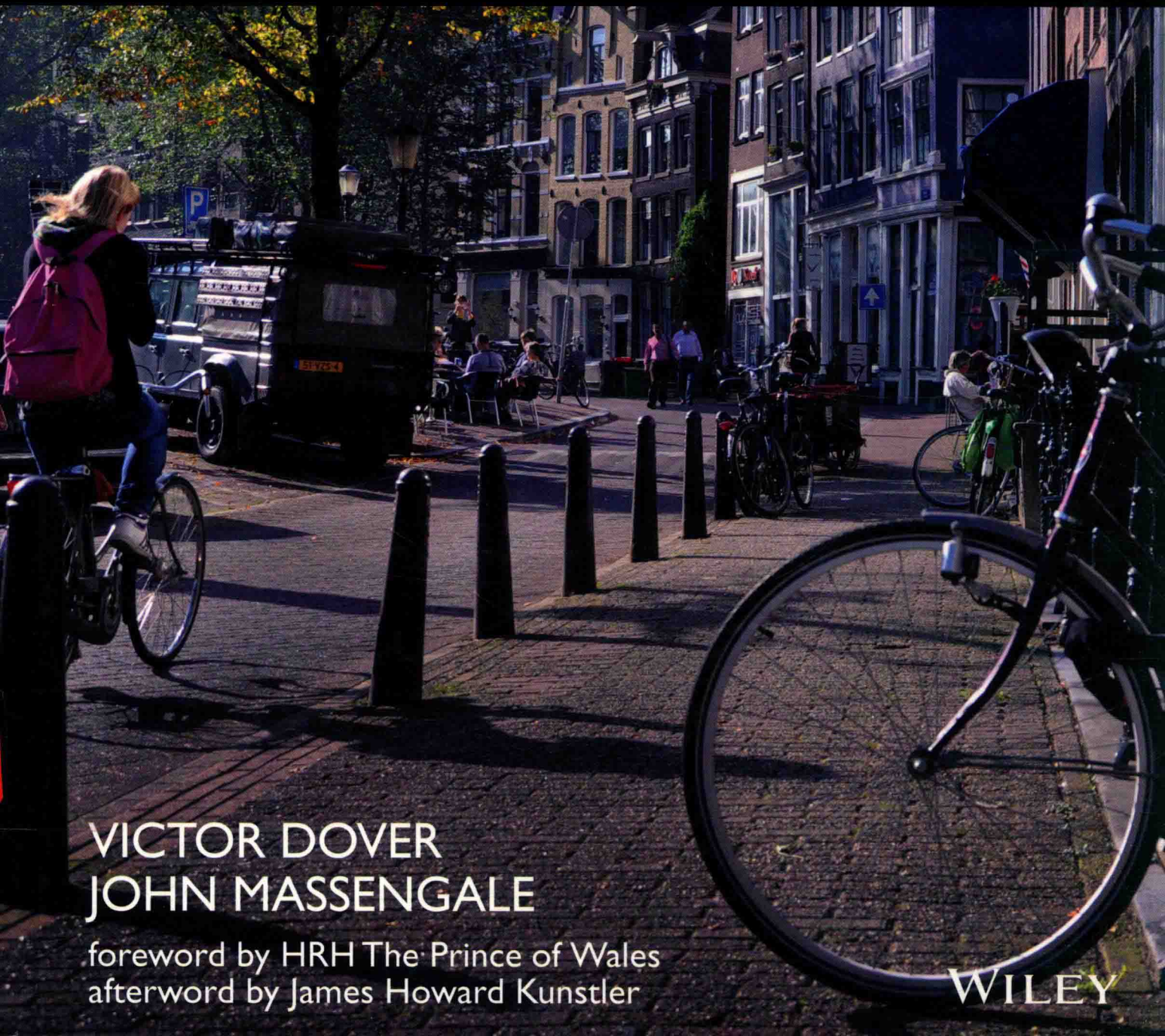


# STREET DESIGN

The Secret to Great Cities and Towns



VICTOR DOVER  
JOHN MASSENGALE

foreword by HRH The Prince of Wales  
afterword by James Howard Kunstler

WILEY

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John Massengale and Victor Dover

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## CLARENCE HOUSE

I am delighted that an evolutionary change in thinking seems to be underway worldwide about how best we can make and sustain our villages, towns and cities. Streets are meant to be places for people and this is most evident in our historic centres – where comfortable streets have made it possible for neighbourhoods to adapt again and again, even as culture and technology have continually evolved. On the other hand, the harsh and unwelcoming streets of urban sprawl were made for moving cars at high speed; their very geometry is car-based and, not surprisingly, these streets are often unsafe for pedestrians.

