman's tutorial on city growth (also demonstrating how laws may adapt to changes in society, as per the land use and society model in Chapter 2):

> Building zone laws are of modern origin. They began in this country about twenty-five years ago. Until recent years, urban life was comparatively simple; but with the great increase and concentration of population, problems have developed, . . . which require . . . additional restrictions in respect of the use and occupation of private lands in urban communities. Regulations, the wisdom, necessity and validity of which as applied to existing conditions, are so apparent that they are now uniformly sustained, under the complex conditions of our day. . . .

> And the law of nuisances . . . may be consulted, not for the purpose of controlling, but for the helpful aid of its analogies in the process of ascertaining the scope of the [police] power. Thus the question whether the power exists to forbid the erection of a building of a particular kind or for a particular use, . . . is to be determined, not by an abstract consideration of the building or other thing considered apart, but by considering it in connection with the circumstances and the locality. . . . *A nuisance may be merely the right thing in the wrong place—like a pig in the parlor instead of the barnyard*.[14]

The *theory* of land use zoning was thus held to be constitutional. The Supreme Court left open, however, the possibility that individual *applications* of zoning might be rejected if a property owner proved that a restriction was arbitrary or unreasonable as applied to his or her property. Although most cases of individual hardship have been remedied through the variance procedure, landowner challenges to local regulations based on the takings issue have persisted to the present time. For the next six decades, the Supreme Court left to future state and federal courts the task of resolving whether the application of zoning "in tedious and minute detail" to particular properties may be "found to be clearly arbitrary and unreasonable."[15] With that, the Court declined to hear any more zoning or takings cases for several decades.

The Takings Issue Revisited

In 1987, the Supreme Court revisited the takings issue in three important decisions. In a 5–4 decision in *Keystone Bituminous Coal Assn. v. DeBenedictis*,[16] it upheld a Pennsylvania state law resembling the one rejected in the 1922 *Mahon* decision. The *Keystone* majority distinguished the earlier decision (rather than directly overruling it) in upholding a new Pennsylvania Subsidence Act. In the spirit of the land use and society model, the majority explicitly acknowledged a further change in judicial perception and cultural values since 1922: "The Subsidence Act is a prime example that 'circumstances may so change in time . . . as to clothe with such a [public] interest what at other times . . . would be a matter of purely private concern.'"[17] Thus Brandeis's *Mahon* dissent would be embraced by the Court sixty-five years later, but without impugning the holy writ of Holmes's balancing test, which remains alive and well in the twenty-first century.

With a switch of one vote (Justice Byron White), the *Keystone* majority became a minority in the other two 1987 property rights cases. *First English Evangelical Lutheran Church v. County of Los Angeles*[18] involved a county moratorium on rebuilding a camp for children with handicaps in a canyon after a flash flood swept through the area. A pro-property 5–4 majority sustained a theory of "inverse condemnation," which allows an owner to

recover monetary damages for loss of value during the time a restriction is in effect, if the restriction is subsequently held to be invalid. The California Supreme Court, to which the case was remanded, vigorously maintained that the county flood hazard moratorium was valid: "The zoning regulation . . . involves the highest of public interests—the prevention of death and injury. Its enactment was prompted by the loss of life in an earlier flood. And its avowed purpose is to prevent the loss of lives in future floods."[19] (The California court seemed to be saying, "Take that, U.S. Supreme Court!")

The third 1987 case, *Nollan v. California Coastal Commission*,[20] involved a restriction on a rebuilding permit for an oceanfront home that required the owners to allow the public an easement to walk along the dry sand (private) portion of the beach in front of their home. This restriction was consistent with others placed on neighboring shorefront homes by the commission to promote public access along beaches. The commission also argued that the easement was needed to offset the loss of "visual access" to the ocean caused by enlargement of the plaintiff's home. With the same 5–4 alignment as *First English*, the majority opinion by Justice Antonin Scalia held that the access easement lacked an "essential nexus" or relevance to the goal of maintaining visibility of the ocean from public streets:

> The Commission may well be right that [the public interest will be served by a continuous strip of publicly accessible beach along the coast] but that does not establish that the Nollans (and other coastal residents) alone can be compelled to contribute to its realization. Rather, California is free to advance its "comprehensive program," if it wishes, by using its power of eminent domain for this "public purpose" . . . but if it wants an easement across the Nollans's property, it must pay for it.[21]

The case thus reflected a long-standing doctrine that the police power may properly be used to prevent public harm but not to confer public benefits without compensation.[22] In dissent, however, Justice Harry Blackmun forcefully argued that the majority held "a narrow conception of rationality . . . [that] has long been discredited as a judicial arrogation of legislative authority."[23]

Two subsequent Supreme Court opinions have further buttressed the takings issue as a barrier to certain public land use regulations. The first of these cases, *Lucas v. South Carolina Coastal Council*,[24] involved a challenge by the owner of two lots on the oceanfront of South Carolina against the denial of building permits by the state. The latter was guided by the 1988 South Carolina Beachfront Management Act, adopted after Lucas acquired his lots, that prohibited new building seaward of an erosion setback baseline.

Due to recent fluctuations of the shoreline, the baseline ran entirely landward of Lucas's lots. Although homes had been built on adjoining lots before the law went into effect, the Coastal Council denied approval for any construction on the Lucas lots. Lucas did not challenge the validity of the Beachfront Management Act per se, but claimed that its application to his lots destroyed all their value.[25]

The trial court agreed and ordered the state to pay Lucas $1.2 million as compensation. The South Carolina Supreme Court in a 3–2 vote reversed the trial court, holding the permit denial to be a valid application of the police power consistent with the U.S. Supreme Court's *Keystone* opinion.[26] The High Court accepted Lucas's appeal from the state decision; the resulting national attention attracted numerous "friend of the court" briefs by interested parties on both sides of the issue. According to an editorial in the *Boston Globe*:

> The case has far-reaching implications for the enforcement of regulations concerning everything from billboards to wetlands, as well as the coastline. Environmentalists fear that if the court decides in Lucas's favor, virtually every environmental restriction placed on the use of property will be considered a taking, thus making environmental protection too expensive.[27]

The Supreme Court nevertheless reversed the state ruling in a 6–3 decision, holding that where a regulation "denies all economically beneficial or productive use of land" it is a "categorical taking" equivalent to a physical invasion of the property by governmental action.[28] Writing for the majority, Scalia argued that the need to compensate for "total takings" could not be avoided by merely reciting harms that the regulation would prevent. In an awkward distinction, though, he wrote that compensation would, however, not be required for total takings where a regulation merely reflected a state's "background principles of nuisance and property law"[29] (apparently meaning that if Lucas could have been prevented from building on his lots under state nuisance doctrines, he could *not* claim compensation).

Blackmun in dissent memorably declaimed, "Today the Court launches a missile to kill a mouse." Citing *Keystone* among other cases, Blackmun argued:

> These cases rest on the principle that the State has full power to prohibit an owner's use of property if it is harmful to the public. Since no individual has a right to use his property so as to create a nuisance or otherwise harm others, the State has not "taken" anything of value when it asserts its power to enjoin the nuisance-like activity. . . . It would make no sense under this theory to suggest

> that an owner has a constitutionally protected right to harm others, if only he makes the proper showing of economic loss.[30]

It is Holmes versus Brandeis all over again. Both Scalia for the majority and Blackmun in dissent agree that government can restrain private owners from causing external harm in their use of land. They differ as to what constitutes "harm" and who should make that determination: the legislature or the courts. Moreover, they differ as to whether the state has a higher obligation to compensate if the case involves a "total taking" rather than a partial loss of value. The case was remanded to the state court, which found that no such common-law nuisance was involved and agreed that it was a temporary taking for the time that the restriction remained in effect. (South Carolina ended up paying Lucas and then selling the properties, with building permits, no less. The lots are now developed.)

The political impact of *Lucas* far outweighed its legal significance. Pro- and antiregulation factions vied with each other to interpret the decision favorably to their positions. For example, one property rights advocate paraphrased the decision as follows: "The U.S. Supreme Court said [in *Lucas*] that it will require close scrutiny of land use regulations that devalue private property."[31] An environmental writer, on the other hand, viewed *Lucas* as "a decision full of sound and fury signifying nothing."[32]

On June 24, 1994, the Supreme Court decided another property rights case, *Dolan v. City of Tigard*.[33] Like *Nollan*, this case involved disputed conditions imposed on the plaintiff in exchange for a permit to enlarge an existing business premises. The conditions were that the owner dedicate to the city a portion of her property within the "one-hundred-year floodplain," plus an additional strip to be part of a public bikeway system. Elaborating on its *Nollan* ruling, the Supreme Court reversed the Oregon Supreme Court in another 5–4 victory for property rights holding the conditions to be invalid as "takings."

The majority opinion in *Dolan* by Chief Justice William Rehnquist required the defendant city to demonstrate "rough proportionality" between the burden on the property owner and the benefit to the public. Wrote Rehnquist, "No precise mathematical calculation is required, but the city must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development."[34] The majority believed that this test was not met by the city and that the mandatory dedication of the bikeway, at least, was invalid.

As with *Lucas*, the political importance of the decision far transcended its narrow legal significance. As Justice John Paul Stevens wryly observed in dissent: "The mountain of briefs that the case has generated . . . makes it obvious that the pecuniary value of [the owner's] victory is far less important than the rule of law that this case has been used to establish. It is unquestionably an important case."[35] Stevens argued that the "rough

proportionality" test places the burden of proof on the city, reversing the long-standing presumption of validity extended by courts to the regulatory actions of public authorities. "Rough proportionality," he stated, also is difficult to satisfy in the real world, and professional judgments of planners should be given the benefit of the doubt:

> In our changing world one thing is certain: uncertainty will characterize predictions about the impact of new urban developments on the risks of floods, earthquakes, traffic congestion, or environmental harms. When there is doubt concerning the magnitude of those impacts, the public interest in averting them must outweigh the private interest of the commercial entrepreneur.[36]

With a shift of one justice, this view could have been that of the majority and thus the "law of the land." The June 25, 1994, *New York Times* reported the decision with the headline: "High Court Limits the Public Power on Private Land . . . Opinion by Rehnquist Curbs Environmental and Other Land-Use Measures." This apocalyptic view, shared by some other media and the property rights movement, was exaggerated, however. Rehnquist's majority opinion, but for its outcome, is rife with favorable commentary on city planning, floodplain management, greenways, bike paths, and other elements of planning. As with *Lucas*, the importance of *Dolan* lay not so much in its narrow legal significance, but in what it was thought to represent, namely a broadening of property owner rights in relation to public land use regulations.

In 2002, the Supreme Court reverted to a more pragmatic, less ideological approach to the takings issue in *Tahoe-Sierra Preservation Council v. Tahoe Regional Planning Agency.*[37] The case involved a moratorium imposed by the defendant regional planning agency on development along the shores of Lake Tahoe. The plaintiff property owner association (cloaked in the mantle of a "preservation council") charged that the moratorium was equivalent to a "taking" due to the delay it caused in their development plans. In a 6–3 decision, the Court upheld the moratorium as not inflicting a taking. Stevens, writing for the majority, stated, "A rule that required compensation for every delay in the use of property would render routine government processes prohibitively expensive or encourage hasty decision-making." The *New York Times* (2002), for once, applauded the outcome:

> The Supreme Court acted wisely this week to preserve the ability of state localities to institute land use and zoning regulations to control growth and protect the environment. In doing so, the court dealt a major setback to the conservative-led property rights movement, ending its string of recent Supreme Court

victories elevating the rights of individual property owners over valid planning and community needs.[38]

Urban Renewal: *Berman* and *Kelo*

The end of World War II in 1945 stimulated national booms in both babies and suburban home building for the white middle class, as discussed in Chapter 5. Meanwhile, federal urban renewal and public housing programs, together with new urban interstate highways, laid waste to vast swathes of inner cities to promote economic redevelopment and connect business districts with the new suburbs. The Housing Acts of 1949 and 1954 provided federal funds to local urban renewal authorities to plan, acquire, clear, and redevelop designated areas of "urban blight." During the 1950s and 1960s, the program cleared thousands of acres of inner-city tenements and displaced tens of thousands of low-income households and small businesses in cities across the nation. Aside from areas rebuilt with public facilities such as schools and parks, most urban renewal land was sold at a subsidized price to private redevelopers to be reused according to the urban renewal plan. This practice resulted in the construction of new office buildings, hotels, shopping malls, and medium- to high-cost dwelling units in place of the former tenements. Some sites were never redeveloped, leaving pockets of litter-strewn vacant land in many inner-city neighborhoods that persist today.

The urban renewal program relied on the public power of *eminent domain* under which government may "condemn" private property for "public use" with the payment of "just compensation," as per the Fifth Amendment to the U.S. Constitution. Unlike the regulatory takings cases, in which the landowner is not compensated, eminent domain raises questions of public use and just compensation, pursuant to the final clause of the Fifth Amendment. The question with urban renewal was whether revitalizing cities was a valid "public use" even if the resulting new buildings are privately owned. Property owners in affected districts argued that economic redevelopment (even if successful) is not a "public use" and that their property cannot be taken by government, even with payment of "just compensation." "Public benefit" supposedly was to be achieved from economic redevelopment. The argument for the constitutionality of urban renewal urged that the "public use" limitation should be expanded to include "public benefit," namely through economic redevelopment.

