SECOND EDITION

# URBAN DESIGN FOR AN URBAN CENTURY

## SHAPING MORE LIVABLE, EQUITABLE, AND RESILIENT CITIES

**LANCE JAY BROWN,** FAIA • **DAVID DIXON,** FAIA • **OLIVER GILLHAM,** AIA

WILEY

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### *Shaping More Livable, Equitable, and Resilient Cities*

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# Contents

In Memoriam: Oliver Gilham, AIA

*The authors wish to acknowledge the essential contribution our friend and co-author, Oliver Gilham* AIA, *made to the original edition of this book. Oliver died in 2009, but his spirit and values infuse every page of* Urban Design for An Urban Century. *A gifted urban designer and acute observer of cities, Oliver never stopped working to deepen his and our understanding of human settlement and the conditions that would shape those settlements in the twenty-first century. His 2002 book* The Limitless City: A Primer on the Urban Sprawl Debate *helped shape much of the thinking that underpins this book. Although an ardent critic of sprawl, in* Limitless City *Oliver presented both sides of the debate even-handedly in an effort to help nonprofessionals understand the issues and the stakes involved—a characteristic of his humane and generous spirit. This book owes much to his broad view, keen insights, and sense of urgency about improving the built environment.*

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# Introduction

## Urban Design: A Social and Civic Art

Urban designers can make a strong, positive difference in the lives of the people on whose behalf they work. This book melds theory and practice to argue, however, that urban designers can only make such a difference when they understand the forces that shape people's lives—and, in turn, the places they inhabit. (As Winston Churchill noted, the reverse is also true: places shape the lives of the people who use them.)

Much has changed in the field of urban design since the first edition of this book appeared in 2009. During the writing of the first edition, a typical day for one coauthor began with his teaching students about how American downtowns constantly change their physical form in response to shifting economic, social, and environmental forces. Later, he might meet with colleagues from across New York City to advance a green housing initiative. His day might have ended with moderating a seminar on new approaches to creating mixed-income neighborhoods. For the other coauthor, a typical morning included writing design guidelines for more walkable streets in suburban Atlanta; the afternoon might be spent preparing plans for new, mixed-use urban neighborhoods in Norfolk, Virginia, and Kansas City, Missouri; and the day might end with hammering out the draft of a talk on the benefits of urban density.

While preparing this new edition, both of us held the same jobs we had held in 2009, but our work had taken on a much more global focus and a decided emphasis on the environment, economic development, and the use, control, and design of urban space.

A reader might reasonably assume that since the first edition the wrenching global economic retrenchment would have slowed the evolution of urban design. The worst economic downturn since the Great Depression doubled unemployment and reduced housing values by one-third in the United States. In the European Union, it precipitated an even harsher economic contraction and a dangerous monetary crisis. Yet the pace of change in urban design grew even faster than it had, accelerated by shifts in social, cultural, and environmental values that made living in urban areas more popular, as measured by market demand.

The years following the first edition also saw a growing recognition of manmade and natural threats that nonetheless presented opportunities for transforming our cities. The September 11, 2001, attack on the World Trade Center has posed an enormous challenge to American society, and more than a decade later we continue to grapple with its implications. Four years after the attack, Hurricane Katrina swept across southern Louisiana and Mississippi, devastating both physical and psychic landscapes and raising fundamental questions concerning social equity, our preparedness, and even where and how we build our cities. Hurricanes have long ravaged the Gulf Coast (8,000 residents of Galveston, then the largest city in Texas, had died in the Hurricane of 1900). New York City, however, had never experienced a storm like Irene, the tropical system that flooded parts of the city in 2011. Just over a

year later, Hurricane Sandy, supercharged by a warming climate, ravaged huge swaths of metropolitan New York and New Jersey. Not since World War II had a global capital suffered so much damage; the closest analogue for an American city is the 1906 earthquake and fire in San Francisco. In the wake of these storms, few people still question the reality of global warming (even if some political figures find it expedient to do so). In his 2013 inaugural address, Barack Obama became the first American president to mention climate change.

December 2010 marked the beginning of a period of dramatic political change in the Arab world.[1] Much of the Arab Spring's political activity, especially in Egypt, played out in city centers near seats of power. Images of demonstrations in Cairo's Tahrir Square, protests in the streets of Tehran, and battles raging in Syrian towns and cities were conveyed daily by broadcast and social media. The occupation of urban land signified the degree to which one side or another had wrested a temporary control.

Within a year, nonviolent but no less passionate demonstrations began in New York City under the Occupy Wall Street banner. This protest against the influence of financial institutions and growing social inequality began in September 2011 and spread rapidly across the United States and the world; cities small and large saw citizens gather, protest, and often set up camp in urban spaces. Nowhere did the friction between protestors and the forces of civic control prove greater than near Wall Street itself, in Zuccotti Park, where the protests began. The larger debate sparked by the Occupy protests over a growing gulf between the rich and the poor, the corporate and the individual, also became a debate over public use and private space and the devil's bargain that muddied those waters. The Arab Spring abroad and the Occupy movement in the United States spotlighted the often overlooked role that the connective tissue of open space plays in cities today.

In the first edition of *Urban Design for an Urban Century*, we described urban design as "finding the right fit between people and place." The forces of the intervening years—the velocity of economic change, a widening gap between haves and have-nots that is often most glaring in cities, an increased global awareness fostered by the Internet and new media platforms, and a deepening sense of environmental responsibility—demonstrate the failure of that formulation to capture fully what urban design is capable of.

> The celebration of the star architect too often encouraged object buildings—buildings that willfully ignore time, place, and context. Cities are more than sculptures to be understood only from a bird's-eye view or figure-ground diagram; they are constantly changing entities with unique physical and social landscapes made vibrant by the people who live, work, and celebrate in them. It is the chemistry of that interaction between people and environment that gives value and identity to the place where people live. Urban design continues to be a vital discipline because the care and shaping of our cities is too complex and too important to be left to those who see it only as a vehicle for creating objets d'art.
>
> *M. David Lee, FAIA, vice-president, Stull and Lee Inc. Architects and Planners*

There *is* no way to decisively secure the right fit between people and place. Urban design entails a constant search for an ever-changing fit between people, time, and place. Through urban design people understand, integrate, and manifest influences in flux—culture, environmental response, economics, philosophy, politics, social context, and technology—and in the process shape and reshape their cities.

## 1. A social and a public art

Urban design never takes place in a theoretical or artistic vacuum. The forces that shape a place must also shape the basis for judging the work of urban design. Without discounting the importance of individual creativity or

In the twenty-first century, the province of urban design is no longer the spaces between buildings or the decoration of streetscapes. Rather, the meaning and role of urban design is to recognize and enhance the fundamental relationship between physical form and the social life of our communities.

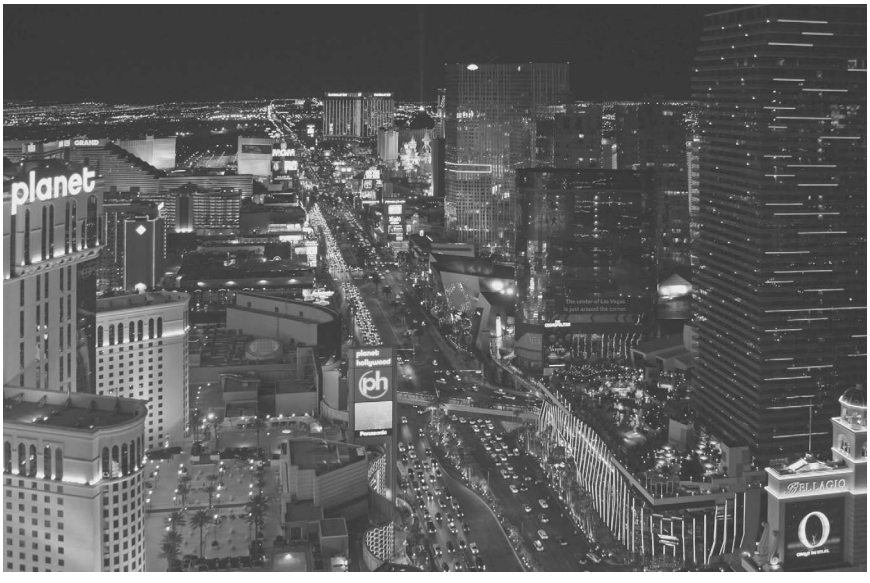
*Jean Marie Gath, principal, Pfeiffer Partners Architects and Planners, New York*

skill, we approach urban design as a social and public art, one informed by underlying forces that then tap creativity and skill to translate this information into plans reflecting their time and shaping particular places for the people who use them.