A handful of fundamental principles seem to separate the streets where communities flourish from those that do not. These principles form the central message of this book.

Learning from observing is one of those fundamental principles. Observation is perhaps the street designer's most powerful tool. At Poundbury, in Dorset, where I have attempted to put these principles into practice for more than 20 years, we have applied lessons learnt from other market towns and villages. For example, we realized that if we wanted to create a walkable town, we would need to insist that the car was not the focus in the physical design, but rather that the street is a pedestrian space through which cars are permitted to move, albeit slowly and safely. There are virtually no traffic signs or painted lines on the ground; instead there are spatial changes and physical and architectural features in a sequence along the streets. These sorts of spatial sequences were normal features in historic towns. Designing the streets this way has lent safety to the town, but it has also created a built environment that relates to the human scale and to the local identity. It is certainly encouraging that all the efforts at Poundbury, in Dorset (England), and my Foundation for Building Community's work elsewhere, have been cited as models in the British Government's new manual "Designing Streets".

Learning from observing is at the root of all living traditions, especially art – and street design is indeed an art; it is the art of place-making and that can only be acquired through study and application. The best streets in the world's villages, towns and cities – whether modest or grand – continually remind one that *simplicity* is part of the recipe for success in this art. The advice of Victor Dover and John Massengale, their historic examples and their own designs, reflect that simplicity.

Great streets define great cities; great cities establish harmony with Nature, continually improve societies and stimulate economic progress in a genuinely sustainable way. There is a real urgency to apply these principles in street design. The rewards will be worth every bit of effort.

# PREFACE

WE—JOHN AND VICTOR—have been looking at and thinking about streets for decades. We've logged our favorites in sketchbooks and debated their many differences. At the same time, we've come to understand that what makes a good street is not as subjective or as complex as some might think. In fact, making good streets comes naturally to people, and has for thousands of years.

Studies show that when people are given maps of a town or city and asked to walk around and mark on the maps the places they like and don't like, their choices correspond to a great degree. Yes, some people have more formal tastes than others, and there are other preferences that might distinguish one person's favorites from another's. But increase the sample size, and the preferences become part of a predictable range with a lot of overlap. There is always a consensus about which places are the best and which are the worst, regardless of personal preferences. Practically everyone will say that the Piazza San Marco in Venice and the streets on the Left Bank in Paris are beautiful. Similar reactions are found in cities, towns, neighborhoods, and villages around the world.

If there is so much consensus on what makes a good street, why are we still building so many bad and ugly ones? The reasons can be identified and addressed. Today, too few people bother to think about what makes them feel at home on the street in the first place. Take the time to look, and anyone will begin to notice the patterns of buildings, trees, and comfortable spaces that set the better streets apart from the rest.

For this book, we made lists of our favorite streets, and then examined what made them special. We asked our colleagues to tell us about the streets they admire, and we went into the library and looked online to find other lists of great streets. Then we went out to reexamine many of the streets in person—photographing them, taking measurements, and observing the way people behave and interact on them. We had the pleasure of visiting many great streets,

and we were able to see how the experience of visiting the streets today compared to our memories or our colleagues' recommendations. We could see if there had been changes, and if those had made the street better or worse.

A problem we found everywhere was that the automobile has taken over our streets. Writers like Peter D. Norton have shown how Organized Motordom pushed everyone but the driver and his car to the side of the road—and then sometimes took the sidewalk, too.<sup>1</sup> Well-meaning authorities redesigned roads for “throughput” and removed obstacles like pedestrians, who were getting in the way of the cars. This emphasis on driving frequently undermined public spaces that were once wonderful for walking. Some of our favorite streets, when revisited, were no longer agreeable places to be: spending a few hours on the Boulevard St. Germain in Paris was exhausting, because of the never-ending noise, smell, and energy of the cars racing along it (Figure 0.2). The formerly pleasing broad High Street in Marlborough, England, no longer felt like the town center, due to the sheer volume of cars and trucks passing through it on their way from somewhere else to yet another place. Newer streets were often even more disagreeable.