The U.S. Supreme Court unanimously accepted the latter argument in support of urban renewal in its 1954 decision in *Berman v. Parker.*[39] The case involved the designation of the plaintiff's retail structure as part of a "blighted area" by the District of Columbia. Under its urban renewal plan, the city proposed to acquire, clear, and sell the Berman commercial site to a redeveloper who would construct another (more upscale)

store. Berman challenged the proposed taking as a violation of the Fifth Amendment. The Court's opinion by Justice William O. Douglas, an ardent conservationist, declared:

> The concept of the public welfare is broad and inclusive. . . . The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled. . . . *If those who govern the District of Columbia decide that the Nation's Capital should be beautiful as well as sanitary, there is nothing in the Fifth Amendment that stands in the way*.[40]

With that broad Supreme Court stamp of approval, urban renewal spread rapidly across the nation to cities large and small. By 1965, 772 local governments were participating in the program, more than half of them with populations less than 25,000, and nearly 1,400 urban renewal projects had been initiated.[41] The *Berman* ruling essentially settled the constitutionality of urban renewal, but outspoken critics like Jane Jacobs disputed the wisdom of the entire program:

> But look what we have built with the first several billions [*of urban renewal money*]: Low-income projects that become worse centers of delinquency, vandalism, and general social hopelessness than the slums they were supposed to replace. Middle-income housing projects which are truly marvels of dullness and regimentation, sealed against any buoyancy or vitality of city life. . . . Expressways that eviscerate great cities. This is not the rebuilding of cities. This is the sacking of cities.[42]

After a number of changes in policy, urban renewal gradually withered away as a federal program in the 1970s and 1980s, leaving inner cities pockmarked with vacant lots cleared but never redeveloped. (Among many substitute approaches was the Reagan administration concept of *enterprise zones*, designated areas of central cities where private investment would be encouraged through public incentives and relaxation of certain land use control and environmental regulations.)

The Supreme Court revisited the "public use" issue in its 2005 decision in *Kelo v. New London*.[43] *Kelo* involved a neo-urban renewal project to upgrade a depressed neighborhood in New London, Connecticut. To offset the loss of jobs and tax base from the shrinkage of defense-related facilities, the city proposed to acquire, clear, and redevelop 98 acres of residential property. The intended reuse would have centered on a $350 million research

facility to be constructed on the site by Pfizer Pharmaceuticals with state and city subsidies. That facility, which was later canceled, was supposed to generate a demand for new hotel and convention facilities, restaurants, and public waterfront parks. Suzette Kelo and a group of neighbors challenged the proposed taking of their homes, invoking the Fifth Amendment "public use" limitation on eminent domain.

The Supreme Court in a 5–4 decision upheld New London's proposed plan. Invoking the Douglas rationale in *Berman v. Parker*, the majority opinion by Justice Stevens restated the broad interpretation of "public use" to include public benefit from economic redevelopment. The decision, like the *Tahoe* ruling in 2002, was applauded by the *New York Times* as "a welcome vindication of cities' ability to act in the public interest. It also is a setback to the 'property rights' movement which is trying to block government from imposing reasonable zoning and environmental regulations."[44]

Curiously enough, *Kelo* involved a role reversal between the liberal majority who supported economic development and corporate welfare and the conservative dissenters who stuck up for the "little guy" whose property rights they felt were violated. Ironically, urban renewal, which was so enthusiastically upheld by the liberal William O. Douglas in *Berman v. Parker*, would shortly be, in the words of writer Joseph Fried, "spat bitterly from the mouths of slum dwellers [and Jane Jacobs] as often as it was rolling pridefully from the tongues of mayors and chamber of commerce officials."[45]

Public Housing: The *Gautreaux* Case

Although urban renewal, for better or worse, was rubber-stamped by the Supreme Court in *Berman* and in *Kelo*, the federal courts were called upon to play a much more activist role to rectify what housing advocate Catherine Bauer once termed "the dreary deadlock of public housing."[46] In contrast to urban renewal, which sought to enlist private enterprise in the redevelopment of "blighted areas," public housing for the very poor long remained a function of government housing authorities. Armed with paltry sums of public funding, eminent domain powers, and modernist architectural designs ill-suited to the needs of their clientele, these agencies built and operated some of the most dismal housing ever seen in the Western world. By 1970, they had constructed about 870,000 units of low-rent public housing. If fully occupied, those units could accommodate about three million people, or 1.5 percent of the nation's population, compared with twenty-five million people (13 percent of the population) who were below the federally established poverty level in 1970.[47]

Although "shamefully small in relation to the nation's housing needs,"[48] as Fried wrote, the actual picture was even worse. Many public housing units were uninhabitable by the mid-1960s due to inappropriate design, isolated location, occupancy policies, and

lack of upkeep. Most were in large high-rise projects that lacked convenient access to jobs, decent schools, social services, and physical security for their inhabitants. Rife with crime and drug problems, the high-rise projects were characterized in 2000 as "a social Chernobyl, stifling the lives within and radiating blight on the neighborhoods beyond. Nearly everything about them seemed engineered for self-destruction: irrational tenant selection and eviction rules, hideous design, neglectful maintenance, and a deliberate concentration of poverty."[49]

Aside from terrible design and maintenance, a fundamental objection of civil rights advocates in the 1960s was that local housing authorities generally placed new projects (except senior housing) in black ghetto areas, thus reinforcing patterns of racial segregation because most occupants of the projects were black and poor. In 1966, the National Association for the Advancement of Colored People (NAACP) and a group of public housing tenants sued the Chicago Housing Authority (CHA) and the U.S. Department of Housing and Urban Development (HUD) in the Federal District Court in Chicago. The suit charged that the pattern of deliberate segregation of black low-income tenants violated the due process and equal protection clauses of the Fourteenth Amendment as well as the Civil Rights Act of 1964. Thus began one of the nation's longest and most ambitious attempts to enlist the court system in the struggle for social justice in America's cities. The lead attorney for the plaintiffs, Alexander Polikoff, filed the original suit in 1966 and guided the case through decades of appeals and enforcement decrees. *Gautreaux v. CHA* and its spin-offs would yield more than twenty federal court decisions over sixteen years, including one by the U.S. Supreme Court. In the mid-1980s, *Gautreaux* was written off as "Chicago's tragedy,"[50] but over a longer term, *Gautreaux* gradually helped reshape public housing policy in the United States.

The "tragedy" lay in the collision of an activist and reform-minded federal judge (Richard Austin) with Chicago's entrenched geography of racial and economic segregation as defended by Mayor Richard J. Daley and white members of the city council. The plaintiffs won the opening round: Austin upheld their claim that the CHA and HUD were in violation of the Fourteenth Amendment and the Civil Rights Act.[51] The court ordered the CHA to prepare a plan to construct seven hundred units of public housing in white areas of Chicago and thereafter at least four units of public housing in white neighborhoods for every additional unit built in black neighborhoods. The order, as written by Polikoff, also placed limits on building height, density, and number of units at any site to avoid further high-rise "projects." Two years of entrenched political and neighborhood defiance of his order drove Judge Austin to exasperation, however:

> There have been occasions in the past when chief executives have stood at the schoolhouse and statehouse doors with their faces livid and with wattles flapping

> have defied the federal government to enforce its laws and decrees. It is an anomaly that the "law and order" chief executive of this City [Mayor Richard J. Daley] should challenge and defy federal law.[52]

The crux of the issue turned on the geographic scope of the proposed remedial plan. The court's order initially applied only to the city of Chicago, provoking Daley (with some justification) to denounce the policy of limiting new public housing to the city alone. Ironically agreeing with Daley for once, the plaintiffs petitioned the court to expand its order to include white suburbs. This proposal was rejected in 1973 by Judge Austin, who sought to keep pressure on the city,[53] but his decision was reversed by the U.S. Court of Appeals for the Seventh Circuit Court of Appeals.[54] The plaintiffs then appealed *that* decision to the U.S. Supreme Court, which upheld the metropolitan-scale plan declaring (to attorney Polikoff's elation), "The relevant geographic area for purposes of the [CHA's] housing options is the Chicago housing market, not the Chicago city limits."[55]

The Court's approval of the metropolitan housing market concept reflected the creation of the "Section 8" Housing Choice Voucher Program by Congress in 1974. Section 8 rent subsidies could theoretically be applied toward the cost of housing wherever a willing landlord could be found in the city or suburbs, with HUD paying the rent in excess of 30 percent of the tenant's income. "Willing landlords" were few and far between outside the traditionally black ghettos, however. Despairing of opening up white communities without judicial sanction, Polikoff wrote later, "The holy grail of a public housing program, in which the middle-class and affluent white neighborhoods of suburbia would have to accept a fair share of the region's public housing poor, was now unattainable."[56]

Although direct benefits of *Gautreaux* to low-income tenants were agonizingly slow to materialize, most of Chicago's infamous high-rise projects were demolished in the early 2000s at the behest of Mayor Richard M. Daley, with the sites to be redeveloped as mixed-income, low-rise housing. More broadly, *Gautreaux* steered national public housing policy away from high-rise, segregated projects and toward scattered, small-scale clusters of housing units that blend in to surrounding areas. The federal Section 8 affordable housing choice program established in 1974 and the HOPE-VI public housing program launched in 1992 each reflected the spirit of *Gautreaux*.

Affordable housing of any type, however, is a vanishing dream for millions of Americans. Rising prices, demolition, gentrification, and suburban zoning barriers to rental developments have all worsened the housing shortage for lower-income households. In 2010, the *New York Times* warned:

> A large number of the public housing developments that shelter 2.3 million of the nation's poorest, most vulnerable people are falling apart. . . . Today, because of financing shortfalls, only one in four families that qualify for federal rent support [Section 8 vouchers] receive it. Families that do get to lease public housing units must often wait ten years or longer for the opportunity.[57]

The *Gautreaux* saga demonstrates that courts alone cannot produce housing without political commitment in Congress, the states, and local governments. It does display, however, the ability of the court system to serve as a counterweight to intolerable public policies that violate the Constitution and the principles of a humane society that it embodies.

Opening the Suburbs: The *Mount Laurel* Case

Even as *Gautreaux* ricocheted between federal courts during the 1970s, a different line of legal challenge to racial housing segregation was launched by public interest lawyers in New Jersey. In another test of perseverance for housing advocates and a frustrated court, the *Mount Laurel* case joined the small pantheon of judicial challenges to racial discrimination and social injustice. Unlike *Gautreaux* (or *Brown v. Board of Education*), however, the *Mount Laurel* battle was waged entirely within the New Jersey *state* court system and was based on *state* constitutional grounds to reduce the risk of review by the U.S. Supreme Court. Also in contrast to *Gautreaux*, *Mount Laurel* eventually influenced the adoption a new state housing law that, for a time, promised to make New Jersey a leader in opening the suburbs to a broader spectrum of its citizens.

Two widespread forms of suburban exclusionary zoning are (1) large minimum lot size requirements for new homes and (2) prohibition or restriction of apartments and other forms of rental or lower-cost housing. The former was not yet an issue at the time of the *Euclid* decision in 1926, when most building lots were miniscule, with or without zoning. The second strategy, exclusion of multifamily housing, was actually encouraged in a widely cited dictum in the *Euclid* decision:

> The development of detached house sections is greatly retarded by the coming of apartment houses . . . [*and*] *very often the apartment house is a mere parasite*, constructed in order to take advantage of the open spaces and attractive surroundings. Moreover, the coming of one apartment house is followed by others . . . until, finally, the residential character of the neighborhood and its desirability as a place of detached residences are utterly destroyed. Under these circumstances, apartment houses, which in a different environment would be . . . highly desirable, come very near to being nuisances.[58]

If "municipality" is substituted for "neighborhood," this ruling would appear to legitimize zoning that excludes apartments and other multifamily housing from entire communities. This issue probably did not occur to the Court, nor did the plaintiff in *Euclid* seek to build apartments. The Court was merely airing its views on the bulky, nonsetback apartment buildings that were invading single-family neighborhoods in the 1920s.[59]

Municipal exclusion of apartments was to remain virtually unchallenged until a developer seeking to construct two luxury apartment buildings filed suit against a Pennsylvania suburb that banned apartments entirely. In its 1970 decision in *Appeal of Girsh*,[60] the Pennsylvania Supreme Court upheld the plaintiff's claim with a blunt denunciation of exclusionary zoning:

> Zoning is a tool in the hands of governmental bodies which enables them to more effectively meet the demands of evolving and growing communities. It must not and cannot be used by those officials as an instrument by which they may shirk their responsibilities. Zoning is a means by which a governmental body can plan for the future. . . . *Zoning provisions may not be used . . . to avoid the increased responsibilities and economic burdens which time and natural growth invariably bring*.[61]

Later in 1970, the same court also invalidated a local zoning ordinance requiring minimum lot sizes of 2 to 3 acres.[62] Thus the Pennsylvania Supreme Court demonstrated a new (and unusual) judicial awareness that suburbs were changing. No longer simply bedrooms for downtown business executives, suburbs were increasingly attracting new jobs, thereby creating a demand for a wider range of housing opportunities for persons seeking those jobs. An extraordinary footnote to the *Girsh* opinion explicitly warned against the use of zoning in disregard of the needs of the larger metropolitan region: "As long as we allow zoning to be done community by community, it is intolerable to allow one municipality (or many municipalities) to close its doors at the expense of surrounding communities and the central city."[63]

Girsh fired a warning shot across the bow of exclusionary-minded communities in Pennsylvania, and, although not directly applicable to other states, it bolstered similar challenges elsewhere. *Girsh*, though, was vague as to what a municipality must do to avoid exclusionary challenges, and it did not involve lower-cost housing. Indeed, the luxury apartments proposed by Girsh were perhaps more akin to the "parasitic" apartments invading single-family districts of the *Euclid* era than to subsidized housing of the late 1960s. Also, the Pennsylvania cases including *Girsh* did not specify which geographic types of communities were "denying the future": developing suburbs, central cities with

remaining vacant land, rural townships? How was each of these types to be judged as to the adequacy of its zoning?

These difficult questions were confronted by the New Jersey Supreme Court in its famous 1975 *Mount Laurel* decision written by Justice Frederick Hall.[64] Hall's views on exclusionary zoning were foreshadowed by his dissent in another zoning case thirteen years earlier: "The import of the holding [allowing a community to ban mobile homes] gives almost boundless freedom to developing municipalities to erect exclusionary walls on their boundaries, according to local whim or selfish desire, and to use the zoning power for aims beyond its legitimate purposes."[65]

Hall's success in converting his minority view into the unanimous judgment of the New Jersey court in *Mount Laurel* was bolstered by empirical research on exclusionary zoning by Norman Williams Jr. and his colleagues at Rutgers University. The researchers reported that of 474,000 acres of vacant buildable land in four New Jersey counties, 99.5 percent was zoned exclusively for single-family homes, and no land was available for mobile homes. Minimum lots of at least 1 acre were required for 77 percent of buildable land. Only 0.5 percent of the four counties was zoned for multifamily dwellings.[66] Although Mount Laurel is not within the counties included in the study, the Rutgers research clearly influenced the court's perception in the case that arose there.