## 2. Historical precedents

For his book *A World Lit Only by Fire*, historian William Manchester chose a title that captured a central reality of day-to-day life six centuries ago. He intended to help modern readers see the late-medieval world from the perspective of its own era, not ours.[2] Any history of urban design requires a similar effort to appreciate the vastly different worlds in which humans have designed spaces and settlements.

The practice of architecture and urban design stretches back to humans' first intentional attempts to shape their environment. Although the earliest human settlements likely evolved without conscious planning—as some still do—we can trace a continuous history of places that were visibly designed: Neolithic




I.1 "LasVegas . . . [was] where we could discover the validity and appreciate the vitality of the commercial strip and of urban sprawl, of the commercial sign whose scale accommodates to the moving car and whose symbolism illuminates an iconography of our time. And where we thereby could acknowledge the elements of symbol and mass culture as vital to architecture, and the genius of the everyday, and the commercial vernacular as inspirational as was the industrial vernacular in the early days of Modernism." —Robert Venturi, FAIA, accepting the 1991 Pritzker Prize (from www.pritzkerprize.com) Courtesy Clément Bardot via Wikimedia

I.2 Merneptah's Mortuary Temple (ca. 1200 BCE) served as a religious, bureaucratic, and economic center. It also suggests the political significance of early planned urban development. A stele proclaimed: "The kings are overthrown, saying: 'Salaam!' / Not one holds up his head among the nine / nations of the bow. / Wasted is Tehenu / The Hittite Land is pacified / Plundered is the Canaan, with every evil / Carried off is Askalon / Seized upon is Gezer / Yenoam is made as a thing not existing. / Israel is desolated, her seed is not. / Palestine has become a [defenseless] widow for Egypt. / All lands are united, they are pacified; / Every one that is turbulent is bound by King Merneptah." Courtesy Wikipedia user Pufacz

settlements in western Europe, ancient palace complexes of Mesopotamia, funerary and religious compounds of third-dynasty Egypt, ancient Greek and Roman fora, pueblos of the American Southwest, Aztec city-states, Cahokia Mounds on the eastern edge of the vast North American plains, the Forbidden City of Beijing, and the boulevards of nineteenth-century Paris all reflect a drive to form settlements in ways that expressed their builders' beliefs and responded to nature, economics, and other forces around them.

From Mesopotamia onward, urban design has served as a conscious act of mediation among a constellation of influences—economic and social dynamics, religious and cultural beliefs, environmental constraints, and others—unique to a community or era. Monarchs, priests, military engineers, the urban designers of their day, did look at their work as the creation of monuments and the adornment of their communities. But more consciously, they were reacting to the needs and aspirations

> Urban design is an art and not a science or an engineering discipline, but a social and public art rather than a personal or fine art. . . . Unlike a painter or sculptor, in every aspect of my work I am responsible not only to myself but to my fellow man and to future generations.
>
> *Douglas Kelbaugh, FAIA, dean, Taubman College of Architecture and Urban Planning, University of Michigan, Ann Arbor*

of the gods, economic systems, and societies they served, and they strove to prepare their communities to meet the demands of the world around them. Urban designers may not worship Baal today, but as much as any builder in the ancient world, they too must meet the needs of the larger world.

Urban designers often use historic precedents as models for contemporary urban design, and not just when they work in historic settings. Architectural forms can live long after their purpose vanishes—for example, designers still think and design in terms of gateways, squares, boulevards, and grids. Understanding what gave rise to these forms can prove more valuable than studying the forms themselves.

The reconstruction of the Ishtar Gate at Berlin's Pergamon Museum lets modern visitors experience one of history's jaw-dropping gateways and offers a glimpse into the Babylonian mind of the seventh century BCE. A modern visitor readily understands the gate's size and majesty as a proclamation of Babylon's significance and the splendor within its walls. Yet to Babylonians, who lived in a world where few people traveled beyond the village of their birth, who had no concept of the individual (as our era understands the idea), and who saw history as an endlessly turning wheel of seasons, the Ishtar Gate announced not human splendor but a city of gods as well as humans. For the gate's creators, the roaring lions evoked the protective power of the gods that dwelt inside the gates. Over subsequent centuries, gateways have been used for collecting tolls (Jerusalem), commemorating military victories (Rome), and controlling access to walled cities. In the twentieth century, evocative gateways, historically built for a different reason, sometimes became mechanisms of social exclusion (as in gated communities).

> One remarkable man, the Franciscan friar Roger Bacon . . . stands on an isolated pinnacle of his own in the Middle Ages. . . . It has been claimed for him that he announced the idea of Progress. . . . His aim was to reform higher education and introduce into the universities a wide, liberal, and scientific programme of secular studies. . . . With great ingenuity and resourcefulness, he sought to show that the studies to which he was devoted . . . were indispensable to an intelligent study of theology and Scripture.
>
> *John Bagnell Bury,* The Idea of Progress: An Inquiry into Its Origin and Growth *(London: Macmillan, 1920)*

I.3 A reconstruction of Babylon's Ishtar Gate from the seventh century BCE, at the Pergamon Museum, Berlin, suggests the feeling the gate might have evoked in its creators: awe of the protective power of the gods that dwelt inside the city. Courtesy Wikipedia user Gryffindor

The squares of Greco-Roman cities like Pompeii and Renaissance cities like Siena reflect the forces that shaped those cultures—and offer striking contrasts to the Ishtar Gate. As gathering places for wealthy property owners, Pompeii's forum and Siena's Piazza del Campo celebrate both the rise of an affluent urban class engaged in commerce and its claim to a political voice. Neither square served as a setting for public buildings or broad community enjoyment, as modern squares do. Cities shaped

during the Baroque era and later, such as Paris, reflect the influence of monarchial government and authoritarian rule in great diagonal boulevards, monumental spaces, and long vistas slashing across clustered medieval blocks. The squares and grand boulevards of these cities served as models for both the grand commercial main streets and vibrant squares of early twentieth-century American cities and the destructive, windswept squares and overscale "boulevards" carved out of urban neighborhoods during urban renewal.

I.4 Designers working under authoritarian regimes often had the freedom to create monumental spaces and long vistas, as in Paris. Copyright © iStockphoto.com/FotoVoyager.com

> Once the urban transformation had been effected, the city as a whole became a sacred precinct under the protection of its god: the very axis of the universe went . . . through its temple, while the wall . . . was both a physical rampart for defense and a spiritual boundary of greater significance.
>
> *Lewis Mumford,* The City in History: Its Transformations and Its Prospects *(New York: Harcourt Brace, 1961), 48*

Scorned in the years after World War II as an antiquated approach to urban neighborhoods but valued today as a defining quality of walkability, the grid originated to support military efficiency and taxation in Greek settlements. Its adoption by most American cities owed largely to a desire for efficient land distribution and development in a society that believed strongly in the moral benefit of owning property. The young United States, with its abundant acreage, saw property ownership as an economic prerequisite to democracy—a clear distinction from Europe and other societies that restricted property ownership to a small elite. Only in the District of Columbia did Americans pursue the monumental design and diagonal boulevards characteristic of continental Europe—following a plan laid out by a French national.