Along with the success stories, therefore, we saw problems, and we also looked at new and old examples of streets commonly regarded as failures. We recorded some of those too. Our hope is that every reader will come away with a sharper sense of the elements that contribute to making a street a place that people seek out or avoid.

The good news is that today, all across the United States, we are in a period of rediscovering our old towns and cities and rebuilding our streets, and more and more people are seeing the need to curtail the radical influence of the car on our physical surroundings. One rallying term for this new vision of community is the Complete Street<sup>2</sup>—one where the pedestrian, the driver, the cyclist, and transit users all have a stake.





**Figure 0.2:** Boulevard St. Germain, Paris, France. Once the center of Bohemian life in Paris, the boulevard St. Germain is now overwhelmed by traffic. *Flâneurs* today walk on other streets.

The bad news is that Americans are frequently ignoring the basic rules of placemaking in our attempts to create complete streets. Professionals of all stripes—often with competing agendas—are designing and building streets with specialized standards and criteria, which is one of the main reasons why our streets get worse and worse. The formulaic, seemingly ubiquitous use of yellow pedestrian crossings, red bus lanes, green bicycle tracks, ugly bumpouts, and uglier white plastic sticks make sense in the narrow focus of the specialist, but look at the world's best streets, as we have, and you will find they don't have these special things. What they do have is a

limited palette of materials in the roadbed and on the sidewalk. When you visit them, what you notice is the beauty and the harmony of the place, not the details like the crosswalks or the bench selection.

In the following chapters, we will look at why streets matter. We will examine historic streets, retrofitted streets, new streets, and street networks. Our hope is that our readers will come to see that we can all envision better places—and then fix our streets, by design. We *must* make the most of the glorious new opportunities to build more walkable towns and cities by creating streets that are places *where people actually want to be*.

## NOTES

1. Peter D. Norton, *Fighting Traffic: The Dawn of the Motor Age in the American City* (Cambridge, MA: The MIT Press, 2011). Also see Tom Vanderbilt, *Traffic: Why We Drive the Way We Do (and What It Says About Us)* (New York: Vintage, 2009).
2. "Now, in communities across the country, a movement is growing to **complete the streets**. States, cities and towns are

asking their planners and engineers to build road networks that are safer, more livable, and welcoming to everyone. Instituting a **Complete Streets policy** ensures that transportation planners and engineers consistently design and operate the entire roadway with **all users** in mind—including bicyclists, public transportation vehicles and riders, and pedestrians of all ages and abilities."—from the website of the National Complete Streets Coalition at <http://www.smartgrowthamerica.org/complete-streets>.

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Our colleagues in the Congress for the New Urbanism contributed their wisdom in many discussions. Peter Katz coached and prodded. Rick Hall shared his insights and

unflagging enthusiasm about engineering (and engineers). Billy Hattaway, Norm Garrick, Dewayne Carver, and Gary Toth also pitched in their engineering wisdom. Bob Gibbs shared his great knowledge of the rules of successful retail. Elizabeth Plater-Zyberk and Rusty Bloodworth pointed out London streets we didn't know, and the pro-urb, Urbanists, and Trad-Arch listservs helped us kick ideas around. Fred Kent, Dan Burden, Mike Lydon, Richard Layman, Michael Ronkin and others did the same in extensive email discussions. Aaron Naparstek and Benjamin Fried led us to the latest news and opinions about bicycles, while the CNU's Project for Transportation Reform under Marcy McNelly established a thought provoking foundation for this work. At Smart Growth America and the Complete Streets Coalition, we owe a debt to Geoff Anderson, Ilana Preuss, Barbara McCann, and Roger Millar. Beth Osborne at the US DOT and the DC Director of Planning Harriett Tregoning are two of the wisest voices in Washington when it comes to street design. In New York, Janette Sadik-Khan and Jon Orcutt have been smart, inspiring, and generous.