Like Euclid, Ohio, Mount Laurel Township, New Jersey, was an unlikely place to be the site of a famous zoning case. It is a flat, sprawling, 22-square-mile township of mixed-developed and agricultural land uses within commuting distance of Trenton and Philadelphia. Between 1960 and 1970, its population more than doubled to 11,221. Most of the vacant land remaining at the time of the lawsuit was zoned for industry. In upholding the trial court's decision for the plaintiffs, Hall wrote:

> The record thoroughly substantiates the findings of the trial court that over the years Mount Laurel "has acted affirmatively to control development and to attract a selective type of growth" and that "through its zoning ordinances has exhibited economic discrimination in that the poor have been deprived of adequate housing, and has used federal, state, county, and local finances and resources solely for the betterment of middle- and upper-income persons."
>
> There cannot be the slightest doubt that the reason for this course of conduct has been to keep down local taxes on *property* . . . and that the policy was carried out without regard for nonfiscal considerations with respect to *people*, either within or without its boundaries.[67]

The opinion explicitly raised for perhaps the first time the constitutional issue as to

"whose general welfare must be served or not violated in the field of land-use regulation."[68] Hall answered his own question: "Every ['developing'] municipality must, by its land-use regulations, presumptively make realistically possible an appropriate variety and choice of housing . . . at least to the extent of the *municipality's fair share of the present and prospective regional need therefor*."[69]

Audaciously, the court ordered "developing communities" in New Jersey to revise their zoning laws to accept a "fair share" of the regional demand for lower-cost housing, but many issues remained unclear, such as the meaning of "developing community," "fair share," and "region." Lawsuits piled up, and in 1983, the New Jersey court issued a second opinion[70] that reaffirmed its earlier mandate and provided detailed criteria to guide local government compliance. Mayors across the state were outraged, and the governor of New Jersey, Thomas H. Kean, called the *Mount Laurel* opinions "communistic."[71]

The constitutional reverberations of *Mount Laurel* thundered across the land. Although a state court decision, it was widely regarded as a national precedent. An appeal to the U.S. Supreme Court was dismissed for "want of jurisdiction."[72] In New Jersey, the case provoked a deluge of lawsuits against other municipalities on *Mount Laurel* grounds.[73]

The court could not long avoid the task of bringing order to the prevailing legal and planning chaos. In 1983, it issued a 270-page unanimous decision reaffirming that it was "more firmly committed to the original *Mount Laurel* doctrine than ever" but recognized a "need to put some steel into that doctrine."[74] The new opinion set forth a series of policies and standards for the resolution of the myriad *Mount Laurel* cases then clogging the state's lower courts. Among these rules were the following:

- Every municipality must provide lower-cost housing opportunities for its resident poor.
- The concept of "developing municipality" was replaced by "growth areas" designated in the State Development Guide Plan.
- Municipalities must demonstrate that they are providing specific numbers of lower-cost housing units to meet their fair share of immediate and prospective regional needs.
- A special panel of judges was to be designated to hear *Mount Laurel* cases.
- Municipalities must do more than merely rezone land for lower-cost housing. Affirmative action such as subsidies, tax incentives, density bonuses, and mandatory set-asides of lower-cost units in new developments may be required.

The ball then passed from the judiciary to the legislative branch. In 1985, the New Jersey legislature enacted a state Fair Housing Act[75] that codified the *Mount Laurel II*

approach with some modification. The act established a Council on Affordable Housing empowered to determine housing regions and calculate regional housing needs and municipal fair-share allocations. The act also provides a mediation and review process to resolve *Mount Laurel* litigation, a procedure for "substantive certification" of municipal zoning ordinances, authority for "regional contribution agreements" among municipalities, amendment of the state zoning law to require a housing element, and a program of financial assistance to help municipalities meet their fair-share allocations.[76] Once again, the New Jersey Supreme Court issued a mammoth opinion in 1986 that held the Fair Housing Act to be constitutional, despite objections that it diluted the impact of the court's earlier decision.[77]

By 2001, more than 300 suburban jurisdictions had submitted affordable housing plans, but only about 40,000 low- or moderate-cost units had been constructed or renovated, a meager result from a quarter century of zoning reform efforts in New Jersey. Over time, the *Mount Laurel* strategy foundered at the hands of antigrowth advocates who portrayed the state program as a mandate for housing sprawl.[78] Unlike the *Euclid* decision that fanned a wildfire of zoning in the 1920s, New Jersey's attempt to rein in exclusionary zoning has had little influence elsewhere.

For present purposes, we may note that the *Mount Laurel* experience in judicial and statutory response to a perceived social problem (exclusionary zoning) reflected the process of legal innovation and adaptation represented by the land use and society model set forth in Chapter 2. *Mount Laurel* demonstrated the power of empirical research into the geographic effects of existing policies to influence public decision making. The case also exemplified the role of states, and the courts within states, as catalysts for legal innovation that may subsequently spread to other jurisdictions. (Unfortunately, this role cuts both ways, with many states today, under the influence of antigovernment polemicists, seeking to reverse decades of progress in addressing social, environmental, and economic problems.)

10.
Congress and the Metropolitan Environment

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.

Aldo Leopold, *Sand County Almanac*, 1949

It is the continuing policy of the federal government, in cooperation with state and local governments . . . to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.

National Environmental Policy Act, 1970, Sec. 101(a)

With respect to the use of land in the United States, the federal government has two very different identities, depending on which lands are considered, namely (1) *federal lands* (the "public domain" and other lands held by federal agencies or native American tribes) and (2) *nonfederal lands* (private property and land held by state and local governments). In the first role, the federal government is the "1,000-pound gorilla" in most western states where it is the dominant land holder, as discussed in Box 1-1. In its second role—the topic of this chapter—the federal government is more of a "97-pound weakling," with limited and indirect influence over the use of private land in comparison with states and local governments.

In contrast to the bold vision of the National Environmental Policy Act (NEPA) of 1970 (see epigraph above), federal environmental laws from the 1970s and 1980s remain

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in effect today, but their implementation has been blunted by political opposition and funding decreases. In particular, efforts have been stymied to expand federal authority relating to such problems as climate change, groundwater protection (e.g., from natural gas hydraulic fracturing), and new construction in areas threatened with wildfires or floods. With record drought causing wildfires throughout the West, local communities are demanding more federal assistance for firefighting and disaster recovery while rejecting any government restrictions on the right of property owners to build where they wish.[1] Similarly, the devastation wrought by Hurricane Sandy in October 2012 along the shorelines of New Jersey, New York, and other northeastern states will cost tens of billions of federal dollars for disaster assistance and recovery. Land use restrictions on the right to build or rebuild along eroding shorelines in the face of sea level rise are nevertheless widely opposed by property owners and local communities.[2]

Land use was not exactly a burning issue in the late eighteenth century. Not surprisingly, the framers of the U.S. Constitution did not mention "land use regulation." The Tenth Amendment, however, provided that "powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people." Under that provision, it has long been accepted that land use regulation is a state matter, not a federal function. As discussed in Chapters 7 and 8, states have generally delegated their authority to local municipalities and counties, which in turn often defer to the wishes of "the people" as expressed through the private market. Thus the mighty federal government of the United States is essentially powerless to interfere directly in local land use planning and zoning matters.

In response to widespread concerns about chaos in metropolitan land use planning, some states, during the "Quiet Revolution"[3] of the 1960s and 1970s, strengthened their oversight role concerning certain types of land use decisions.[4] In the 1990s, the smart growth movement inspired another era of state initiatives to strengthen their land use planning programs. The backlash against government regulation since 2000, however, has caused leading smart growth states like New Jersey, Maryland, Wisconsin, and Florida to scale back or abandon their efforts to influence private and local land use decisions.

Twice during the twentieth century, demographic thresholds signaled major innovations in land use planning and management in the United States. In 1920, the U.S. Bureau of the Census first reported that urban residents outnumbered rural population. In 1960, the suburbs passed central cities in total population for the first time. In both cases, the shift in the demographic center of balance—from rural to urban in 1920 and from city to suburb in 1960—closely coincided with a radical change in the structure of public authority over land use. In the 1920s, the proliferation of Euclidean zoning ordinances across the country marked a new era of municipal intervention in the private land market. In

the 1960s, the federal government, in collaboration with the states, began to reassert the powers with which it had experimented during the New Deal and to play an increasingly significant, albeit indirect, role in shaping the nation's environment.

The term *environment* is used advisedly in the preceding sentence. The long-standing taboo against direct federal involvement in land use regulation remained a political article of faith (despite flirtations with "national land use planning" during the New Deal and in the 1970s). Congress and the federal government are under no such constitutional inhibition with respect to water and air, however. Article 1, Section 8 authorizes Congress to "regulate commerce . . . among the several states." In 1824, the U.S. Supreme Court in *Gibbons v. Ogden* held that this clause established the power of Congress to regulate interstate commerce. The interstate commerce power originally supported federal improvement of rivers and harbors for commerce and navigation, but a long line of court decisions gradually enlarged the interstate commerce power to allow federal regulation of many sectors of the nation's economy, including, by the 1970s, the regulation of water and air quality. Such regulation would ensure the deluge of new federal legislation concerning air and water during the "environmental decade" of the 1970s and its aftermath, some of which indirectly or implicitly amounted to land use regulation.

The first Earth Day on April 22, 1970, launched the environmental movement as a political force. According to environmental historian Adam Rome, Earth Day was a spontaneous and widespread public reaction to the degradation of the nation's air, water, and land resources (as discussed in Chapter 5). Millions of ordinary people participated in some 12,000 local Earth Day events in schools, colleges, and public parks across the nation. As widely reported in the mainstream press, Earth Day helped to coalesce broad bipartisan support for federal action on the environment, along with state and local initiatives.[5]

The signing of NEPA by President Richard Nixon on January 1, 1970, marked the beginning of an epic wave of new federal actions and laws on the environment. In the same year, Nixon established the U.S. Environmental Protection Agency (EPA) by executive order and signed the federal Clean Air Act. The cover of *Time* magazine for February 5, 1970, acclaimed "Ecologist Barry Commoner—The Emerging Science of Survival" with the subtitle "Environment: Nixon's New Issue."

The federal environmental laws listed in Box 10-1, among others, vastly enlarged the scope of federal oversight of the environment both in terms of the range of problems addressed and the means used to solve them. In air and water pollution, the federal role shifted from a passive reliance on the states to set their own standards to direct federal regulation, accompanied by massive funding for infrastructure such as sewage treatment plants. Other new federal laws addressed such issues as pesticides, solid and hazardous

wastes, floodplain management, wetlands, surface mine reclamation, safe drinking water, occupational safety, ocean dumping, oil spills, coastal management, and noise control. The reader will note that the list ends in 1998. Congress has, of course, adopted various amendments and minor new environmental provisions since then, but as Nicholas Lemann recently noted, "One could argue that there has been no major [federal] environmental legislation since 1990."[6] Most noticeable by its absence has been any significant legislation to address climate change.

Box 10-1. Selected Federal Environmental Laws since 1970

1970	National Environmental Policy Act (P.L. 90-190) Environmental Quality Improvement Act (P.L. 91-224) Clean Air Act Amendments (P.L. 91-604) Resources Recovery Act (P.L. 91-512) Occupational Health and Safety Act (P.L. 91-596)
1972	Federal Water Pollution Amendments (P.L. 92-500) Noise Control Act (P.L. 92-574) Coastal Zone Management Act (P.L. 92-583) Federal Environmental Pesticide Control Act (P.L. 92-516) Marine Protection, Research. and Sanctuaries Act (P.L. 92-532)
1973	Flood Disaster Protection Act (P.L. 93-234) Endangered Species Act (P.L. 93-205) Safe Drinking Water Act (P.L. 93-523)
1976	Resources Conservation and Recovery Act (RCRA) (P.L. 94-580) Federal Land Policy and Management Act (P.L. 94-579) Surface Mining Control and Reclamation Act (P.L. 95-87) Toxic Substances Control Act (P.L. 94-469)
1977	Soil and Water Resources Conservation Act (P.L. 95-102)
1980	Comprehensive Environmental Response Compensation and Liability Act ("Superfund") (P.L. 96-510)
1982	Coastal Barrier Resources Act (P.L. 97-348)
1984	Hazardous and Solid Waste Amendments (P.L. 98-6l6)
1985	Food Security Act (P.L. 99-198)
1986	Superfund Amendments and Reauthorization Act (P.L. 99-499)
1990	Americans with Disabilities Act (ADA) (P.L. 101-336
1991	Intermodal Surface Transportation Efficiency Act (ISTEA) (P.L. 102-240)
1998	Transportation Equity Act for the 21st Century (TEA-21) (P.L. 105-206)

The National Environmental Policy Act

Before it could credibly lead the nation in a sweeping program of environmental reforms, the federal government needed to get its own house in order. In the 1960s, the country was awash in proposed major projects to be constructed or funded by the federal government:

- A Bureau of Reclamation proposal to dam portions of the Grand Canyon
- A proposed 39-square-mile jetport to be built just north of Everglades National Park in Florida
- The Cross-Florida Barge Canal initiated (but never completed) by the U.S. Army Corps of Engineers (COE)
- Competing proposals for a national lakeshore and a federally funded harbor at the Indiana Dunes at the south tip of Lake Michigan near Chicago
- Offshore oil and gas leasing, highlighted by the 1969 oil spill disaster in Santa Barbara Channel
- Controversial routes for proposed highways (e.g., through New Hampshire's Franconia Notch, Baltimore's Gwynns Falls Park, Boston's inner suburbs, and along the waterfronts of New York, San Francisco, New Orleans, and many other cities)

These and other *public-sector* projects—highways, dams, flood control and navigation projects, and military facilities—in turn profoundly influenced *private-sector* development of housing, shopping malls, office and industrial parks. Through both its direct federal spending priorities and the indirect effects of its activities, the federal government by 1970 was recognized as a monumental force, for better or worse, in shaping the nation's future land use geography.