## 3. A changing world and the birth of urban design

The outlines of the discipline of urban design began to take shape in efforts to tame the burgeoning industrial centers of mid- and late-nineteenth-century Europe and America. The changes unleashed by the Industrial Revolution, including unprecedented urban growth, triggered a need to revisit basic assumptions about the form and organization of urban communities. No cities in history had attained anything close to the size and complexity of the industrial cities that blossomed across Western Europe and in North America after 1850—and none had grown and changed so rapidly. Before the Industrial

I.5 As factories multiplied in cities, many residents found the resulting noise, smoke, and soot intolerable. Courtesy the Library of Congress, FSA-OWI Collection

I.6 For the well-to-do, suburban housing offered an escape from crowded industrializing cities. Courtesy Oliver Gillham

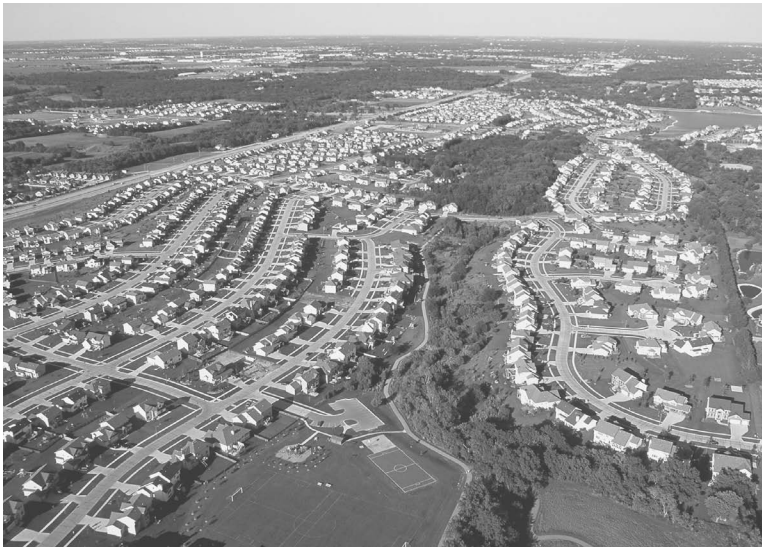
Revolution, few cities changed substantially during a resident's lifetime, and when they did, the change resulted from the intervention of a powerful elite.

After the Civil War, American industrial cities grew at an astonishing rate. The number of U.S. cities with populations greater than 200,000 grew from four in the mid-nineteenth century to more than forty by the early twentieth century. Industrialization alone did not drive this growth; electric streetcars and new building technologies allowed cities to grow both horizontally and vertically. Architects began to approach cities from a new design perspective that would feel familiar today, as they wrestled with noise, pollution, and poverty, new technologies, and a new and profound separation between urban residents and nature. They joined European colleagues in advocating sweeping measures under the banner of the City Beautiful movement: mass rebuilding to restore beauty and nature to cities. Architects and others—more so in the United States than in Europe—explored ways to escape industrialization's disagreeable side effects by creating suburban retreats for the rich and, later, the middle class.

It was the decline of America's industrial economy after World War II, however, that led to formal recognition of urban design as a distinct discipline. Taking hold even more rapidly than the rise of urban manufacturing, this decline produced a full-blown crisis, as jobs and residents—up to half in some cities—fled to the suburbs, taking most of the center cities' wealth with them. A confluence of seemingly unrelated factors accelerated this dramatic migration: the advent of near-universal automobile ownership among middle- and upper-class Americans; the construction of a vast national highway system that began in earnest in the 1950s and made suburbs easily accessible; government programs that made home ownership more attainable; a dramatic rise in the number of households with children (and a subsequent demand for backyards); and the broad diffusion of technologies, including television, that eroded the ties binding people to their urban neighborhoods.

Alarmed by physical deterioration in American cities, the U.S. Congress enacted federal housing laws in 1949 and 1954 that provided significant funding for eliminating "slums" and "blight" in cities. In response, Josep Lluís Sert, then dean of Harvard's Graduate School of Design, organized the Harvard Urban Design

I.7 Highways of the urban renewal era often cut large swaths through dense older neighborhoods. Courtesy Boston Public Library, Prints Division



I.8 These same highways cut very different swaths across formerly rural areas—dispersing the economy of America's cities from older neighborhoods to miles of strip development. Courtesy U.S. National Soil Conservation Service

Conference in 1956. Sert was the first to use the term *urban design* to describe a particular approach to planning. In contrast to the City Beautiful movement and other reactions to industrialization, he did not urge participants to look to the past.

With the exception of author Jane Jacobs and urban historian Lewis Mumford, virtually all of the distinguished participants gathered in Cambridge at the birth of urban design as a formal discipline defined recentralization very differently than their present-day counterparts. These leaders of architecture, planning, and landscape architecture agreed with Edmund Bacon, executive director of Philadelphia's City Planning Commission, that the federal government's commitment to invest in urban renewal represented "a responsibility we cannot duck" to sweep away the archaic crowding of traditional downtowns and urban neighborhoods and replace them with "modern" environments shaped around expressways, parking structures, and malls—symbols of progress in 1956. These leaders believed in applying Mies Van der Rohe's architectural dictum "form follows function" to city form, and more than anything, "function" meant opening up dense cities for economic renewal.

Like Mies, most of those who helped define urban design saw their task as a fine art, which, like modern painting, celebrated the rejection of Old World social and political values closely associated with traditional

> Recentralization—a fight to defend core cities against the centrifugal forces of suburbanization.
>
> *Josep Lluís Sert, in an address to the Harvard University Graduate School of Design Invitation Conference on Urban Design, April 9, 1956*

I.9 a,b Philadelphia created Independence Mall in the early 1950s—a three-block swath whose stated rationale of commemorating historic events served as an excuse for an urban renewal project that buffered downtown from deteriorating neighborhoods to the east and cleared "slum neighborhoods" to create sites for new office buildings. Wikimedia Commons

architecture and urban form. The modern movement had coalesced around a rejection of the rigid social order and the deference to the anciens régimes that had dominated Europe prior to World War II. The fact that Hitler, Stalin, and Mussolini had embraced classical ideas of architecture and city-building only reinforced a desire for approaches to planning that broke with tradition. The urban designers who gave shape to the urban renewal movement of the 1950s and 1960s took pride in ripping out what they saw as the archaic relics of an irrelevant and discredited past and creating a modern city shaped around the automobile and a rational aesthetic that celebrated progress. Mumford balked at this impulse, saying that "if this conference does nothing else, it can at least . . . report on the absolute folly of creating a physical structure at the price of destroying the intimate social structure of a community's life." So fully did urban designers equate the renewing of cities with the rebuilding of cities that nearly forty years passed before Mumford's warnings about destroying intangible social capital gained broad acceptance among urban designers.[3]

Distracted by Cold War fears that dense cities were vulnerable to atomic attack, racial fears that precipitated white flight, the decline of America's industrial economy, a shift in wealth from cities to suburbs, and other challenges, initial efforts to save cities proceeded with scant attention to their impact on community life. Instead, urban designers allied themselves with planners and architects as early champions of massive rebuilding projects intended to lure investment back to cities.