Many people contributed original or historic photographs. Several deserve at least a mention here as well: Sandy Sorlien, Steve Mouzon, Steven Brooke, Joseph Ip, Peter Pennoyer, Anne Walker, David Dixon, David Fishman, and James Mercer. Stephanie Sayre at the Iowa State University Library, Marie Henke at the Nantucket Historical Society, Robert Peterson at the Ingham County DOT, Nilda Rivera at the Museum of the City of New York, Todd Gilbert at the New York Transit Museum, Larry Gould at the Metropolitan Transportation Authority, the staff at HistoryMiami, James Labey at the Royal Borough of Kensington and Chelsea, and Tallulah Morris at the Crown Estate in London all made our work easier. James Dougherty, Kenneth Garcia, Megan McLaughlin, and Andrew Georgiadis at Dover, Kohl & Partners contributed photographs, and James worked on our designs for the Yorkville Promenade, Jane Jacobs Square and Winslow Homer Walk, along with our collaborator Zeke Mermell. The entire crew at Dover-Kohl persistently helped, especially Kristen Thomas, Justin Falango, and, of course, Joseph Kohl.







# CONTENTS

Foreword by HRH The Prince of Wales	ix
Preface	xi
Acknowledgments	xiii
Chapter 1 INTRODUCTION	1
Chapter 2 HISTORIC STREETS	48
Chapter 3 STREET SYSTEMS AND NETWORKS	164
Chapter 4 RETROFITTED STREETS	216
Chapter 5 NEW STREETS	302
Chapter 6 CONCLUSION	362
Afterword by James Howard Kunstler	391
Index	393

# CHAPTER ONE

# INTRODUCTION

Our streets and squares make up what we call the public realm, which is the physical manifestation of the common good. When you degrade the public realm, the common good suffers.

—James Howard Kunstler

THE DESIGN OF CITIES begins with the design of streets. To make a good city, you need good streets, and that means streets where people want to be. Streets need to be safe and comfortable, they need to be interesting, and they need to be beautiful. They need to be places.

◀ **Figure 1.1:** Broad Street, New York, New York. Looking north on one of the main streets in New York City's financial district around 1905. Library of Congress, Prints and Photographs Division, Detroit Publishing Company Photograph Collection, LC-D4-33881

We often think of *buildings* when we think of urban design—as we should. Great streets require great buildings. Good streets can get by with merely good buildings; great or merely good, the art of architecture is clearly indispensable. But streets are the spaces between the buildings, and those spaces need the art of *placemaking*. Placemaking makes the street spaces into settings where people want to be. A place is not a place until there are people in it.

We'll look at great streets in this book and explore what made them great places. Most of them are beautiful, and so it is important to point out that the cliché about beauty being in the eye of the beholder is wrong: we all intuitively know beautiful places when we experience them. If we walk through an arcade in Venice and come out in the Piazza San Marco, no one has to tell us that this is a profound and uplifting experience. There can also be a great deal of beauty in everyday experience, as we see on many “ordinary” Main Streets





**Figure 1.2:** An “auto sewer” arterial that, except for the palm trees, could be Anywhere, USA. “The road is now like television, violent and tawdry. The landscape it runs through is littered with cartoon buildings and commercial messages. We whiz by them at fifty-five miles an hour and forget them, because one convenience store looks like the next. They do not celebrate anything beyond their mechanistic ability to sell merchandise. We don’t want to remember them. We did not savor the approach and we were not rewarded upon reaching the destination, and it will be the same next time, and every time. There is little sense of having arrived anywhere, because everyplace looks like noplace in particular.” — James Howard Kunstler, *The Geography of Nowhere*.



**Figure 1.3:** A placeless cul-de-sac: a residential auto sewer in Anywhere, USA. Image courtesy of Megan McLaughlin

in American small towns. When the buildings and trees lining the street give it a sense of enclosure, and the proportions and details form a harmonious whole, Main Street becomes a place where we want to linger, sharing a common experience with our neighbors and fellow citizens.

Tragically, we rarely build streets like that today. The overwhelming majority of the streets in America have been built since World War II, and most of them were built for cars rather than people—like the six-lane arterial road in the middle of nowhere lined with strip malls, shopping malls, big box centers, and the other detritus of modern suburban life (Figure 1.2). These cheaply built, poorly designed sites and buildings do not feel like authentic places to us: there is no there there.<sup>1</sup> The roads are what the writer James Howard Kunstler calls “auto sewers”—suburban “thoroughfares” sized by engineers to make the traffic flow like water in a pipe. Sometimes it seems more like sludge in a sewer pipe.