On January 1, 1970, Nixon signed NEPA, a symbolical debut of what would be prove to be an extraordinary decade of new federal environmental activism. NEPA declared a national commitment to a safer, healthier environment (see chapter epigraph) and established a new decision-making procedure applicable to all federal agencies. It also created the U.S. Council on Environmental Quality to administer the new policy and procedures established by the act.

Like the Declaration of Independence, the purposes of NEPA are clear and bold.[7] Beyond its rhetoric, NEPA requires all federal agencies to prepare "detailed statements" disclosing potential environmental consequences of proposals for "major federal actions significantly affecting the quality of the human environment," including: (1) direct federal actions such as the siting of federal facilities, (2) funding commitments for nonfederal activities, (3) federal licensing and permits, and (4) proposals for federal legislation.[8] NEPA

requires that an *environmental impact statement* (EIS) must be prepared and circulated for public review before a federal agency makes a final decision concerning a proposed action "significantly affecting the quality of the human environment."[9]

During the 1970s and 1980s, hundreds of court challenges based on NEPA were filed by environmental organizations and other objectors against pending projects funded or permitted by federal agencies. Although NEPA does not prohibit environmentally damaging actions outright, it requires full disclosure of adverse implications to inform decision makers. Therefore, NEPA lawsuits generally challenge the sufficiency of such disclosures in an EIS or demand that one be prepared where it has not been. Often this process delays a project and raises its cost, both of which may ultimately result in its cancellation or substantial modification. A famous case in point was the demise of New York's Westway proposal to create 700 acres of new landfill along the west side of Manhattan for an interstate highway, which would be decked over to provide space for new parks and high-end development.[10] After years of litigation, Westway ultimately was killed by a 1982 federal district court decree that held that a permit for new landfill in the Hudson River "violated the National Environmental Policy Act, the Clean Water Act, and the Rivers and Harbors Appropriations Act."[11] The court based its decision on the Westway sponsors' failure to assess impacts of the project on striped bass habitat in the Hudson River estuary, which they (absurdly) described as a "biological wasteland."[12] Since the Westway debacle, any new landfill in New York City is considered to be "verboten . . . at least for the next half-century."[13]

Wetlands Management

The monumental 1972 Federal Water Pollution Control Act Amendments[14] vastly expanded federal oversight of the nation's water resources, including wetlands. (Nixon's veto of the 1972 water pollution act was overridden by the Senate in a bipartisan vote of 52–12 and in the House of Representatives by 247 to 23, a rather different Congress from that of 2013.)[15] The Clean Water Act (CWA) provides the basic statutory structure for regulating the discharge of pollutants to "waters of the United States." Among its many innovations, the CWA established the National Pollutant Discharge Elimination System to reduce pollution of the nation's waters from "point sources," particularly industrial facilities and publicly owned sewage treatment plants. "Nonpoint sources" such as agricultural drainage and runoff from streets, roofs, and parking lots were partially addressed in later legislation, which is beyond the scope of this discussion.

Embedded in the CWA's hundreds of pages was a brief provision (Section 404) that became the foundation of the *federal wetlands permit program*. Wetlands are an important subset of the total land and water resources of the United States. The term encompasses

a variety of ecological and hydrological regimes generally characterized by (1) the presence of water, (2) predominance of saturated hydric soils, and (3) prevalence of vegetation adapted to wet conditions (*hydrophytes*) (Figure 10-1).[16] Many kinds of physical features share these broad characteristics: red maple swamps and black spruce swamps in the northern states (associated with glaciation), estuarine salt marshes behind coastal barriers, bottomland hardwood forests in the lower Mississippi Valley, prairie potholes in the Great Plains, playa and riparian wetlands in the West, wet tundra in Alaska, and others. Depending on their physical type, size, and location, wetlands provide many natural values, including habitat for flora and fauna, natural flood detention (inland wetlands) or shoreline buffering (coastal wetlands), aquifer recharge and pollution filtration, scenic beauty, and open space.

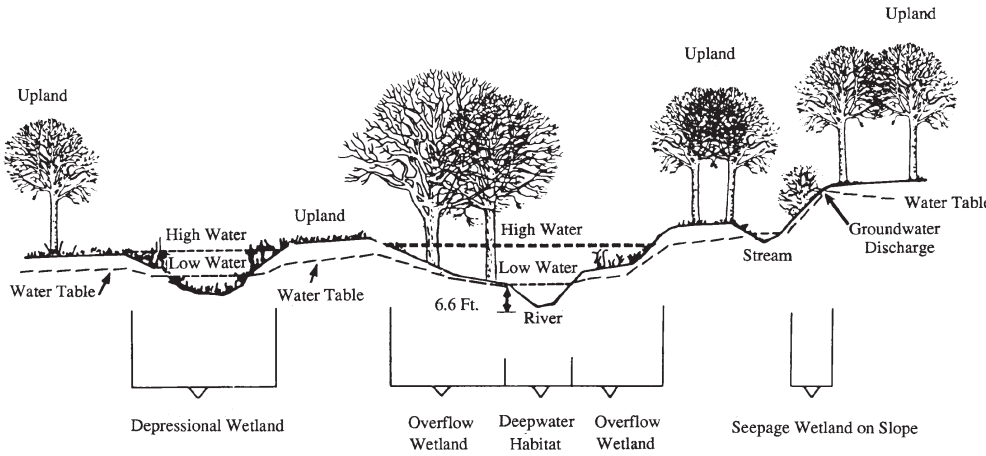

Figure 10-1
Diagram of various types of freshwater wetlands. *Source:* U.S Fish and Wildlife Service.

Oddly, the term *wetland* does not actually appear in Section 404, which literally addresses "dredge and fill" in "waters of the United States." Under the Refuse Act of 1899, the COE had long overseen dredge and fill activities in "navigable waters." When Section 404 was adopted in 1972, the COE interpreted it to simply confirm its permit authority over traditional "navigable waters," not including wetlands. This interpretation of its jurisdiction under Section 404 was rejected in *Natural Resources Defense Council v. Callahan*,[17] which held that the phrase was intended by Congress to apply broadly and include wetland features as well as actual water bodies.[18] Pursuant to that federal court decision, the COE revised its regulatory program to encompass "wetlands," which it defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturable soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.[19]

Since the *Callahan* decision in 1975, the COE has reviewed thousands of wetlands permit applications from both public and private land development entities. In its permit review process, the COE is obliged by Section 404 to comply with environmental guidelines established by the federal EPA[20] (a bureaucratic equivalent of *The Odd Couple*). Few applications are denied outright. Most 404 permits (and their counterparts under state wetlands laws) are issued with conditions to protect or replace the wetland in question. The EPA has the right to review any case submitted to the COE, and, if it wishes, to veto a permit that has already been issued.[21]

The EPA's environmental guidelines express two key management concepts: *water dependency* and *mitigation*. Water dependency refers to facilities that require access or proximity to water to fulfill their purpose, such as marinas and fishing docks. For facilities that are not water dependent, it is presumed that a nonwetland site is available unless the applicant proves otherwise. Mitigation refers to actions that minimize adverse effects of fill or discharge into regulated areas, including wetland restoration. Both federal and state wetlands permits often require some form of compensatory wetlands restoration or creation of new wetlands. This policy has stimulated "wetland banks," whereby developers needing wetland mitigation credit pay landowners in the vicinity to restore or preserve wetlands on their property.

Some wetland conversions slip through the 404 net, either legally or illegally. Agricultural drainage of wetlands and several other activities are exempted by statute or "general permit" from 404 review. In states that have their own wetland laws, the state review may serve as a substitute for COE review in minor cases. In other cases, state and federal reviews may both be required. In addition, as ordered by the federal court in the Sears Island case (discussed below), an EIS (or many of them) may be required to support a federal permit.

Section 404 compliance is a cumbersome process. Sometimes it duplicates state or local reviews and can be used as a lever for tying up unpopular projects in court. It is not an effective substitute for preserving key wetlands through acquisition, nor is it a surrogate for advance comprehensive planning at a state or regional level. It is, however, a "Rube Goldberg" attempt to impose a de facto national wetlands policy through the medium of water pollution legislation, where federal jurisdiction is stronger than on dry land.

The issuance of a Section 404 permit by the COE may be challenged indirectly through a NEPA lawsuit claiming that an environmental impact assessment for the project is insufficient or nonexistent. This strategy was used by the Sierra Club to block a proposed

container port at Sears Island on the coast of Maine, which dragged on for twenty years of consultant reports and court decisions, all based on inaccurate scientific data about the actual wetlands on the island.[22]

The Safe Drinking Water Act and Watershed Management

Two years after the 1972 CWA amendments, Congress adopted another major water law with land use implications: the *Safe Drinking Water Act* (SDWA).[23] The purpose of this act was to protect public drinking water in surface reservoirs from pollution or health hazards. Pursuant to the law, the EPA in 1989 issued a Surface Water Treatment Rule that required public water supplies drawn from reservoirs to be microfiltered to meet higher drinking water criteria and to reduce dependence on chlorination. Significantly, the rule allowed a "waiver of filtration" if the management of an unfiltered water supply demonstrated that it would "maintain a watershed control program which minimizes the potential for contamination by *giardia lamblia* cysts and viruses in the source water."[24] In 2002, the EPA also required water suppliers to demonstrate an absence of the parasite cryptospiridia in surface water supplies.

Beginning in the mid-nineteenth century, New York and Boston each built reservoirs and aqueducts to convey fresh water by gravity flow from rural upland sources. These systems were vastly enlarged through additional reservoirs and aqueducts over the next century. New York City now provides water to about nine million people in the city and nearby suburbs, and the Massachusetts Water Resources Authority (MWRA) serves about two and a half million water users in metropolitan Boston. To avoid the huge capital cost of providing filtration, both systems in the 1990s opted to rely on intensive watershed management to protect the purity of their source water pursuant to the Surface Water Treatment Rule. Watershed management required new laws and programs to prevent agricultural chemicals, septic wastes, and other contaminants from draining into public reservoirs from private lands within each watershed.

This requirement was especially challenging for New York City, whose reservoirs lie in rural communities long opposed to any "big-city" limitations on property rights. In 1997, after years of negotiation, a memorandum of agreement (MOA) was signed by representatives of New York City, the watershed communities, the EPA, the state, and certain environmental organizations. The MOA launched a long-term program of watershed management and payments to watershed interests in exchange for suspension of litigation against the city and the issuance by the EPA of a filtration waiver. Under the MOA, the city set in motion its watershed management agenda, while concurrently preparing designs for a filtration plant if deemed to be needed (a so-called dual track approach). Major elements of the MOA included (1) intensive water quality monitoring, (2) acquisition of

selected private watershed lands, (3) creation of watershed agricultural and forestry programs, (4) stormwater pollution prevention plans, (5) city-funded upgrades of local sewage treatment plants and septic systems, and (6) regulatory setbacks for new construction near reservoirs and tributaries.[25]

In metropolitan Boston, the MWRA has pursued a comparable strategy under a "consent decree" with the state and EPA. The MWRA's approach was upheld by the federal court of appeals against a claim by the EPA that watershed management would not be sufficient to protect the public health.

Coastal Zone Management

The federal *Coastal Zone Management Act* (CZMA),[26] another law passed in the busy congressional year of 1972, sought to assist states to improve their management of private land use along the nation's tidal and Great Lakes shorelines. The CZMA arose from the ashes of more than 300 previous land and water management bills. The rancor surrounding various proposals for a national land use policy act apparently could not withstand the charm of the seacoast. The CZMA passed the Senate by a vote of 68 to 0 and the House by 376 to 6 and has generally enjoyed strong congressional support ever since. It applies to all states bordering the tidal waters or the Great Lakes.

The CZMA, according to David Godschalk, launched an experiment in creative and dynamic federalism.[27] It tried to strike a balance between direct federal regulation of the coast (politically unpalatable) and simply generating endless studies that no one implements. It supports *state* planning and management programs subject to *federal* guidelines. It seeks to achieve its objectives by working with and through coastal states and territories and granting much latitude for them to develop programs consistent with their particular physical, settlement, and political characteristics. Like many congressional initiatives of the past, the CZMA resulted from an expert panel—the Commission on Marine Science, Engineering, and Resources (also known as the Stratton Commission).[28] California, Washington, and Rhode Island had adopted their own coastal laws before Congress acted in 1972, offering models for the federal program.

Coastal planning and management must confront a wide variety of physical shorelines. They include the following:[29]

- Crystalline bedrock (e.g., central and northern Maine)
- Eroding bluff (e.g., outer Cape Cod, Great Lakes)
- Pocket beach (e.g., southern New England, Pacific Coast)
- Strandplain beach (e.g., Myrtle Beach, South Carolina)
- Coastal barriers (e.g., Long Island, New York, to Texas)

- Coral reef and mangrove (e.g., south Florida)
- Coastal wetlands (e.g., Louisiana)

Coastal land uses also vary widely, including industrial and port facilities, year-round coastal communities, summer cottages (Figure 10-2), picturesque fishing villages, and recreation megadevelopments like Hilton Head in South Carolina. Coastal regions, broadly speaking, encompass much of the nation's population growth: eight of the ten largest metropolitan areas are situated on tidal waters or the Great Lakes.

Needless to say, coastal zones are arenas of intense competition between public and private interests, between economic and environmental values, and between diverse land and water uses, including homes, businesses, industry, transportation, recreation, fisheries, and natural habitat. The results are sometimes mutually conflicting. One such case is Indiana Dunes, where fifty years of controversy yielded a national lakeshore wrapped around a major industrial complex, to the detriment of both.[30]

Public or quasi-public agencies own extensive tracts of unspoiled or less-developed coastal lands. The National Park Service operates ten national seashores, four national lakeshores, and several other coastal recreation facilities. Other undeveloped shorelines

Figure 10-2
State of denial: a summer cottage on the brink of destruction, Fire Island, New York, ca. 2000. Photo by author.

are included in units of the National Wildlife Refuge System or are owned by the military. There are eighteen National Estuarine Sanctuaries, located in fifteen states, administered by the National Oceanographic and Atmospheric Administration. Some key ecological sites on the coast have been preserved by private organizations such as The Nature Conservancy and the various Audubon Societies.