No individual better embodies the tendency against which Mumford warned than New York's "master builder," Robert Moses. Trained not in planning or design but in political science, he became the most visible practitioner of urban renewal in the United States. While holding a variety of positions, he functioned as New York City's de facto master planner from roughly 1930 to 1965. Moses's concept of urban renewal, which involved "rationalizing" the city's form to accommodate twentieth-century infrastructure, took precedence over all other considerations. He built expressways that sliced through neighborhoods in all five boroughs (and well into other parts of the state) and replaced thousands of units of traditional neighborhood housing with blocky high-rises inspired by architect Le Corbusier's tower-in-a-park model.

Urban renewal values did not go unchallenged. A series of influential writers struggled to reconnect the design of cities to human and environmental values. Kevin Lynch's *Image of the City* (1960) introduced the

I.10 Robert Moses viewed his Battery Bridge project (1939) as a high-profile opportunity to modernize the image of New York City. The Battery Tunnel was constructed instead. Courtesy Library of Congress, New York World-Telegram & Sun Collection

concept of shaping urban form around the ways that people actually experience the built environment. In *Design with Nature* (1969), Ian McHarg argued for starting with the natural environment in creating human environments. Two years later, Victor Papanek built a case for understanding the role of social forces in *Design for the Real World: Human Ecology and Social Change* (1971). Novelist James Baldwin dubbed urban renewal "Negro removal," in anger at the widespread dislocation it brought to black neighborhoods.

While these authors and their allies attracted the notice of some planning and design professionals, their work had little impact on popular thinking—or policy makers. If anything, their advocacy widened the gulf between the evolving values of practitioners and decision makers and the general public. As dissatisfaction with and then disdain for urban renewal grew in the 1970s, it discredited Sert's message of recentralization, too. Urban design coalesced as a discipline just as suburban growth accelerated and the term *sprawl* took hold to describe the increasingly decentralized forms that growth followed in the United States.

Within a decade of the Harvard conference, however, new voices began to emerge from outside the planning and design professions. Over the next fifty years, social commentators, economists, environmentalists, public health officials, preservationists, neighborhood activists, and others—often speaking from disparate perspectives—built a compelling case for recentralization that is the foundation of contemporary urban design. Unlike Sert's call to reinvent cities, these voices framed a vision around reinvigorating cities instead. If anything, that vision today marks suburbs as the targets for reinvention.

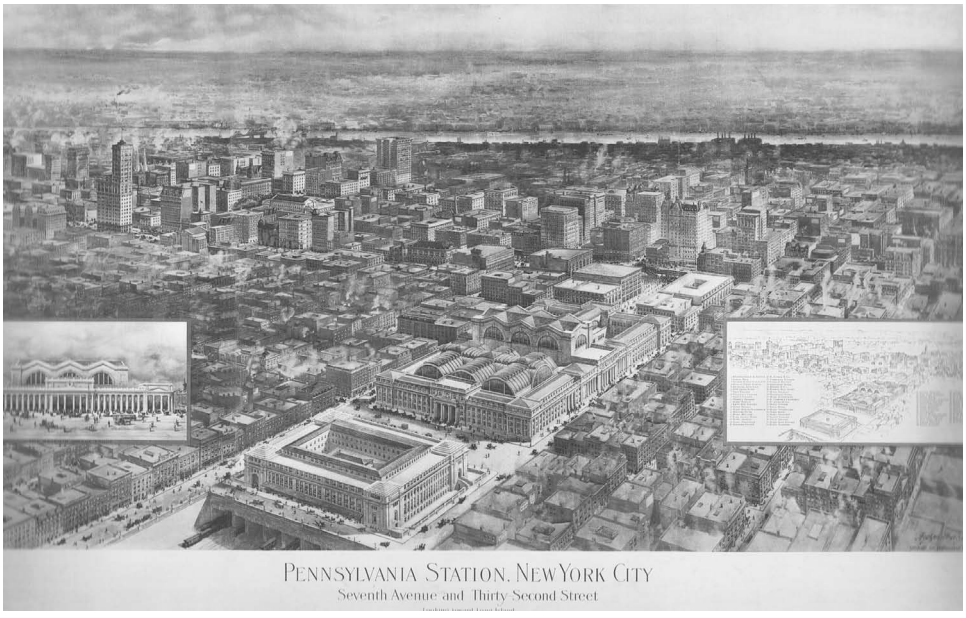
The most influential of the new voices that appeared in the years after the 1956 conference was that of Jane Jacobs. In *The Death and Life of Great American Cities*, published in 1961, she evoked the joys of urban streets and condemned both the isolation of suburban life and the damage wrought by urban renewal. *Death and Life* rekindled a passion for urban living that spread gradually over six decades, even though for years critics dismissed its call for a return to traditional urban values as a romanticized ideal that ignored economic and social realities. One year after *Death and Life*, Rachel Carson's *Silent Spring* unleashed a passion for protecting the natural environment that took hold much more quickly than Jacobs's paean to urban life. *Silent Spring* inspired the first Earth Day in 1970, which evolved into a global day of recognition of environmental issues. Initially, environmentalists dismissed cities as culprits in polluting air and water. It was not until the 1990s that environmental awareness had a widespread impact on thinking about urban form, yielding a very different understanding of cities' environmental impact.

I.11 Skidmore, Owings & Merrill's design plan for Moynihan Station in Manhattan recaptures much of the grandeur of McKim, Mead & White's Pennsylvania Station, demolished in 1963. The current, underground station would relocate across the street to the dignified Farley Post Office Building, also a McKim design. The plan responds to a widespread yearning for the urban qualities lost to urban renewal and subsequent years of disinvestment. Courtesy SOM, © pixelbypixe

I.12 The SOM plan grafts a glass superstructure onto the neoclassical Farley Building to define a striking arrival area that serves as a memorable new transit-oriented entry to New York. Courtesy SOM, © pixelbypixel

The demolition of New York City's neoclassical Pennsylvania Station in 1963—a case study in urban renewal's undiscerning hostility toward traditional form and embrace of all things "modern"—mobilized a new preservation movement. Preservationists across America condemned the terminal's destruction and mobilized locally to safeguard America's architectural heritage. As a direct result, Congress passed the National Historic Preservation Act in 1966. Heightened awareness of and legal protections for historic preservation had a pervasive influence on urban design. But the most significant outcome of Penn Station's destruction was the enfranchisement of grassroots movements, which became active participants in the process of urban design. In the early 1970s, inspired by early preservation successes, activists in Boston, New York, Philadelphia, New Orleans, and other cities mobilized to fight plans for elevated expressways that would cut through urban neighborhoods. From the mid-1970s on, the influence of local communities grew steadily in shaping urban design proposals and determining the likelihood of their adoption by local governments.

In the late 1970s and 1980s, federal policy turned against cities. When a bankrupt New York City asked for federal financial aid, the *New York Daily News* ran an infamous headline summarizing President Gerald Ford's response: "Ford to City: Drop Dead." President Ronald Regan (who reportedly did not recognize his own Housing and Urban Development secretary, Samuel Pierce, at a White House function in 1980[4]) campaigned against "welfare queens," thereby linking racial hostility and urban poverty, and slashed federal funding to cities by more than 50 percent. African-American leaders began to argue that civil rights and the fate of cities were intertwined; ignoring cities meant ignoring the poor and people of color. Urban leaders began to use the word *equity* in calling for an "urban agenda" that balanced federal spending on suburban highways with investments in mass transit, job training, education, and other programs that contribute to the quality of life of urban residents.