Not surprisingly, the streets that result look as though they were made for cars. No one walks on them if they can possibly avoid it (Figure 1.3). The problem with these streets is not just their location, far from anything except other shopping centers and big box stores. Their design and construction are bad for people, too. The scale is vast and frightening, speeding cars roar by, there are large swales where the sidewalk should be, and crossing the street is difficult, with long expanses between traffic lights. Even when you get to your destination, you still have to cross a large parking lot that has no sidewalks or shade trees. It’s all ugly, and it’s all depressing.

Fortunately, after decades of fleeing cities and old towns, Americans have embraced walkable towns and neighborhoods again. There’s a common understanding that the automobile-based patterns of building made a physical environment inferior in many ways to the old pedestrian-based one, and that we need to remake our cities, towns, and streets for people. Accordingly, the Federal and local governments are appropriating billions of dollars in a well-intentioned—yet scattered and intermittent—effort to rebuild the nation’s roads.

Less encouraging is that many of the professionals involved in remaking our streets bring with them the criteria and biases of their specialties, and that frequently prevents them from designing streets where people want to be. Bicycle specialists, pedestrian specialists, transit specialists, and even Complete Street specialists may understand the need to add a bike lane or a streetcar, but they often don’t understand placemaking or the importance of the public realm. The professionals in charge usually continue the late-twentieth-century pattern of allocating most of the square footage there primarily to the motor vehicle and its movement—now with the movement of bicycles and buses added. They introduce innovations that make the street safer for those riding bikes or even traveling on foot, but at the same time they repeatedly diminish the space and beauty of the street for the walker. And when you diminish the public realm, you diminish the common good.

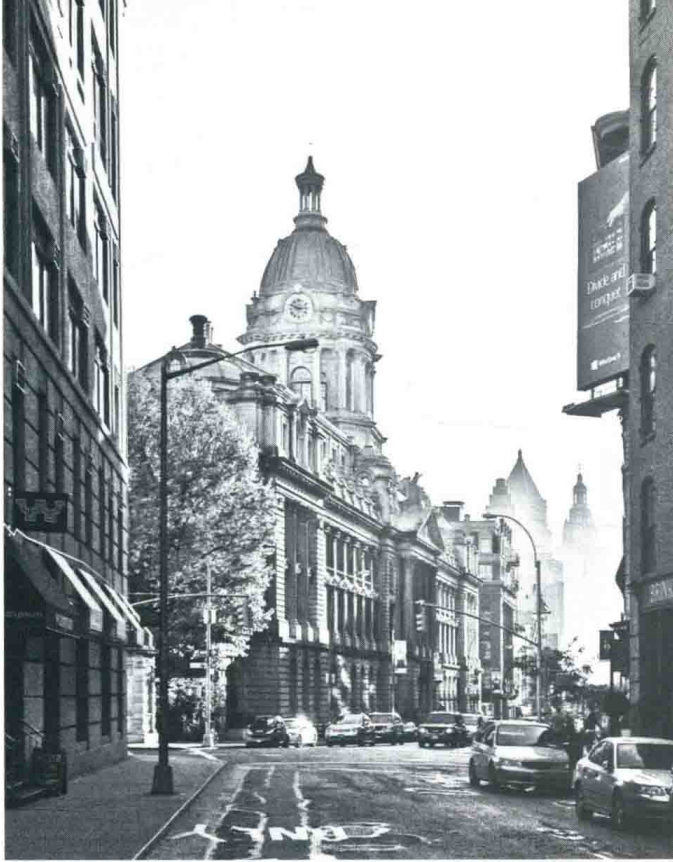
## THE TRADITIONAL STREET

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The history of urban design and street design in Western civilization has its roots in ancient Rome and Athens. For the Greeks and the Romans, the city was the place where men and women came together to make a good and civilized life. The words “civil,” “civilization,” and “citizen” come from the Roman word for city, “civitas.” From the ancient Greek word for city, “polis,” we get “polite,” “political,” and “police,” which reflect the classical idea that the city was a political body of citizens, as well as the place where they politely came together to create civilization. For centuries, the first job of the architect when designing a new building was to make or reinforce the public realm (Figure 1.5).