As demonstrated most dramatically by Hurricane Katrina in 2005 and Superstorm Sandy in 2012—the latter of which inflicted more than $85 billion in public and private disaster costs—development along or near tidal shorelines is vulnerable to storm surge and high wind velocities (Figure 10-3). Low-lying barrier beaches that line much of the East Coast and Gulf of Mexico are especially vulnerable to tropical storms, with winter northeasters a further threat to more northerly coastlines. West Coast shorelines are subject to erosion, bluff collapse, and occasional tsunamis (caused by undersea earthquakes). Often the very physical characteristics that attract humans to the shore are directly responsible for potential disaster. Pacific Coast residents seeking ocean views build on unstable slopes that collapse during heavy winter rains. Residents of coastal barrier "cities on the beach" along the Atlantic and Gulf of Mexico may be entirely stranded at times of storm surge, unable to flee to the mainland across an impassable causeway. Cottages on the Great Lakes cling to the rim of eroding bluffs and are undermined during periods

Figure 10-3
Historic carousel damaged by Megastorm Sandy at Coney Island, New York, 2012. Photo by author.

of high lake levels. The growing awareness of coastal hazards, focused by a succession of disastrous hurricanes and northeasters, has yielded a diverse array of public responses, including structural protection, beach and dune restoration, setback laws, and incentives to retreat from the water's edge.[31]

The objectives of the CZM program are extremely broad. The original 1972 act specified diverse and often incompatible coastal activities to be considered, including "industry, commerce, residential development, recreation, extraction of mineral resources and fossil fuels, transportation and navigation, waste disposal, and harvesting of fish, shellfish, and other living marine resources, wildlife." Subsequent amendments added public access to beaches and coastal waters, natural hazard reduction, energy development, estuarine research, and protection of cultural and natural landmarks.[32]

Within its defined "coastal zone," each state identifies "permissible land and water uses" and "areas of planning concern" within which special restrictions apply. The CZMA further requires that state plans include some form of control over important coastal land use decisions of *all* coastal developments through (1) state criteria and standards for local implementation, (2) direct state land and water use planning and regulation, and (3) state administrative review. States must walk a tightrope between satisfying federal guidelines for coastal planning while respecting the prerogatives of local governments and private owners. (See the discussion of *Nollan v. California Coastal Commission* and *Lucas v. South Carolina Coastal Council* in Chapter 9.)

Results of the CZM program are difficult to evaluate due to its multiplicity of objectives and the complexity of legal context and stakeholder interaction. Success or failure in protecting coastal wetlands may result from the CZM program, but may also be attributable to Section 404 wetlands regulation, to state or local laws, or to private-sector actions. The CZM program is sometimes viewed as timid, as in the previously mentioned twenty-year legal battle over a proposed container port at Sears Island, Maine, in which both federal and state CZM officials were conspicuously silent. On the whole, however, it has strengthened state skills and confidence in confronting coastal disputes and may indirectly have contributed to upgrading the management of noncoastal resources as well.[33] Recent spread of antiregulation sentiment in leading coastal states like North Carolina, South Carolina, and Florida has hampered but not eliminated continuing efforts to promote wise use of coastal resources.

The National Flood Insurance Program

Between the 1920s and the 1970s, the nation's response to floods was concrete and more concrete. During this time, more than nine hundred local flood control projects involving some 260 dams and reservoirs, more than 6,000 miles of levees and floodwalls, and

8,000 miles of stream channelization were constructed by the COE and other agencies.[34] The lower Los Angeles River was infamously encased in a concrete channel to protect or promote real estate development in its floodplain (Figure 10-4). Wrote Mike Davis, "Beneficial to large landowners, this strategy would force the natural river into a concrete straitjacket—destroying the riparian ecology and precluding use of the riverway as a greenbelt."[35] Elsewhere, streams prone to flooding downtowns were entombed in tunnels, as with Hartford's Park River and the Providence River in Providence, Rhode Island (which was later "daylighted" and transformed into a public park).

Figure 10-4
Much of the Los Angeles River was encased in a concrete channel by the U.S. Army Corps of Engineers. Photo by Wikimedia user Downtowngal.

The structural strategy to protect cities from coastal and river floods has long been criticized for encouraging more intense development in floodplains "protected" by levees, flood walls, dams, and other flood control structures, leading to greater losses when those floods exceed the design level of those structures[36] (Figure 10-5). This false sense of security was powerfully demonstrated in the case of New Orleans and its suburbs, whose aging levee system was widely overwhelmed by Hurricane Katrina in 2005 and then repaired at a cost of $14 billion to federal taxpayers. (With a city as large and culturally significant as New Orleans—or Venice, Italy—structural flood protection is unavoidable.)

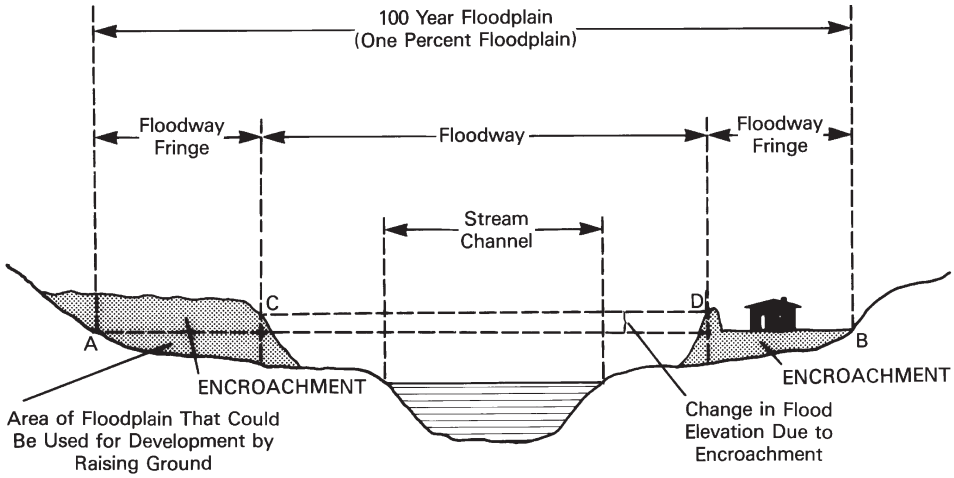

Figure 10-5
Cross-section diagram of typical inland (riverine) floodplain showing high-hazard "floodway" and adjoining "floodway fringe."

Floods are the nation's most costly natural disasters, causing average estimated costs that rose from about $3 billion per year in the 1980s to $5.8 billion in the 1990s, and to $10 billion in the early 2000s.[37] Under the 1988 Stafford Disaster Relief and Emergency Assistance Act,[38] the Federal Emergency Management Agency (FEMA) provides financial and other forms of disaster assistance to individuals, businesses, and communities stricken by floods or other "major disasters" as declared by the president. The number and cost of taxpayer-funded assistance has risen with the frequency and magnitude of weather-related disasters, including floods, hurricanes, tornados, drought, and wildfires. Three months after the epic Superstorm Sandy in October 2012, Congress (grudgingly) passed the Sandy Recovery Improvement Act of 2013, providing $50.5 billion in disaster aid to affected states and counties over several years.[39]

The National Flood Insurance Program (NFIP) was established by Congress in 1968 to reallocate flood losses from taxpayer-funded *disaster relief* (which was already becoming burdensome in the 1960s) to *flood insurance* funded (theoretically) from premiums paid by owners of insured homes and businesses. Because the private insurance industry had ceased to provide coverage against floods, the NFIP provides government-backed insurance against flood damage to buildings and their contents. With new structural flood control projects increasingly rare due to economic costs and environmental impacts, the NFIP has been the mainstay of federal response to floods since the early 1970s.

From its inception, insurance experts have worried that the availability of flood insurance per se—like a flood control project—encourages development in hazardous locations

("moral hazard"). To reduce that tendency, the NFIP maps flood hazard areas and requires local governments to regulate new development or redevelopment within such areas as a condition to the availability of flood insurance. Furthermore, anyone receiving loans from a federally insured lender for purchase or construction of buildings in flood hazard areas must purchase a flood insurance policy. Such coverage (and therefore the federally backed loan) is not available unless the community has joined the NFIP. In 2012, about 22,000 communities (a vast majority of cities, towns, and counties) were enrolled in the NFIP, with 5.6 million flood insurance policies in force covering $1.3 billion worth of residential and commercial structures and their contents.[40]

Floodplain management standards imposed by states and local governments are both *locational* and *structural*. Areas of high flood risk, as mapped by the NFIP, are subject to limitation (but not necessarily prohibition) of development or redevelopment. New or existing buildings in such areas may need to be elevated above the estimated "one-hundred-year flood" (i.e., a depth with a 1 percent risk of being reached or exceeded in any year). Communities and property owners are assisted to comply with program requirements by professional planners and engineers affiliated with the Association of State Floodplain Managers.[41] Since the 1990s, the association has worked with FEMA in developing a community rating system that awards property owners lower flood insurance rates in communities that exceed NFIP minimum floodplain management standards.[42]

Floodplain mapping has cost the NFIP about $4.3 billion since the program's beginning. Flood insurance rate maps, when legally adopted for specific communities, provide the basis for administering floodplain management regulations and determination of flood insurance premiums for policyholders. The maps are based on standard engineering models of stream flow and coastal flooding (HEC-2 and SLOSH are the usual models). Using available hydrologic or oceanographic data, the models estimate the elevation of the "one-hundred-year flood" at specific points along a stream or coast. Elevation data are then converted to estimates of the geographic extent of the floodplain, using topographic data (Figure 10-6).

The NFIP is intended to be self-funding for the "average loss year." With sea level rise and weather patterns disturbed by climate change and other factors, however, huge flood disasters like Katrina and Sandy have exhausted the fund, and losses have been paid through congressional appropriations from general tax revenue. As of March 2013, the NFIP owed $23 billion to the U.S Treasury to cover flood insurance payments in excess of premium revenue after Katrina, Sandy, and other recent flood disasters.[43] The Biggert-Waters Flood Insurance Reform Act of 2012[44] mandated higher premium rates, among other changes, to improve revenue accruing to the National Flood Insurance Fund. (The prospect of very large increases for many flood insurance policyholders stirred widespread opposition after Hurricane Sandy in October 2012.)

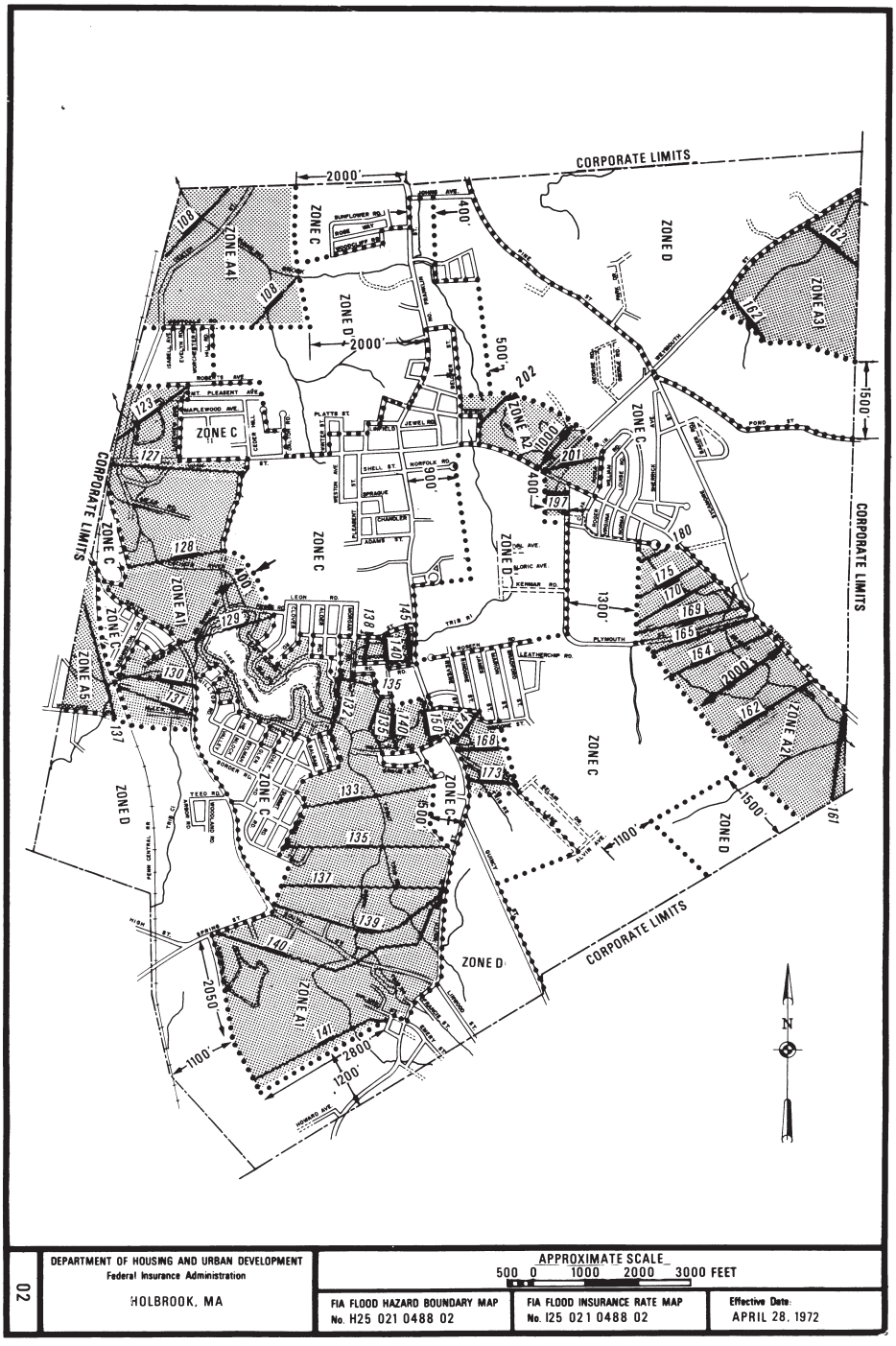

Figure 10-6
Floodplain map prepared by the National Flood Insurance Program.