I.13 A 1910 Hughson Hawley rendering of Penn Station and the Farley Post Office complex. Wikimedia

New thinking about cities coalesced around the "smart growth" movement in the 1990s. Organizations like the American Planning Association and the Natural Resources Defense Council insisted that ending sprawl and conducting growth back toward a city's core were essential to protecting the environment. They found models in policies introduced in small cities like Boulder, Colorado, as early as the 1960s, as well as efforts to protect rural land in the Pacific Northwest that led to growth boundaries around Portland (established in 1979), and Seattle (1992). In 1994, Parris Glendening won election as governor of Maryland on a platform calling for the reorientation of state policies to favor growth in existing communities rather than the exploitation of undeveloped land. As governor, Glendening gave smart growth a new level of prominence.

In the early 2000s, new ideas about the role of cities reached ever wider audiences. In an influential 2004 article, *New Yorker* staff writer David Owen turned on its head the conventional wisdom that cities degraded the environment and were less healthy than pristine rural areas. From high levels of transit use to apartment building heating, he catalogued the many ways that Manhattan's density enabled its citizens to use energy far more efficiently—and consequently leave a far smaller carbon footprint—than their friends in the suburbs or the country. Not only did they use resources more efficiently, Manhattan residents walked more often than most Americans, which made them healthier, on average, than their counterparts elsewhere. America's largest city, Owen showed, was its greenest and healthiest. His provocative article, circulated widely (and later expanded into the book *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less Are the Keys to Sustainability*), buttressed a gathering consensus about the need to reverse sprawl to address both and environmental and personal health.[5]

Beginning in 2000, Dr. Richard Jackson—then working for the Centers for Disease Control and


I.14 In 2000, the Boston Society of Architects (BSA) sponsored the first regional smart growth initiative in New England. In the wake of a yearlong grassroots effort that culminated in a weekend conference that drew hundreds of participants, five major environmental organizations joined the BSA to form the Massachusetts Smart Growth Alliance. The Alliance has evolved into an effective advocate for smart growth legislation and public policies. Courtesy of Goody Clancy

Prevention—coauthored a series of articles and books that documented a growing obesity epidemic in the United States and traced it largely to Americans' love affair with the suburbs: sprawl discouraged people from walking. Speaking at forums such as the Congress for the New Urbanism in 2003, Jackson made a case, based on public health measurements, for compact rather than sprawl-form growth. Owen, Jackson, and many others had reached the same conclusion Jane Jacobs had forty years earlier (although they came to it from different directions): mixed-use, walkable, lively urban neighborhoods and downtowns are simply better places to live.

Economist Richard Florida's *The Rise of the Creative Class* (2002) buttressed Jacobs's message from yet another perspective. Florida argued that vibrant, walkable downtowns and urban neighborhoods attract the educated, creative workers essential to regional economic competitiveness in a postindustrial age driven by innovation. Around the same time, CEOs for Cities, a group funded by private-sector employers, commissioned research showing that the younger, educated workers


I.15 In 2003, the Boston Society of Architects (BSA) joined with the Massachusetts Smart Growth Alliance and the American Institute of Architects to organize Density: Myth and Reality, the first national conference on population density. Concerned that smart growth would remain unattainable without support for greater density in urban centers, the BSA saw the conference as a way to confront widespread fears about density. Policy makers considered density so controversial that just the word's presence in the conference title prompted more than one public agency to threaten to withdraw its sponsorship. Today, planners and public officials view denser urban development as a key economic and environmental strength of cities and, increasingly, suburban centers. Courtesy Goody Clancy

sought by corporate America no longer moved to where jobs were plentiful, but instead sought places that provided a decidedly urban lifestyle—and, increasingly, the jobs followed them. The group argued that regional approaches to economic development must reflect this new understanding. In a postindustrial economy, suburban roads and highways no longer counted as the most effective investment for competitiveness; urban revitalization did.

While these and other voices argued for reconcentration, laying a foundation for a shift in approaches to contemporary urban design, they hadn't yet proved that social, environmental, and economic advantages made cities viable in the marketplace. Five decades of urban decline strongly suggested the opposite—particularly to elected officials, planning boards, and other public decision makers struggling with shrinking financial resources.

The notion that cities could succeed, and even outcompete suburbs for investment, remained unproven in the 1990s. Housing analysts Todd Zimmerman and Laurie Volk of Zimmerman/Volk Associates (ZVA) developed a methodology for identifying housing demand that relied on demographic analysis rather than the success of comparable developments—the traditional measure of housing demand. ZVA's new approach quickly proved effective at identifying rapid shifts in the housing market and emerging submarkets,

such as urban neighborhoods and downtowns. The conventional focus on comparable projects simply confirmed the historical absence of demand for new types of housing or housing in new locations. With no indication of previous demand, developers avoided new locations and new approaches for fear that no market existed, and in doing so precluded any future statistical support for such projects. ZVA's approach identified latent future demand and quickly found success, identifying new segments of urban markets in St. Louis, Newark, Baltimore, and other cities. The success of the redevelopment that followed began to persuade decision makers and developers that new urban development on a large scale could succeed.

Around the same time, Christopher B. Leinberger, a developer and Brookings Institution fellow, reported on research showing that for the first time since World War II, mixed-use, walkable environments commanded a higher price than suburban office parks, shopping centers, and other single-use settings. Real estate analyst Arthur C. Nelson wrote a series of articles that showed how profound demographic shifts across America presaged new interest in and demand for urban living. In 2008, Leinberger took the case a step further. He reported on research by Nelson that predicted a looming surplus of single-family suburban houses at the same time that most cities would have difficulty meeting the demand for urban housing. Leinberger warned that "many low-density suburbs and McMansion subdivisions . . . may become what inner cities became in the 1960s and 1970s—slums characterized by poverty, crime, and decay."[6]

When Sert called for recentralization in 1956, he argued that the dire prospects for failing cities demanded a new discipline—urban design—that could reinvent urban form and organization. Ironically, recentralization remains the mission of urban design today, but the term has taken on precisely the opposite meaning from what Sert had in mind. Today the term means

It is no coincidence that in 1857, many of the founders of the American Institute of Architects in New York (Richard Upjohn, Leopold Eidlitz, Edward Gardiner, Richard Morris Hunt, Jacob Mould, and Calvert Vaux) also advanced theories on infrastructure, transportation, park planning, and the role of public buildings and spaces as a means of improving the quality of life within our cities. It was that same spirit that sought to create an architecture organization that would "promote the scientific and practical perfection of its members" that was also brought to bear in the advocacy of a better society for all Americans. . . . [Today] we can't provide grand visions of what a place may be without fully interacting with the public. This is how architects made a difference in the past, and this is how we will make design matter for future generations.

*Mark E. Strauss, FAIA, AICP, principal, FXFOWLE Architects, New York*


I.16 Four hundred attendees at the 2003 density conference called for heeding architect and urban designer Josep Lluís Sert's call for recentralization, almost fifty years after Sert delivered his initial speech on the topic at Harvard University in 1956. Courtesy Goody Clancy

giving city and suburban development alike *traditional* form that nurtures walkability, diversity, greater personal choice, opportunity for collaboration, healthier lifestyles, and environmental responsibility. What changed? Context. And it will continue to change. Urban designers have learned much since 1956, and the most important lesson is that urban design remains a work in progress.

## Notes

1 Garry Blight, Sheila Pulham, and Paul Torpey, "Arab Spring: An Interactive Timeline of Middle East Protests," website of *The Guardian*, last modified Jan. 5, 2012. www.guardian.co.uk/world/interactive/2011/mar/22/middle-east-protest-interactive-timeline.

2 William Manchester, *A World Lit Only by Fire: The Medieval Mind and the Renaissance, Portrait of an Age* (Boston: Little Brown, 1992).

3 Alex Krieger and William S. Saunders, eds., *Urban Design* (Minneapolis: Univ. of Minnesota Press, 2009), 102.

4 Peter Dreier, "Reagan's Legacy: Homelessness in America," *Shelterforce*, no. 135 (May/June 2004), last modified July 17, 2008. www.nhi.org/online/issues/135/reagan.html.