Ancient Romans talked about the public realm, which they called the *res publica*, as the place where the citizens came together in the *polis*. It was shaped by the buildings in the private realm (*res privata*). In *The Architecture of Community*, the architect and urban designer Léon Krier uses diagrams to show that each realm is incomplete without the other, while the two combine to

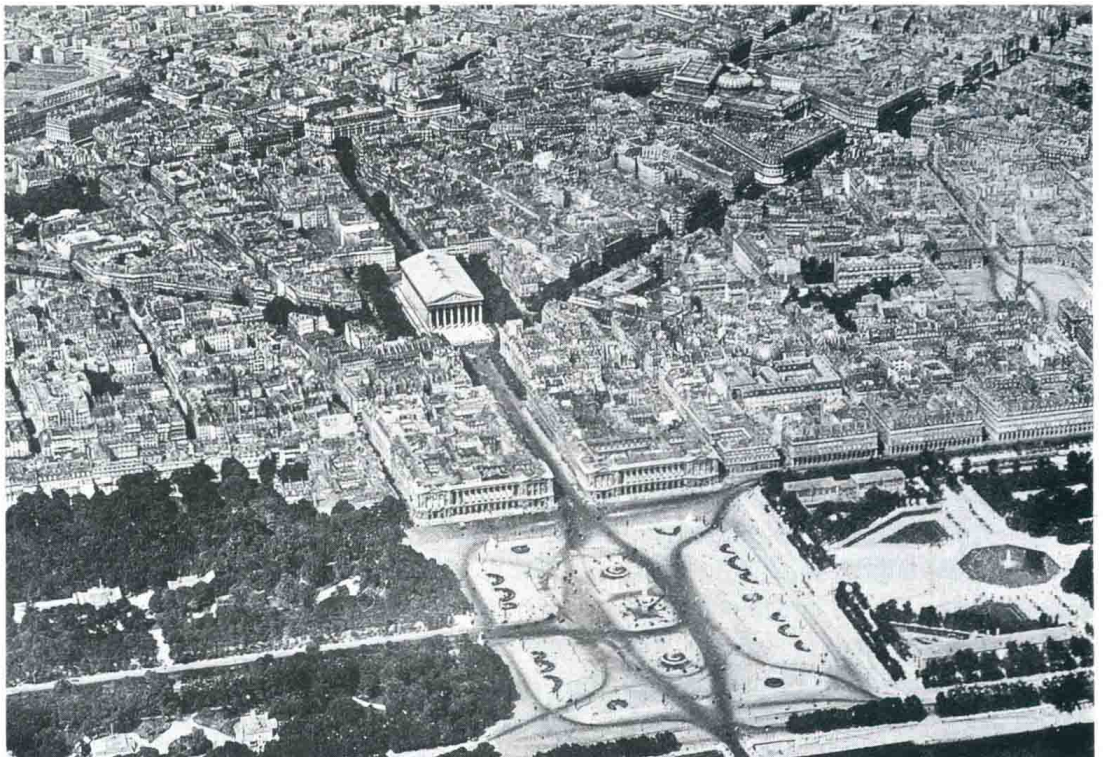




make the complete city (Figure 1.6).<sup>2</sup> In addition to open space (streets and squares and parks), the public realm also includes public buildings such as churches and town halls. Much of the art of traditional urban design and town planning consists of two things: shaping and programming the public realm into a place where pedestrians want to be, and strategically placing public buildings (such as a market or place of worship or theater) so that they are understood to be more important than the private buildings (Figure 1.4).

**Figure 1.4:** Old New York Police Headquarters, 240 Centre Street, New York, New York. Hoppin & Koen, 1905–1909. “The boldest conception of civic art makes it embrace not merely individual groups of buildings with their approaches and gardens but even entire cities. It is one thing to distribute fine groups of public buildings over the area of a city and to connect them effectively. It is a much more difficult thing to relate the entire city to such a scheme.”—Werner Hegemann and Elbert Peets, *American Vitruvius: An Architects’ Handbook of Civic Art*.