In general, the overall increase in natural disaster losses places the federal government in a double bind. On the one hand, it is called upon to provide disaster assistance (even after insurance benefits are considered) to victims of place-sensitive natural calamities like floods, hurricanes, earthquakes, and wildfires. On the other hand, however, property owners oppose federal or other governmental limitation of their right to build in locations threatened by such place-based natural hazards.

Endangered Species: Habitat Conservation Plans

The Endangered Species Act (ESA) of 1973[45] is the cornerstone of federal efforts to protect endangered or threatened flora and fauna.[46] It has been called "the nation's toughest environmental law, a measure so strict that it can stop a $100 million dam project to protect a rare fish or ban logging on millions of acres of federal land to save an owl."[47] The ESA has also been assailed by many critics as rigid and inflexible.

Before passage of the ESA, Congress had expressed interest in protecting wildlife in several earlier laws, including the Lacey Act of 1900, which restricted interstate trade and transport of specified wildlife, and the Fish and Wildlife Coordination Act of 1958, which required review of the wildlife habitat impacts of proposed federal water projects by the Fish and Wildlife Service (FWS). Endangered species laws passed in 1966 and 1969, although lacking regulatory teeth, established a list of endangered species and generally laid a framework for later federal efforts.

The intent of Congress in adopting the ESA was "to provide a means whereby the *ecosystems upon which endangered species and threatened species depend may be conserved*, to provide a program for the conservation of such . . . species and to take such steps as may be appropriate to achieve the purposes of . . . treaties and conventions."[48] This statement implies that land use planning and regulation will be used to conserve *ecosystems* and thus the species that depend on them. Significantly, the act applies to privately owned land as well as public land, a source of much controversy.

Two categories of species—*endangered* and *threatened*—are listed and protected by the ESA. An endangered species is one that "is in danger of extinction throughout all or a significant portion of its range," whereas a threatened species is one that "is likely to become an endangered species within the foreseeable future."[49] As of June 2013, more than 1,300 domestic animals and more than 850 plant species have been listed as endangered or threatened in the United States.[50] Hundreds of other animal and plant species have been classified as candidates for possible future listing. A few species, notably the American bald eagle and the American alligator, have been delisted due to the recovery of their populations. A handful of listed species are believed to have become extinct since the ESA was adopted in 1973.

The act is administered by the FWS and the National Marine Fisheries Service (NMFS) with respect to terrestrial and aquatic species, respectively. They are charged with the preparation of a "species recovery plan," which evaluates the status of a particular species and identifies goals and actions necessary to promote its recovery. In furtherance of such plans, federal agencies are required to consult with the FWS and the NMFS to "insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species."[51] The listing of a species and its habitat is a scientific determination by the responsible agencies that is often the subject of heated dispute.

The ESA prohibits anyone from "taking" any listed species. The ESA broadly defines *taking* (not to be confused with the takings issue discussed in Chapter 9) to include actions that "harass, harm, pursue, hunt, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct."[52] Thus activities such as land development or timber cutting that destroy habitat of listed species may lead to civil or criminal prosecution.

It is frequently charged that the ESA is used as a tool to block land use changes or development that cannot otherwise be prevented. Shortly after the act was adopted, completion of the Tellico Dam in Tennessee was halted temporarily after the FWS listed the tiny snail darter fish—believed to be found only in the valley about to be flooded—as endangered. In an appeal to the U.S. Supreme Court by the Tennessee Valley Authority, the ESA was upheld despite the plea that the dam was largely completed by the time the species was listed.[53] Congress then amended the act to establish an interagency "endangered species committee" to review applications for exemptions from the act. This committee (known as the "God Committee") rejected an appeal to delist the snail darter, but the Tellico Dam was later completed under a congressional exemption.

Other controversial applications of the act have included limitations on logging of old-growth forests in the Pacific Northwest to protect the northern spotted owl;[54] the temporary closing of public bathing beaches along the Atlantic Coast to protect nesting habitat for the piping plover; and proposed limits on development to protect the diminutive key deer in the Florida Keys and the Stephens kangaroo rat in western Riverside County, California.[55] In 1982, Congress amended the ESA to permit limited *takes* of designated habitat and species pursuant to the development of a habitat conservation plan (HCP) for a particular area. An HCP requires a formal planning process involving all interested parties, including landowners, developers, local governments, state and federal wildlife agencies, and environmental organizations. This process seeks to achieve an agreement among all parties that specifies (1) the impacts that will result from proposed land use changes, (2) steps to be taken to minimize and mitigate such impacts and

funding to implement those steps, and (3) alternatives to the "taking" and why they were not adopted.

The preparation of HCPs for multiple-species habitat protection on private land has involved enormous and time-consuming efforts. Critical to these programs has been the development of complex agreements involving many classes of stakeholders: federal, state, local, environmental, landowner, and developer. In 2003, the California Department of Fish and Wildlife released its Natural Communities and Conservation Plan (NCCP) that "takes a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. An NCCP identifies and provides for the regional or areawide protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity."[56] This plan, however, was found by geographers Thomas Feldman and Andrew Jonas to have floundered under the weight of political and stakeholder fragmentation: "[It] reproduces rather than transforms the region's unevenly developed governance structures and suburban mode of social regulation."[57]

The future of the ESA is murky in the antigovernment backlash climate of 2013. It is a prime target of property rights opposition, particularly in the West. It is widely accused of being overly concerned with the protection of butterflies, birds, lizards, rats, and plants at the expense of human economic activities. It is often viewed as a subterfuge for blocking land use changes where no other legal mechanism is available. And, as with NEPA, court litigation based on the ESA is a poor substitute for comprehensive land use planning.

Hazardous Waste Management

Rachel Carson's 1962 classic *Silent Spring*,[58] which famously decried the overuse of DDT and other agricultural poisons, helped ignite the environmental movement of the 1970s. As early as 1947, Congress had adopted the Federal Insecticide, Fungicide, and Rodenticide Act, which merely required labeling of pesticides sold in interstate commerce. That law was considerably strengthened by the federal Environmental Pesticide Control Act of 1972, which regulates the sale and application of agricultural chemicals (another demonstration of the land use and society model operating beneficially).

Like other high-tech societies, however, the United States was shockingly slow to recognize the risks to life, health, and property associated with the careless use and disposal of hazardous substances in general. Not until the mid-1970s, when immense actual and potential damage had already been caused, was remedial legislation adopted by Congress, and it was well into the 1980s before this legislation, as subsequently amended, began to exert some effect on the management and disposal of hazardous wastes. As with so many

other legal reforms discussed in this book, the necessary prerequisite was a heightened understanding, perception, and, indeed, fear of the magnitude of the threat to the physical environment and human health.

The first Annual Report of the U.S. Council on Environmental Quality (CEQ) in 1970 devoted ten pages to pesticides, with a direct reference to *Silent Spring*, but mentioned no other types of hazardous materials. Where was the Rachel Carson for asbestos, mercury, polychlorinated biphenyls (PCBs), lead, vinyl chlorides, radioactive wastes, hospital wastes, and dozens of other hazardous substances? To address this void, the CEQ itself prepared a brief report on the problem entitled *Toxic Substances*.[59] Although not as charismatic as Carson's book, this report helped persuade Congress to adopt the Toxic Substances Control Act (TSCA) in 1976.[60] According to the law's legislative history: "It is estimated that there are presently two million recognized chemical compounds in existence with nearly 250,000 new compounds produced each year. . . . As the chemical industry has grown, we have become literally surrounded by a man-made chemical environment."[61] The TSCA directed the EPA to test potentially hazardous substances, particularly those thought to be carcinogens. The act also requires labeling of such substances to disclose risks to the user or the public.

The *Resource Conservation and Recovery Act* (RCRA)[62] was also adopted by Congress in 1976. According to William Rodgers Jr., the RCRA prescribed "a regime for the management of solid and hazardous wastes that included many features (grants, planning, compliance orders, citizen suits, imminent hazards) borrowed from the Clean Air and Clean Water Acts. For the first time in 1976, serious regulatory measures appeared in the federal law—a qualified prohibition on the open dumping of solid or hazardous wastes, and the initiation of the famed 'cradle to grave' regime for the control of hazardous wastes."[63]

The "cradle to grave" provision instituted a system of manifests or documentation to accompany designated hazardous materials through each stage of their "lifetime": manufacture, transport, use, and disposition. This system allows federal and state authorities to track the quantities and location of hazardous substances and to monitor their safe disposal. It also requires those who generate hazardous materials to certify that they are minimizing the amount and toxicity of their waste and that the method of treatment, storage, or disposal they have chosen will minimize the risk to human health and the environment. The implementation of this system, however, was to be delayed and frustrated for years by problems of definition and accountability as well as by the immense number of waste generators involved. Inevitably, considerable quantities of wastes have continued to be dumped illegally down drains or wells, in fields, or on highways.

The magnitude of the problem in terms of volume of hazardous materials to be managed was vastly underestimated at first. Estimates of total waste loads have been vastly

increased over time, in part reflecting a broadening of the definition of "hazardous substances" to include additional materials.

The 1984 *Hazardous and Solid Waste Amendments* (HSWA)[64] greatly strengthened RCRA with a major revision and tightening of the "cradle to grave" regulations for tracking hazardous materials. The HSWA extended RCRA's coverage to "small generators" of hazardous wastes, adding some 100,000 firms producing between 220 and 2,200 pounds of hazardous waste monthly to the 15,000 large generators.[65] It initiated regulations for leaking underground storage tanks, leading to removal or replacement of hundreds of thousands of tanks at gas stations and other facilities.

The RCRA operated prospectively to control the disposal of hazardous wastes in the future, but that left a yawning gap, namely the *wastes already discarded improperly* in pits, lagoons, injection wells, or leaking containers strewn on the ground behind chemical plants.

National outrage was at last focused on that threat by the widely publicized public health disaster at Love Canal in Niagara Falls, New York. Love Canal was an artificial ditch used for decades as a waste dump by the Hooker Chemical Co. In 1977, signs of desperate problems began to appear in the residential neighborhood that bordered the canal. Children were born with birth defects, high rates of cancer were prevalent, and foul-smelling chemical wastes oozed through basement walls and formed puddles in yards and playgrounds.

After much denial by Hooker, the city of Niagara Falls, and the county health commissioner, the crisis was finally addressed by state and federal authorities. A preliminary investigation led to the declaration of a "major disaster" by President Jimmy Carter in August 1978, the first such declaration for a technological disaster. The state, with the help of federal funds, then acquired the homes and assisted the relocation of 237 families from the vicinity. The canal was sealed off, and a remedial drainage project initiated. Subsequently, it became apparent that the chemicals had spread much farther through the ground than originally estimated, and the brew of toxic chemicals was found to contain, in addition to benzene and a dozen other carcinogens, a measurable amount of the most deadly chemical ever synthesized: dioxin. The Love Canal Homeowners Association campaigned for further public assistance. Eventually, the state purchased more than six hundred affected homes.

Media attention soon disclosed many other chemical waste horrors lurking in America's industrial backyards. Woburn, Massachusetts, was characterized as "a tangle of dumps and disease."[66] ("Woburn" became a synonym for corporate irresponsibility in relation to hazardous waste disposal due to Jonathan Harr's 1995 best-selling book and the film based on it, *A Civil Action*.) A cancer cluster in Toms River, New Jersey, was attributed to

negligent industrial waste disposal in that community.[67] The entire town of Times Beach, Missouri, was bought by the Federal Emergency Management Agency and its residents relocated after it was found to be contaminated with dioxin. Even the staid journal *Science* described Love Canal and its counterparts as "an environmental time bomb gone off."[68]

Seldom can a legislative enactment be attributed so directly to a traumatic jolt in public environmental perception. Within months after the second round of Love Canal findings, Congress adopted the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA),[69] commonly known as *Superfund*, yet another demonstration of the land use and society model process (Figure 10-7). CERCLA's purpose was "to provide for liability, compensation, cleanup, and emergency response for hazardous substances released into the environment and the cleanup of inactive hazardous waste sites."[70] The act authorized $1.6 billion over five years for a comprehensive program to clean up the worst abandoned or inactive waste dumps in the nation.[71] The funds were to be derived from an excise tax on the sale or use of petroleum and certain chemicals used commercially to produce hazardous substances. States must provide at least 10 percent of cleanup costs for a site within their jurisdictions. Wherever a "responsible party" could be identified, that entity would either be required to perform remedial actions themselves or the government would do so and sue them for the costs plus penalties. In 1986, Congress passed the Superfund Amendments and Reauthorization Act[72] and expanded to a potential funding level of $8.5 billion.

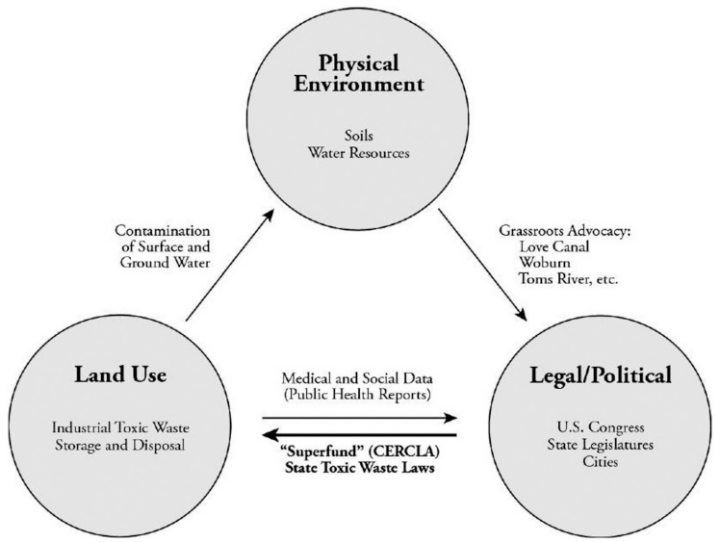

Figure 10-7
Land use and society diagram as applied to the adoption of Superfund legislation in 1980.