5 David Owen, "Why New York Is the Greenest City in America," *New Yorker*, October 18, 2004, 111. *Carbon footprint* refers to the cumulative amount of specific gases—carbon dioxide being the most commonly measured—produced by the activities of a person or a group of people (e.g., a business, a city, a country, or all of humankind). These gases trap heat in the earth's atmosphere, and the resulting worldwide rise in temperatures has begun to produce unpredictable climate change, from droughts to melting icecaps to rising sea levels that threaten to inundate coastal cities in a few decades. Efforts to curtail the production of these gases and mitigate their impact on the planet emerged in political debate in the early 2000s—although the United States is the only developed country where the debate over the reality of climate change continues—and climate scientists agree with near unanimity that human activity has caused most of the warming. In recent years, the debate has shifted from what we can do to prevent rising global temperatures to how we can protect against the worst of their inevitable and unpredictable consequences.

6 Christopher B. Leinberger, "The Next Slum?" *Atlantic* 301, no. 2 (March 2008): 74.

CHAPTER 1

# Roots of Western Urban Form: Centralization

This chapter focuses on key points in the evolution of human settlements that, while reflecting very specific times, cultures, and conditions, also serve as the roots of America's planning and urban design traditions.

## First Cities

### Early organized societies: Organic cities

Whenever archeologists think they have identified the oldest human settlement, it seems that a dig somewhere else unearths an even older one. Each new find adds to a rich human tradition: Cities exist because humans are social beings, variously tribal, communal, and mutually supportive. From nomadic beginnings—first hunter-gatherers, then tribal herdsmen—came agricultural settlements that eventually clustered for religious, administrative, defensive, or economic reasons. With the emergence of surplus economies, hierarchical societies appeared and supported the growth of villages, then towns, and, finally, cities.

In simplified terms, two basic city forms emerged early in Western civilization: the organic and the geometric.[1] Organic cities arose by chance and accretion; they grew willy-nilly. Geometric cities were typically planned, functional, and rational. Geography, climate, and land apportionment shaped both forms, whether in an administrative center in a Mesopotamian kingdom, a trading settlement on the Silk Road, a Mexican colonial outpost, or a farming community on the Canadian plains.

Likely the more ancient of the two, organic settlements developed around regional crossroads, safe harbors, river crossings, and access to mountain passes or other geographic features crucial to trade or defense. Sometimes an expanse of arable land, reliable access to water, and a good defensive position encouraged settlement. From these beginnings, streets and public ways arose from the paths people and animals traveled, guided by topography. Original settlement patterns, allotment by rulers, negotiation, and trade likely governed land distribution. Often the result was a radial-concentric plan, as small villages merged and, eventually, formed

into a town and then a city. Venice and Siena in Italy fall into this category, as do some newer cities, like Boston.

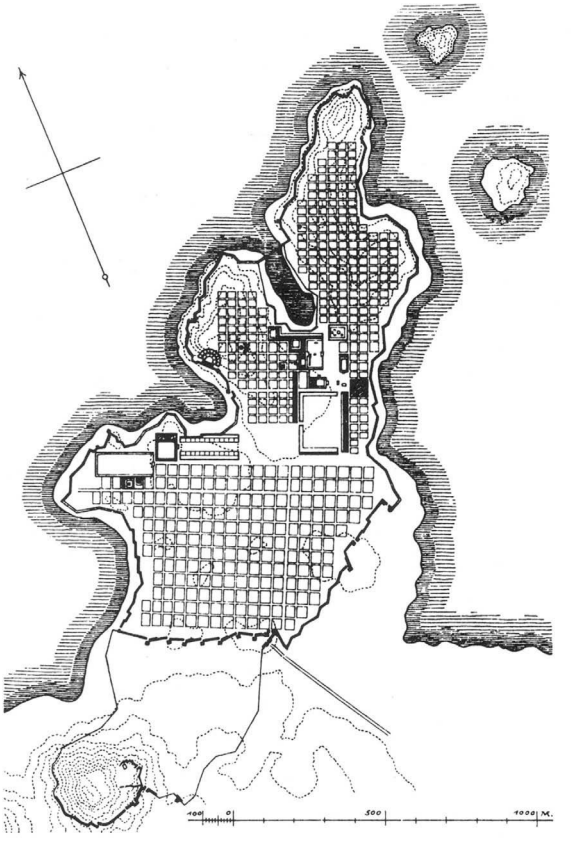
## Stronger political, social, and religious organization: Geometric cities

The geometric city form was intentionally designed in some fashion; it dates to at least 2600 BCE. The cities of Mohenjo Daro and Harappa in the Indus River Valley are two early communities that comprised blocks formed by streets running at right angles.[2] Rectilinear patterns also appear in excavated towns in Babylon and China that date from the seventeenth to fifteenth centuries BCE. The Egyptians also knew geometric planning: Kahun (nineteenth century BCE) and Amarna (fourteenth century BCE) each follows a rigid gridiron plan, as much for religious reasons as for the speed and mechanization such a plan allowed. Lewis Mumford writes, "City building under the pharaohs was a swift, one-stage operation: A simple geometric plan was a condition for rapid building. . . . More organic plans, representing the needs and decisions of many generations, require time to achieve their more subtle and complex richness of form."[3]

Such considerations indicate a more mature society—one that has outgrown purely organic roots. They also suggest authoritarian rule. Geometric settlements were often planned in advance as central places for religion and commerce, remote outposts for control of regional populations, or colonial encampments that prioritized defense and control in their design. The grid offered a practical method for allotting land in colonial settlements and for demarcating land according to use and function.[4]

The Greek city of Miletus in Asia Minor offers one of the best-known early examples of geometric planning. While Greek cities on the mainland tended to develop along topographic contours in an organic pattern, Greek colonies in Asia Minor and elsewhere followed a more geometric path.[5] Rebuilt in the fifth century BCE after having been razed during the Persian Wars, Miletus spread out on a gridiron around a central, rectangular agora in a plan often attributed to Hippodamus. This organizing scheme proved so compelling that it took on the city's name—Miletian.

As the Greeks spread westward along the Mediterranean's shores, they exported the Miletian plan to their outposts in Italy, where the Romans later



1.1 Plan of Miletus (fifth century BCE). Reconstruction of the Greek colony in Asia Minor—carried out after being sacked by the Persians—followed a gridiron plan, with square blocks radiating from a central agora. As they established subsequent colonies around the Mediterranean, the Greeks replicated the Miletian plan. Courtesy Holger Ellgaard, via Wikimedia

1.2 Dubrovnik, Croatia. The Byzantine empire inherited the Miletian plan from Rome and prescribed the grid that still distinguishes Dubrovnik's historic center from development outside its walls, which were begun in the ninth century and completed during the Renaissance.

adopted it. From their rise to power until the demise of their empire in the fifth century CE, the Romans built numerous cities and towns on the Miletian plan throughout what is now Western Europe. These communities, often fortified outposts called *castra*, usually followed the same strict grid pattern around a central forum. Sometimes they were overlaid atop preexisting settlements of other cultures; cities as distinctive as Cologne, Florence, and London all grew from such beginnings. In Tuscany, behind massive sixteenth-century walls, the historical center of Lucca still preserves its original Roman street grid.

The classical cities that developed from these two beginnings evolved over hundreds and thousands of years. Rome itself combines organic origins and gridded streets, and historians have identified at least six layers of reconstruction, with the Roman grid absorbed into successive periods of growth and decay.

## Rebirth of European Cities: "Organic" Cities of the Late Middle Ages

Few new European cities arose in the centuries after the fall of Rome, and military considerations strongly shaped those that did, primarily *bastides* in France and Zähringer towns in Germany. Inspired by Roman military outposts, these towns followed a strict Miletian pattern arrayed around a central market square. Planned from scratch, they exemplified medieval town planning and urban design.