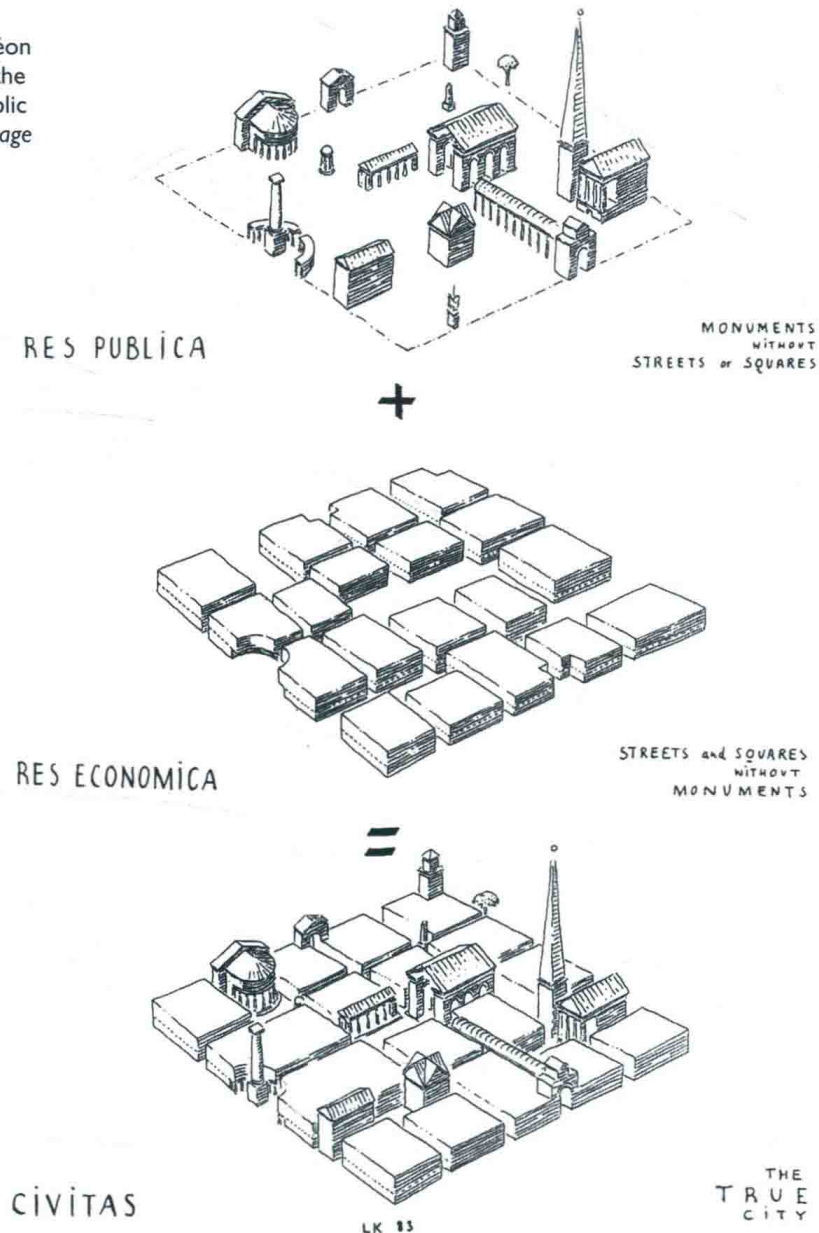
**Figure 1.5:** Paris, France. An aerial photograph of the Right Bank from the early twentieth century. The Church of the Madeleine is at the center, and the place de la Concorde below.



In the modern world, we also have the semipublic domain of stores, businesses, and places of entertainment, such as movie houses, restaurants, and nightclubs. Office buildings now frequently tower above the church steeples that used to be the tallest structures, and corporate headquarters like the Chicago Tribune Tower or the Woolworth Building in New York are distinguished from speculative office buildings by their monumental-