"Throwing money at the problem" was a necessary but not sufficient (or efficient) response to the threat of hazardous waste contamination. Based on evaluation of a complex array of risk factors, the "worst" sites are placed on a National Priorities List, which qualifies them for Superfund cleanup, eventually. Between 2000 and 2010, the EPA allocated an average of $243 million per year for Superfund cleanup projects; it estimates that as much $681 million per year will be required in the near future.[73] As of May 2013, a total of 1,145 Superfund site remediation projects had been completed.[74]

A permanent cleanup of a hazardous waste site is immensely difficult and costly. Obviously, risks to the cleanup workers and to the surrounding area must be minimized. Removal of wastes to another location may simply transfer the problem elsewhere, unless the receiving site is properly located and designed. Few approved hazardous waste sites were available. Other than removal to land disposal sites, management options are complex and expensive. A management approach must be formulated individually for each site with the participation of all levels of government and affected private interests. Also involved in the decision process for each site are a variety of professional consultants, such as chemists, soil scientists, biologists, hydrologists, and, of course, lawyers. A "Superfund syndrome" has been identified by the U.S. Office of Technology Assessment that impedes progress in making the program work effectively.[75] This condition is a state of "constant confrontation" among the interested parties, produced by the high economic costs, the scientific uncertainties, the emotionalism, and "excessive flexibility" in Superfund implementation.[76]

One of the nation's most bitter and prolonged Superfund controversies arose from contamination of the Hudson River by two upstream General Electric (GE) plants that discharged huge quantities of PCBs used in the manufacture of electrical equipment until they were banned in 1977 by the EPA. Under pressure from Pete Seeger's Hudson River Sloop Clearwater, Inc. and other environmental organizations, the EPA in 1983 declared 200 miles of the Hudson River to be a Superfund site to be remediated at the expense of GE. In 2002, the EPA ordered that contaminated sediments in a 40-mile river reach between Fort Edward and Troy, New York, be dredged, dewatered, and transported to land disposal sites, with limited use of "capping" or sealing of isolated sites also permitted.[77] Between 2009 and November 2013, some 1.9 million cubic yards were dredged and processed, about 73 percent of the total amount ordered by EPA, at an eventual cost to GE of approximately $2 billion.[78] GE is also conducting another major PCB dredging operation in the Housatonic River in western Massachusetts. Cleaning up Superfund sites and the location of new storage, treatment, and disposal facilities inherently pose geographic as well as legal and public health issues. At the heart of the problem is the pervasive issue of externalities: each site poses potential off-site risks to the surrounding area, as in the

possibility of groundwater pollution. Even where actual risks are minimized through appropriate treatment and facility design, a zone of perceived risk may extend widely beyond the area of actual risk. Such spatial distribution of actual or perceptual risks apply not only to the sites of generation, use, and disposal, but also in linear form along the routes of transport (e.g., highway, rail, barge) of hazardous substances.[79] For example, the Hudson River sediments are being transported by train to a landfill in Texas after treatment (apparently without objection from Texans), but proposals by GE to use local disposal sites to receive Housatonic River sediments has provoked intense opposition in western Massachusetts.[80]

Recognition of the spatial patterns of opposition (NIMBYism), whether or not limited to actual zones of risk, is essential. Ultimately, the resolution of the Superfund syndrome will depend on (1) effectively reducing the actual risks of hazardous wastes through proper management practices and (2) allaying the fears of those who perceive themselves and their property values to be at risk, through public involvement, education, and, in appropriate cases, compensation.

Americans with Disabilities Act (ADA)

Remarkably, in light of our paralytic politics today, the U.S. Senate adopted the *Americans with Disabilities Act* (ADA)[81] in 1990 by a vote of 76 to 8, the House passed it by unanimous voice vote, and it was signed by a Republican president, George H. W. Bush, near the end of his administration. The ADA greatly expanded the scope of federal protection against discrimination beyond the categories of race, religion, national origin, and gender addressed in earlier civil rights laws to embrace persons afflicted by "a physical or mental impairment that substantially limits a major life activity,"[82] As the ADA's preamble resoundingly declared: "Discrimination against individuals with disabilities persists in such critical areas as employment, housing, public accommodations, education, transportation, communication, recreation, institutionalization, health services, voting, and access to public services."[83]

The ADA broadly mandated remedial actions by state and local governments, businesses, institutions, and organizations (other than religious bodies and private clubs) to alleviate discrimination in (1) employment, (2) public services, (3) public accommodations, and (4) telecommunications. The act is administered and enforced by the federal Department of Transportation and the Department of Justice. Among the ADA's most widespread and significant achievements has been the removal or reduction of physical barriers to mobility in public buildings, hotels, offices, stores, theaters, libraries, museums, parks, hospitals, public transportation, and other facilities accessible to the public in general. Moreover, the act required not only that new construction be ADA-compliant

but that existing facilities be retrofitted to be accessible, subject to certain economic criteria with the costs of compliance to be covered by the facility's owner, not the taxpayer.

The ADA has not only assisted people with disabilities, but it has made public and private spaces more amenable for the public in general. Elevators and wheelchair ramps have been added to countless older buildings. Sidewalk curb cuts at street intersections benefit not only those in wheelchairs but also parents pushing strollers, cyclists, and people pulling roll-along suitcases. Public buses "kneel," children love opening doors with push buttons, restrooms include spacious cubicles, and water fountains are within the reach of kids and other short people. Indeed, the ADA has the distinction of being an unfunded federal mandate that benefits just about everyone.

Urban Parks, Greenways, and Trails

In 1968, two seminal books fanned growing public awareness of the loss of farmland, scenic countryside, and ecological resources due to suburban sprawl: William H. Whyte's *The Last Landscape* and Ian McHarg's *Design with Nature*. Although much of the responsibility for "saving open spaces" lay with states, local governments, and nonprofit conservation organizations, the federal government was also called upon. This plea, of course, posed a conflict of federal roles between *encouraging sprawl* through the various housing and highway programs discussed in Chapter 5 and *discouraging sprawl* through federal funding for open space preservation, like driving with one foot on the accelerator and the other on the brake.

The primary channel for federal support to open-space preservation and management has been the Land and Water Conservation Fund (LWCF) established by Congress in 1964.[84] The LWCF was a direct legacy of a report by the Outdoor Recreation Resources Review Commission, a blue-ribbon panel chaired by Laurance S. Rockefeller, that Congress presciently created in 1958. Endowed with revenues earmarked from offshore oil and gas leases and other sources, the fund allocates 60 percent of its annual appropriations for federal land acquisition and 40 percent as matching grants to states on a formula basis. The LWCF grants to states, as matched by an equal contribution of nonfederal funds, are divided among state park agencies and local governments for land acquisition and outdoor recreation development projects, pursuant to a state comprehensive outdoor recreation plan mandated by the 1964 act. For its first three decades, the LWCF provided more than $3 billion toward its purposes, and the availability of matching grants in turn helped stimulate billions of dollars in state and local bond issues for open-space acquisition and management. Rockefeller declared in 1994 that the commission was "one of the most successful commissions in history in terms of legislative results"[85]

The LWCF program hit its peak, however, in 1972, when it disbursed nearly $1.3 billion

in state matching grants. Through 1981, state grants averaged $626 million annually (in 2007 dollars); since then, the annual average has dropped to one-tenth that amount.[86] Although authorized at $900 million annually for both federal and state programs, actual yearly appropriations dropped below $500 million under the George W. Bush administration and are basically wiped out in today's budget battles.

As discussed in Chapter 8, greenways, rail trails, and other recreational paths were spreading across cities and metropolitan regions throughout the nation by the 1990s,[87] Today, they range from narrow bike and pedestrian corridors through urban areas such as the Brooklyn-Queens greenway and the Manhattan waterfront greenway[88] to regional corridors like the Hudson River valley greenway. The Hudson River project, spearheaded by Scenic Hudson, Inc. and the Hudson River Valley Greenway Council established by the state in 1988, has assembled both land- and water-based "trails" between New York City and Albany as the spine of a much larger planning region extending from the state line to the east, up to 50 miles west of the river, and north to the Adirondacks.[89] In 1995, Massachusetts established its Connecticut River Greenway State Park, a network of state parks and boat launch sites lining the river within the state's borders. The San Francisco Bay Trail today includes more than 310 miles of completed segments out of an eventual goal of 500 miles encircling the entire bay shoreline. These ambitious projects are among the best-known elements of a vast network of foot and bike paths of many kinds that interlace the nation and its metropolitan areas.

Epilogue: Toward More Humane Urbanism

Following the plan of its earlier editions (1996 and 2004), this book has examined land use and public policy in the United States from three perspectives:

1. Conceptual: the meanings of land, land uses, and how geography and law interact in the shaping of urban and rural land use patterns (Part I)
2. Chronological: the evolution of social institutions to guide the use of land, from their feudal origins in medieval England to the smart growth movement of today (Part II)
3. Hierarchical: the respective powers and roles of property owners, local and state governments, the courts, and the federal government (Part III)

As discussed in Chapter 2, a primary goal of public involvement in the private land market is to limit or modify negative or harmful land use externalities—viewed as "market failures"—such as pollution, visual blight, traffic congestion, natural hazard losses, and lack of affordable housing. At the same time, public planning and land use programs seek to promote positive externalities through safe, efficient, and attractive land use and building practices.

In essence, this book has argued that public involvement in the use of land is a balancing act whereby the rights of private owners (individuals, corporate, or others) to gain reasonable economic and personal benefit from their property must be reconciled with the need to protect neighbors and the general public from "unreasonable" or avoidable harm arising from particular uses of land. Thus the legal framework of rules, policies, and incentives to influence socially desirable land use practices is informed by the geographic context of the physical and socioeconomic systems in which land use operates. In other words, the effectiveness and validity of legal measures to control harmful externalities

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depend on understanding of the geographic context in which such effects arise. Law based on sound geography yields beneficial land use policies.

The interaction of law and geography is described by the land use and society model introduced in Chapter 2 and referred to frequently thereafter. The model represents a long-standing process of interaction over time between the physical environment, the legal and political context, and the human-altered landscape. It has been three and a half centuries since the 1667 Act for Rebuilding London and 150 years since the first general sanitary laws appeared in England and the United States. More than a century has elapsed since the epic 1909 Plan of Chicago and the first National Conference on City Planning and Congestion. It has been almost nine decades since zoning was blessed by the U.S. Supreme Court in 1926. More than four decades have elapsed since the first Earth Day and the adoption of the National Environmental Policy Act (to veterans of that era, it seems like eons). The Americans with Disabilities Act has been in force since 1990. These and other legal milestones in the evolution of land use administration in the United States are all outcomes of the process described by the land use and society model.

The 2004 edition of this book ended with a lengthy attempt to answer the question, What has all this accumulated experience of social tinkering with the private land market accomplished, and where do we stand today? Now a decade later, it is perilous indeed to assess where we stand and where we are headed, at least in terms of government priorities. We simply do not know how the present political and fiscal debates in Congress, state legislatures, and city halls will influence efforts to bring greater order, security, equity, and sustainability to urban and metropolitan America. This time, I will not offer a status report or attempt to prognosticate about land use strategies and programs whose prospects are shrouded by political, economic, and ideological uncertainties.

There is, however, good reason to be heartened by one trend identified in my 2004 conclusion, which is still very promising, namely the gradual decline of top-down, technocratic, one-size-fits-all "solutions" to urban problems and the corresponding rise of bottom-up, pragmatic efforts to make our home places more habitable, sustainable, and humane. Figure E-1 represents some of the many strategies in play to make urban places at various scales, from block to metro region: "greener, healthier, more equitable, and more people-friendly."[1]

My latest University of Massachusetts Press book, Reclaiming American Cities,[2] argues that this hopeful perspective is even more cogent today as the hegemony of the white male-dominated, suburban, car-centered culture of the late twentieth century recedes into well-deserved obsolescence. In its place, we are living in a nation that will soon be "majority minority" (as in California today), where African Americans are currently serving as president of the United States and governor of my state (Massachusetts), where women

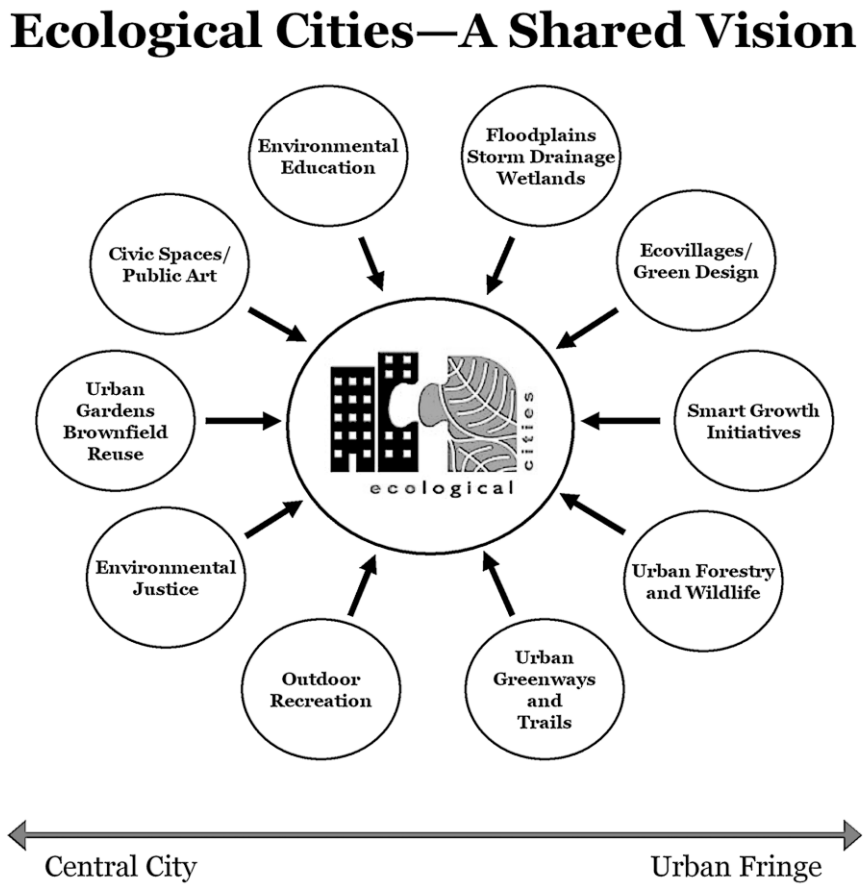

Figure E-1
Strategies contributing to a greener and more humane urban future.