*Bastide* towns dotted the Languedoc, Aquitaine, and Gascony during the thirteenth and fourteenth centuries, when the Hundred Years' War between France and Britain raged over much of France. *Bastides* were typically planned and built as single units, often by a single lord; Alphonse of Poitiers for example, built several in a bid to consolidate territorial control.[6] Roman influences remained strong in medieval France, and the *bastides* adopted the plan of the *castra* that preceded them. Wide streets at right angles crossed a central marketplace, dividing the town plan into super blocks, or *insulae*, which were further divided by narrow lanes. Among other things, the grid plan's modular character facilitated tax collection and record keeping,[7] considerations that encouraged its use in later centuries.

The dukes of Zähringer built fortified towns in Germany's Rhine Valley in the twelfth century, seeking, like Alphonse of Poitiers, to tighten control over their domain.[8] Freiburg, Villingen, and Rottweil survive as examples of the form and, as in France, drew heavily on the model of the *castra*, with a Miletian grid plan built out from a central marketplace.

What might be characterized as medieval urban design extends beyond *bastides* and Zähringer towns, however. Cities during the same period, some dating to antiquity, undertook major renovations and expansions that resulted in some of Europe's most renowned public spaces. From its beginning as a small plaza facing the Basilica di San Marco in Venice, the Piazza San Marco took on its present configuration in the twelfth century, when it was rebuilt to accommodate a historic meeting between Pope Alexander III and the Holy Roman Emperor Frederick I (Barbarossa). The piazza continued to grow incrementally; the doge's palace, the clock tower, and the campanile were added between the fourteenth and the sixteenth centuries.

The Piazza del Campo in Siena sits on gently sloping ground between the three original settlements that make up the present-day city. The piazza we see today dates largely from reconstruction carried out in the

1.3 Piazza del Campo (fourteenth century), Siena, Italy. The Piazza del Campo broke with an important medieval city-building tradition. Instead of serving as the setting for a cathedral, the piazza's focus is a secular building, the Palazzo Pubblico, seat of the Sienese republic. The square prefigured the modern idea of secular civic space. Courtesy Manfred Heyde, via Wikimedia

thirteenth and fourteenth centuries, when the Palazzo Pubblico was completed. While the piazza may seem like the quintessential medieval space in the quintessential medieval city, it pointed toward a major functional change. Unlike the Piazza San Marco and other medieval public spaces that served as forecourts to great cathedrals, the Piazza del Campo serves no religious building; it focuses instead on a civic building, the Palazzo Pubblico, prefiguring the Renaissance and the beginnings of modern secular civic space.

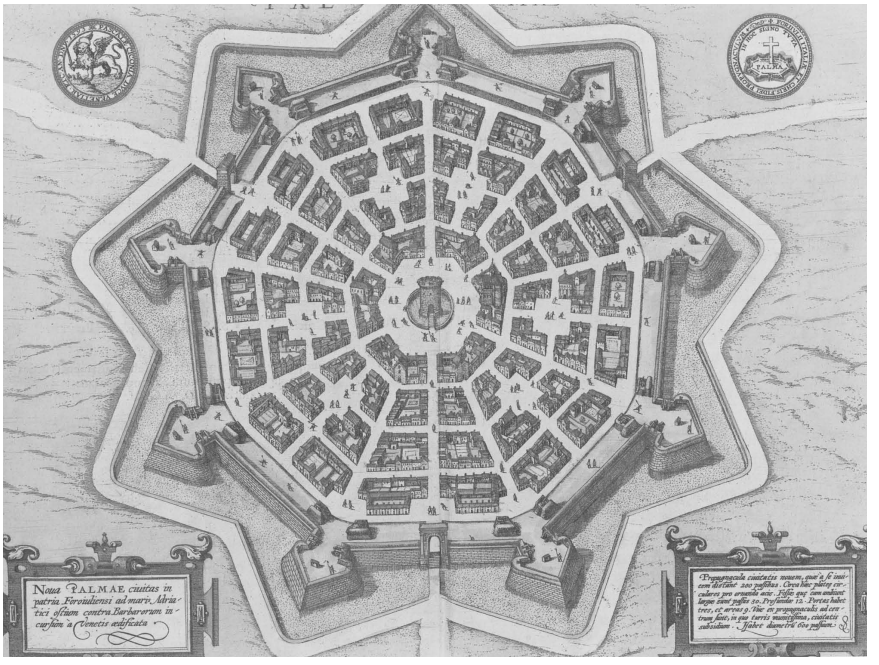
## Reintroduction of Classical Learning: "Geometric" Cities of the Renaissance

In Europe, the Renaissance revived interest in the great civic works of classical Roman architecture, sparked in part by wide distribution of *De architectura*, a rediscovered treatise written by the Roman engineer Marcus Vitruvius Pollio (first century CE). The new awareness of classical architecture reflected an emerging humanist worldview that heavily influenced European ideas about cities, as demonstrated in Pienza in Tuscany. Designated a United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Site in 1996, the diminutive city serves as a prime example of early Renaissance city planning. UNESCO's citation praised the town's "outstanding universal value" as "the first application of the Renaissance Humanist concept of urban design, and as such [it] occupies a seminal position in the development of the concept of the planned 'ideal town' which was to play a significant role in subsequent urban development in Italy and beyond."[9]

Pienza owed its transformation to Pope Pius II, who, in 1459, launched a rebuilding of the center of his native town in conformance with emerging Renaissance principles. To direct the work, he hired Bernardo Rossellino, a follower of Leon Battista Alberti, whose approach to architecture foreshadowed modernity in many ways. In addition to advocating the conscious creation of public places, he and his followers recommended the prohibition of buildings housing noxious and noisy activities, such as tanneries and slaughterhouses, within town precincts. Instead, he suggested the creation of dedicated districts for craft and industrial use—an early instance of land use zoning. Rossellino brought to Pienza a new vision of urban space that culminated in the creation of Piazza Pio II and its surrounding buildings, including the Piccolomini palace, the Borgia palace, and a pure Renaissance exterior for the medieval cathedral.

In Alberti's wake came a parade of Renaissance theoreticians, from Andrea Palladio to Sir Thomas More, whose writings ranged from purely physical design to the philosophical bases for building. Ideal cities such as Palmanova in northeastern Italy and More's literary utopia, both from the sixteenth century, served as models for centuries of town planning to follow.

While More's *Utopia* imagined an ideal society set in an island nation of reasonable, tolerant, and peaceful people, Palmanova originated in a more bellicose world. Built to defend Venice's eastern flank against Turkish attack, in plan view the city resembles a nine-pointed star, with a focal piazza surrounded by radiating streets. The unusual form grew from the need to command multiple defensive bastions from a central location and to move troops among the bastions quickly and efficiently.[10] Military origins aside, Palmanova's geometry clearly reflected an idealized plan. Its authoritarian pattern, arrow-straight streets, and imposition of human order on nature foreshadow baroque city planning. Those same traits also reflect major advancements in surveying, which allowed the drawing of scaled plans for designing new cities. Ironically, this small military outpost influenced planning for generations. Its pure geometry and containment within a greenbelt of earthworks inspired planners and designers as diverse as Ebenezer Howard and Paolo Soleri.



1.4 Palmanova, Italy (1593). The strict geometry of the plan for Palmanova—a defensive fort east of Venice—grew out of military necessity, but it influenced town planning for centuries. Its straight, wide boulevards and idealized plan surfaced in baroque-era plans across Europe. Purely geometric inside a broad band of earthen bulwarks, it also inspired designs as varied as English garden cities and twentieth-century visionary projects like Arcosanti in Arizona. From *Civitates orbis terrarum*, a sixteenth-century atlas of cities published by Georg Braun and Frantz Hogenberg, via Wikimedia

Architects Vincenzo Scamozzi and Pietro Cataneo also created city schemes that influenced later urban plans. Reviving the classical works of Vitruvius in his *L'Architettura* (1567), Cataneo plotted idealized grid cities peppered with public squares. Even though Cataneo himself saw few of these plans built, they were realized in towns like Charleville in northern France and Avola in Sicily, and they served as models for American cities like Philadelphia and Savannah, Georgia.[11]

By the seventeenth century, the urban ideas of the Renaissance had matured into those of the baroque and had spread across Europe. Like baroque architecture, the urban plans of the era favored artifice on a grand scale, with sweeping vistas and long axes slashed through crowded cities. A zeitgeist dominated by absolute monarchies and the Counter-Reformation strongly influenced European city-building in this era. Rulers and their architects attempted to impose a new sense of order upon the accretive muddle that characterized many European capitals. This new order frequently included an authoritarian preference for straight avenues and clean lines of sight, an inclination reinforced by many planners' backgrounds in military engineering.[12]

In some respects, the work of these baroque engineers shared the instincts of the U.S. urban renewal era more than four hundred years later. It did not seem to bother Italian military engineers of the time, Lewis Mumford writes, that the "encumbrances" they ordered removed "were human households, shops, churches,

neighborhoods." The fact that this "tissue of habits and social relations" could not be replaced "did not seem important to the early military engineer any more than it seems so to his twentieth-century successors, in charge of 'slum clearance projects' or highway designs."[13]

This unfortunate parallel may hold true, but this era also gave birth to some fundamental concepts of modern urban design: the idea of the street as a spatial element in its own right; the concept of purposely shaped and defined public space and street networks organized by visual foci; and the idea of deploying buildings with uniform facades to define streets and other public spaces.[14]

Beyond the development of new concepts, urban conditions required new approaches in the baroque era as the populations of cities swelled dramatically, often overwhelming the functional capacity of medieval street systems. Like planners in later periods, the era's city builders worked to bring public health, light, and air into the city, to clear hopeless gridlock, and to bring order to perceived chaos.

Early in the seventeenth century, Pope Sixtus V worked with the architect Domenico Fontana to devise a new master plan for Rome.[15] The plan introduced a network of long, straight avenues connecting the Porta del Popolo to churches, monuments, and formal public spaces, among them the basilicas Santa Maria Maggiore (St. Mary Major) and San Giovanni in Laterano (St. John Lateran) and the Colosseum. Sixtus's plan created what Edmund Bacon calls "a controlled sequential experience" out of what is basically a "movement-system design structure."[16] Demarcated by a series of obelisks erected by Sixtus, the system served as the principal framework for city-building in Rome for several centuries. Such significant public spaces as the Piazza del Popolo, the Piazza Barberini, and the Spanish Steps were later designed and built around this framework.

Giovanni Lorenzo Bernini's acclaimed Piazza San Pietro, which superbly rationalizes the entrance sequence to the Basilica di San Pietro in Vaticano (St. Peter's Basilica), stands as a preeminent example of baroque planning and design. Bernini designed the colonnade and piazza around one of Sixtus's obelisks in another nod to the pope's vision for Rome. Combining an understanding of perspective inherited from the Renaissance with the baroque penchant for illusion and grandeur, Bernini ingeniously blended oval and trapezoidal plans to foreshorten perspective and make the cathedral seem closer to the piazza than it actually is.[17]

Baroque urbanism also broke new paths well beyond Italy. In France, the expansion of the Château du Louvre and the development of the Tuileries Garden both exhibit baroque preferences. Not satisfied with those projects, Louis XIV built Versailles and relocated his court there toward the end of the sixteenth century, replacing the Louvre as the royal residence. The axial layout of Versailles and the long perspective vistas of André Le Nôtre's gardens rank among the foremost examples of urban design and landscape architecture from the baroque period.

In 1660, England's Charles II hired Le Nôtre to plan London's Pall Mall. The Great Fire of 1666 provoked a flurry of proposals for rebuilding the entire city from architects and planners, including Sir Christopher Wren and John Evelyn. None was actually implemented, but most displayed the strong influence of Continental designers like Le Nôtre. In submitting his plan to Charles II, Evelyn invoked three principles for the proposed reconstruction: "beauty, commodiousness, and magnificence." The last principle most clearly reflects the baroque tradition, and Evelyn's plan of gridded streets broken by long, axial diagonal avenues clearly follows contemporary examples from the Continent.

England exported the ideas it had absorbed from the Continent to its possessions abroad. The Regional Plan for the Ulster Plantation was produced in the early seventeenth century as part of the colonization of Ireland. In a 1614 master plan for the walled city of Derry (now Londonderry), baroque planning principles define the

1.5 Piazza San Pietro (1656–67), Vatican City. Bernini's quintessential baroque plan for a plaza and colonnade masterfully blends Renaissance knowledge of perspective with the baroque penchant for grandeur and illusion to orchestrate the experience of approaching St. Peter's Basilica. Courtesy Jalesee, via Wikimedia

streets and square that make up "the Diamond." The design of space surrounding key public buildings—such as St. Columb's Cathedral and the Bishop's Palace—received careful attention. As buildings (designed in the emerging baroque architectural style) began to fill in the dictated street pattern, they formed collective walls that reinforced the public spaces.[18]

Spain sent baroque European planning ideas to its cities in the New World, as did other colonial powers. In fact, the urban design principles that emerged in the baroque period came to dominate city planning and urban design in both Europe and the New World over the next three centuries. The same ideas of axial public streets and landscaped boulevards; radial and diagonal patterns defined by specific visual focal points; monumental public spaces; and uniform street walls characterized Pierre-Charles L'Enfant's plan for Washington, D.C., Baron Georges-Eugène Haussmann's plan for Paris, and many other urban plans and expansions in both Europe and the Americas. But baroque planning of another sort, borrowing heavily from the Miletian tradition, ultimately wielded the most influence in North America.

## The Emergence of Merchant Cities: Integrating Renaissance Ideas and the Marketplace

In the Netherlands, Amsterdam in 1607 adopted the Plan of the Three Canals,[19] which called for a quadrupling of the city's area with the construction of three new encircling canals that would also serve as the main streets of new districts. The plan's innovation lay not only in these combined canal-streets but also in its incorporation of phased execution over a long period of time: each canal would serve as the outer boundary of the city in successive enlargements. In its long, straight canals and streets, and its radial form, the plan created a spiderweb pattern that drew heavily on baroque planning in other parts of Europe. Yet it also relied upon a distorted version of the ancient Miletian grid (borrowing slightly, perhaps, from the earlier plans of Pietro Cataneo).

The grid form supported another innovative quality of the plan: its joint execution by public and private actors. The municipal government drew up a plan that parceled out the land in a grid of blocks, established firm guidelines for the use and form of the buildings along the canals, and reserved specific areas of land for churches and marketplaces. That done, the government pulled back and left build-out largely to the private sector—often investors working for profit.[20] This approach prefigured the planning of North American cities. Gridded expansion, phased construction, and a combination of public and private enterprise all anticipated the methods that American cities adopted in subsequent centuries.


1.6 The Plan of the Three Canals (1607), Amsterdam. The Three Canals Plan, adopted by the municipality, introduced a baroque sense of geometry and order into expansions of the medieval city. Amsterdam's novel approach to the plan's execution proved influential in the United States: the municipal government identified the plan area and set guidelines for construction, but it left realization of the plan to private developers. Courtesy of Geography and Map Division, Library of Congress