wield growing power on many fronts (in New Hampshire, the governor and both U.S. senators are female), and the Internet and social media are redefining who gets to participate concerning policy issues at all levels. The future of our cities, towns, and neighborhoods is no longer dominated by the very rich and politically connected (although the Donald Trumps still wield much influence). A new era of humane urbanism is gradually dawning in which pluralism, nature, and ordinary places and people matter. As expressed in Reclaiming American Cities:

> The spectrum of humane urbanism across the country is broad and open-ended, defined as it is by local ingenuity—"ideas bubbling up in new ferment"—instead of top-down fiat. Humane urbanism eschews grand plans, textbook designs, and mega-development that breeds gentrification. Its aesthetics evolve not from

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established standards of architectural and planning design, but from the spontaneous palettes of mural artists, urban gardeners, building renovators, the melee of street fairs and ethnic festivals, and the rainbow of people—diverse in age, race, life style, wealth, and apparel—who share urban spaces and experience.[3]

And:

Like wildflowers sprouting from the cracks of abandoned parking lots, humane urbanist initiatives are largely spontaneous and self-sustaining. They make their surroundings more bearable and local inhabitants more connected to each other and to natural and cultural phenomena in their midst.[4]

Some Common Acronyms

ADA	Americans with Disabilities Act
APR	agricultural preservation restriction
BLM	Bureau of Land Management
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COE	Corps of Engineers
CZMA	Coastal Zone Management Act
EIS	environmental impact statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FHA	Federal Housing Administration
FWS	Fish and Wildlife Service
GPS	global positioning systems
HCP	habitat conservation plan
HUD	Housing and Urban Development
LWCF	Land and Water Conservation Fund
MSA	metropolitan statistical area
NAACP	National Association for the Advancement of Colored People
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NMFS	National Marine Fisheries Service
NOAA	National Oceanographic and Atmospheric Administration
NPS	National Park Service
SDWA	Safe Drinking Water Act
TDR	transfer of development rights
TSCA	Toxic Substances Control Act
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service

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Notes

Chapter 1

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and neighborhood, are common to all communities, while the second are especially characteristic of city life.… The essential physical means of a city's existence are the fixed site, the durable shelter, the permanent facilities for assembly, interchange, and storage; the essential social means are the social division of labor, which serves not merely economic life but the cultural processes." Ibid.

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44. Catherine Tumber, *Small, Gritty, and Green: The Promise of America's Smaller Industrial Cities in a Low-Carbon World* (Cambridge, MA: MIT Press, 2012).
45. Robert E. Lang and Jennifer B. LeFurgy, *Boomburbs: The Rise of America's Accidental Cities* (Washington, DC: Brookings Institution, 2007).
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Box 1-1

1. These cessions were made to compensate the national government for its debts incurred in waging the war of independence against England.
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Perkins Marsh: Prophet of Conservation (Seattle: University of Washington Press, 2000), ix.

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11. Quoted in ibid., 168.
12. Ibid., 180.
13. P.L. 88–577, 1964.
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14. 5 U.S. 137, 1803.
15. 272 U.S. 365, 1926, at 386.
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Chapter 3

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13. William E. Lunt, *History of England* (New York: Harper and Row, 1956), 178.
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16. Pirenne, *Medieval Cities*, 200.
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18. Ibid.
19. George Rosen, *A History of Public Health* (New York: MD Publications, 1958), 206.
20. William Ashworth, *The Genesis of Modern British Town Planning* (London: Routledge and Kegan Paul, 1954), 10.
21. Weber, *Growth of Cities,* 460.
22. Michael W. Flinn, ed., *Edwin Chadwick's Report on the Sanitary Condition of the Labouring Population of Great Britain* (Edinburgh: Edinburgh University Press, 1965), 11.
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25. Rosen, *History of Public Health,* 213.
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28. British Poor Laws Commission, *Concerning the Sanitary Condition of the Labouring Population of Great Britain* (1842).
29. Leonardo Benevolo, *The Origins of Modern Town Planning*, trans. Judith Landry (Cambridge, MA: MIT Press, 1967), 91–93.
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31. Ibid.
32. Jacob Riis, *How the Other Half Lives: Studies among the Tenements of New York*, 1890 (repr., Williamstown, MA: Corner House Publishers, 1972).
33. Quoted in Tyler Anbinder, *Five Points* (New York: Plume Books, 2001), 358.
34. The Veiller Exhibit described one city block near present-day Chinatown as a microcosm of the larger problem. The block contained thirty-nine walk-up tenement houses with 605 apartments housing 2,781 people, 466 of them children under five years of age. Only 264 "water-closets" were provided, and hot water was available to only forty apartments. Of the total 1,588 rooms in this block, 441 had no window and thus lacked any outdoor light or ventilation. Another 635 rooms opened onto narrow air shafts, rife with noise and the stench of garbage and human waste. Lawrence Veiller, "The Tenement-House Exhibition of 1899," *Charities Review* 10 (1900–1901): 19.
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37. David P. Jordan, *Transforming Paris: The Life and Labors of Baron Haussmann* (New York: Free Press, 1995).
38. Jordan, *Transforming Paris,* 95.
39. Similar enlargements of municipal territories occurred in London in 1888, in New York

City in 1898, and in Berlin in 1923. In the twentieth century, however, annexations to central cities tapered off as metropolitan systems to provide water and other services to both central cities and suburbs became widespread.

40. Unlike most other European capitals, Haussmann's Paris survived World War I intact because the Germans were stopped from reaching the city and survived World War II because the city was surrendered to the Germans before they destroyed it.
41. Julius G. Y. Fabos, G. T. Milde, and V. M. Weinmayr, *F. L. Olmsted, Sr.: Founder of Landscape Architecture in America* (Amherst: University of Massachusetts Press, 1968).
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43. Today, Central Park has been substantially restored and updated through a partnership of the city's Department of Parks and Recreation and the nonprofit Central Park Conservancy. Its counterpart in Brooklyn, Prospect Park, also is managed by a city-nonprofit partnership.
44. Quoted in Frederick Law Olmsted Jr. and Theodora Kimball, *Forty Years of Landscape Architecture: Central Park*, 1928 (repr., Cambridge, MA: MIT Press, 1973), 46.
45. Ibid., 95.
46. Quoted in George F. Chadwick, *The Park and the Town: Public Landscape in the 19th and 20th Centuries* (New York: Praeger, 1966), 196.
47. Quoted in ibid., 9.
48. Margaret Cole, *Robert Owen of New Lanark* (London: Batchworth Press, 1953), 54.
49. Benevolo, *Origins of Modern Town Planning*, 40.
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51. Ibid.
52. S. Buder, *Pullman: An Experiment in Industrial Order and Community Planning: 1880–1930* (New York: Oxford University Press, 1967), 148.
53. Quoted in Frederic J. Osborn, ed., *Ebenezer Howard's Garden Cities of To-Morrow* (Cambridge, MA: MIT Press, 1945/1965), 131.
54. Ebenezer Howard, *Garden Cities of To-Morrow* (London: Swan Sonnenschein and Co., 1902).
55. Robert Fishman, *Urban Utopias in the Twentieth Century* (New York: Basic Books, 1977), 33.
56. Lewis Mumford, introduction to Frederic J. Osborn, ed., *Ebenezer Howards Garden Cities of To-Morrow* (Cambridge, MA: MIT Press, 1945), 29.
57. Osborn, *Ebenezer Howard's Garden Cities of To-Morrow,* 53.
58. In 1963, the original Letchworth Garden City Corporation was replaced by a public corporation and later by the Letchworth Garden City Foundation created by an act of Parliament at the request of the town's inhabitants. The foundation performs the same role as its predecessors as trustee for the local public welfare. Every year, it allocates sizable sums from excess land rents to social and cultural organizations in Letchworth.
59. Eugenie Birch, "Radburn and the American Planning Movement," in *Introduction to Planning History in the United States*, ed. Donald A. Krueckeberg (New Brunswick, NJ: Rutgers Center for Urban Policy Research, 1983), 122–51.

Box 3-1

1. Samuel Pepys, *Diary*, H. B. Wheatley, ed. (London: George Bell and Sons, 1666/1898), 392–393.
2. In terms of loss of life, the Great Fire was vastly overshadowed by an outbreak of plague in

London the previous year. Although more than 56,000 persons were reported to have died in the plague, relatively few deaths were attributed directly to the fire.

3. William G. Bell, *The Great Fire of London in 1666* (Westport, CT: Greenwood Press, 1920/1971), Chap. 13.
4. Charles II had been crowned only six years earlier in the "Restoration" of the monarchy after the English Civil War. He was understandably inclined to be a consensus builder after his father, Charles I, was beheaded in 1849 for his autocratic style.
5. Rasmussen, *London: The Unique City* (Cambridge, MA: .MIT Press, 1934/1967), 117.
6. Bell, *The Great Fire of London*, 251.
7. John Summerson, *Georgian London* (Baltimore: Penguin Books, 1962), 53.
8. Ibid., 54.

Chapter 4

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4. Adam Rome, *The Bulldozer and the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001), 35.
5. Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985).
6. Roger Biles, *The Fate of the Cities: Urban America and the Federal Government, 1945–2000* (Lawrence: University Press of Kansas, 2011), 160.
7. Joel Garreau, *Edge City: Life on the New Frontier* (New York: Doubleday Anchor, 1991).
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9. Charles A. Keeler, *San Francisco and Thereabout* (San Francisco: California Promotion Committee, 1903), 94.
10. President Theodore Roosevelt was sworn in as president after the assassination of President William McKinley at the 1901 Exposition in Buffalo.
11. Sam Bass Warner Jr., *Streetcar Suburbs: The Process of Growth in Boston (1870–1900)* (Cambridge, MA: Harvard University Press, 1978).
12. Jon C. Teaford, *City and Suburb: The Political Fragmentation of Metropolitan America: 1850–1970* (Baltimore: Johns Hopkins University Press, 1979); David Rusk, *Inside Game/Outside Game* (Washington, DC: Brookings Institution Press, 1999).
13. Lincoln Steffens, *The Shame of the Cities* (New York: Hill and Wang, 1904/1957).
14. Upton Sinclair, *The Jungle* (Tucson: See Sharp Press, 1906/2003).

15. G. F. Ciucci, M. Manien-Elia, and M. Tafuri, *The American City: From the Civil War to the New Deal* (Cambridge: MIT Press, 1979), 188.
16. Richard Hofstadter, *The Age of Reform* (New York: Knopf, 1955), 176.
17. Ibid., 5.
18. Peter Hall, *Cities of Tomorrow* (Oxford: Basil Blackwell, 1988); William H. Wilson, *The City Beautiful Movement* (Baltimore: Johns Hopkins University Press, 1990).
19. David McCullough, *The Greater Journey: Americans in Paris* (New York: Simon and Schuster, 2011), Chap. 10.
20. U.S. Congress, *The Improvement of the Park System of the District of Columbia*. Senate Report no. 166 (57th Congress, 1st Session) (Washington, DC: U.S. Government Printing Office, 1902).
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22. Sue Kohler and Pamela Scott, eds., *Designing the Nation's Capital* (Washington, DC, and Amherst, MA: U.S. Commission of Fine Arts and the University of Massachusetts Press, 2006), 16–18.
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27. Louise W. Knight, *Jane Addams: Spirit in Action* (New York: W. W. Norton, 2010).
28. Jane Addams, *Twenty Years at Hull House* (New York: Macmillan, 1910), as quoted in Barbara Garland Polikoff, *With One Bold Act: The Story of Jane Addams* (Chicago: Boswell Books, 1999), 64.
29. Addams, *Twenty Years at Hull House*, 112.
30. Knight, *Jane Addams*, 122 (emphasis is Tarbell's).
31. Jane Addams served as the first chair of the Playground Association of America, founded in 1906.
32. Knight, *Jane Addams*, 84.
33. Addams, *Twenty Years at Hull House*, 260.
34. Knight, *Jane Addams*, 267.
35. Metzger, *What Would Jane Say?* Chap. 6.
36. See http://www.uic.edu/jaddams/hull/hull_house.html.
37. 239 U.S. 394 (1915).
38. Lochner v. New York, 198 U.S. 45 (1905), as discussed in Seymour Toll, *Zoned American* (New York: Grossman, 1969), 16–18.
39. *Slaughterhouse Cases*, 16 Wall 36 (1872) (emphasis added).
40. Ernst Freund, *The Police Power* (Chicago: Callahan, 1904), 11 (emphasis added).
41. Weight-bearing wall buildings were supported by their exterior walls whose thickness at ground level increased with height, thus limiting them to the maximum achieved by the

sixteen-story Monadnock Building.

42. Each of the buildings mentioned in this paragraph still stands today, testaments to the historic preservation movement of the 1960s and 1970s stimulated by the loss of New York's Pennsylvania Station in 1963 and Louis Sullivan's iconic Chicago Stock Exchange in 1972.
43. 214 U.S. 91 (1909).
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Chapter 10

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8. Ibid., Sec. 103.
9. Sec. 102(c) of NEPA requires that an EIS consider "i) The environmental impact of the proposed action; ii) Adverse environmental effects which cannot be avoided should the proposal be implemented; iii) Alternatives to the proposed action; iv) The relationships between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity; and v) Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented."
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Epilogue

1. The concept of humane urbanism originated with a 2002 conference on *The Humane Metropolis: People and Nature in the Twenty-First-Century City* and the multiauthor book of that title published in 2006 by the University of Massachusetts Press and the Lincoln Institute of Land Policy. Three regional Humane Metropolis workshops—in Pittsburgh (2007), Riverside, California (2008); and Baltimore (2009)—based on that book have been held, all under the auspices of the Lincoln Institute.
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