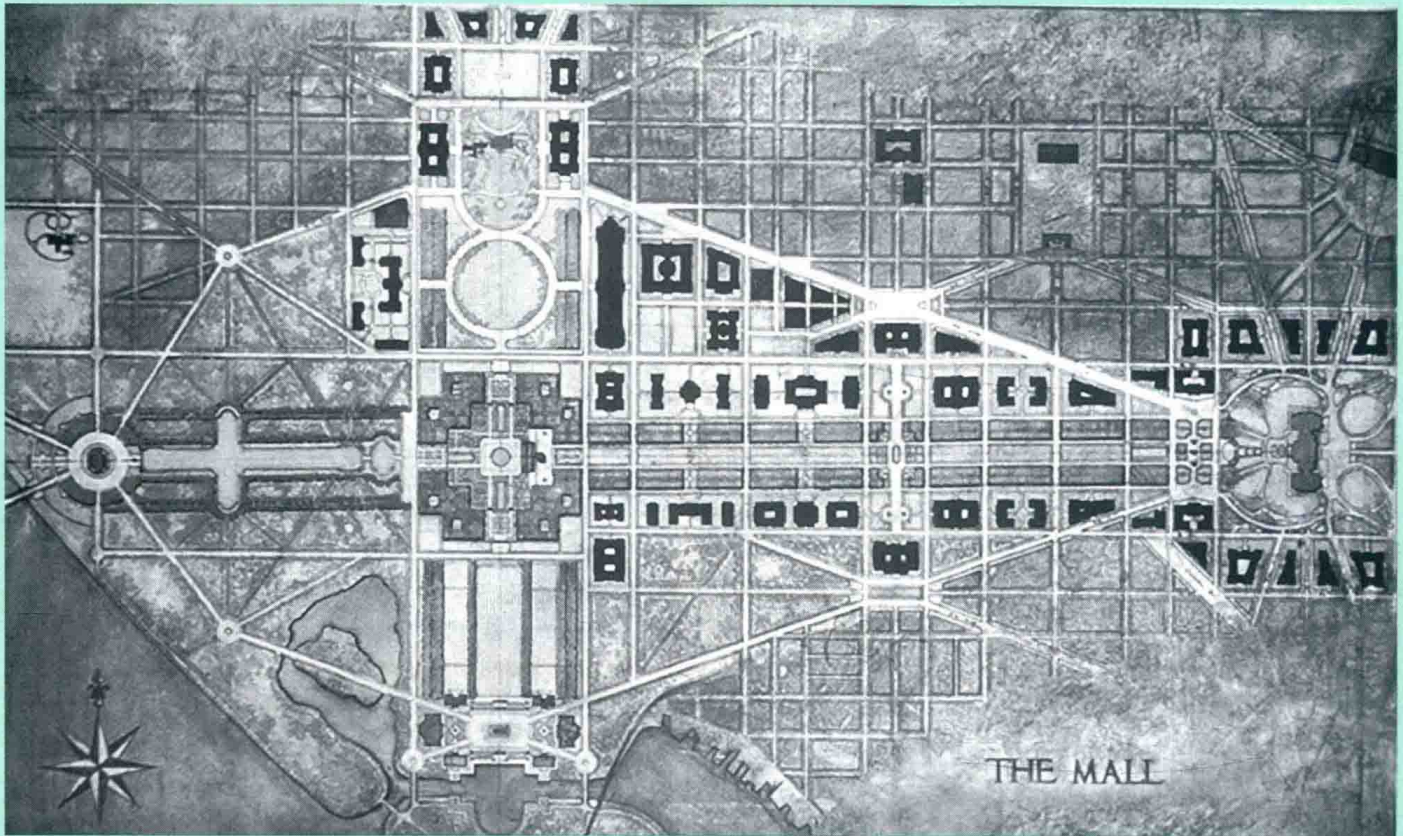
ity and ornate architecture. All these buildings play a large part in making urban places where people want to be. Some of these spaces were meant to inspire a sense of grandeur; others were designed to be intimate. Most important, whether we are strolling through the ruins of the Roman Forum or exploring the streets of Back Bay, Boston, all of these environments were built to a human scale.

**Figure 1.6:** The True City. Léon Krier, 1983. To be complete, the city needs to have both a public realm and a private realm. Image courtesy of Léon Krier





## THE GRID



**Figure 1.7:** McMillan Plan, Washington, DC. Senate Park Commission (Daniel Burnham, F. L. Olmsted, Jr., Charles F. McKim, et al), 1901. At the peak of the City Beautiful movement, the Senate Park Commission hired leading architects and landscape architects to restore the clarity of Pierre Charles L'Enfant's 1791 plan for Washington. The Senate Park Commission was better known as the McMillan Commission, in honor of Senator James McMillan, whose Chief of Staff led the effort.

An American book about street design must mention the grid, however briefly. The rectilinear grid has been used in the planning of towns and cities since at least the fifteenth century BC, when the Chinese started a tradition of gridded plans that they still employ today. In the Western world, the use of rectilinear grids for town plans goes back to at least 2600 or 2500 BC, and the Romans institutionalized a standard gridded plan for the places colonized by the Roman Empire. Roman cities, fortified garrisons, and colonial outposts were designed around the famous *cardo* and

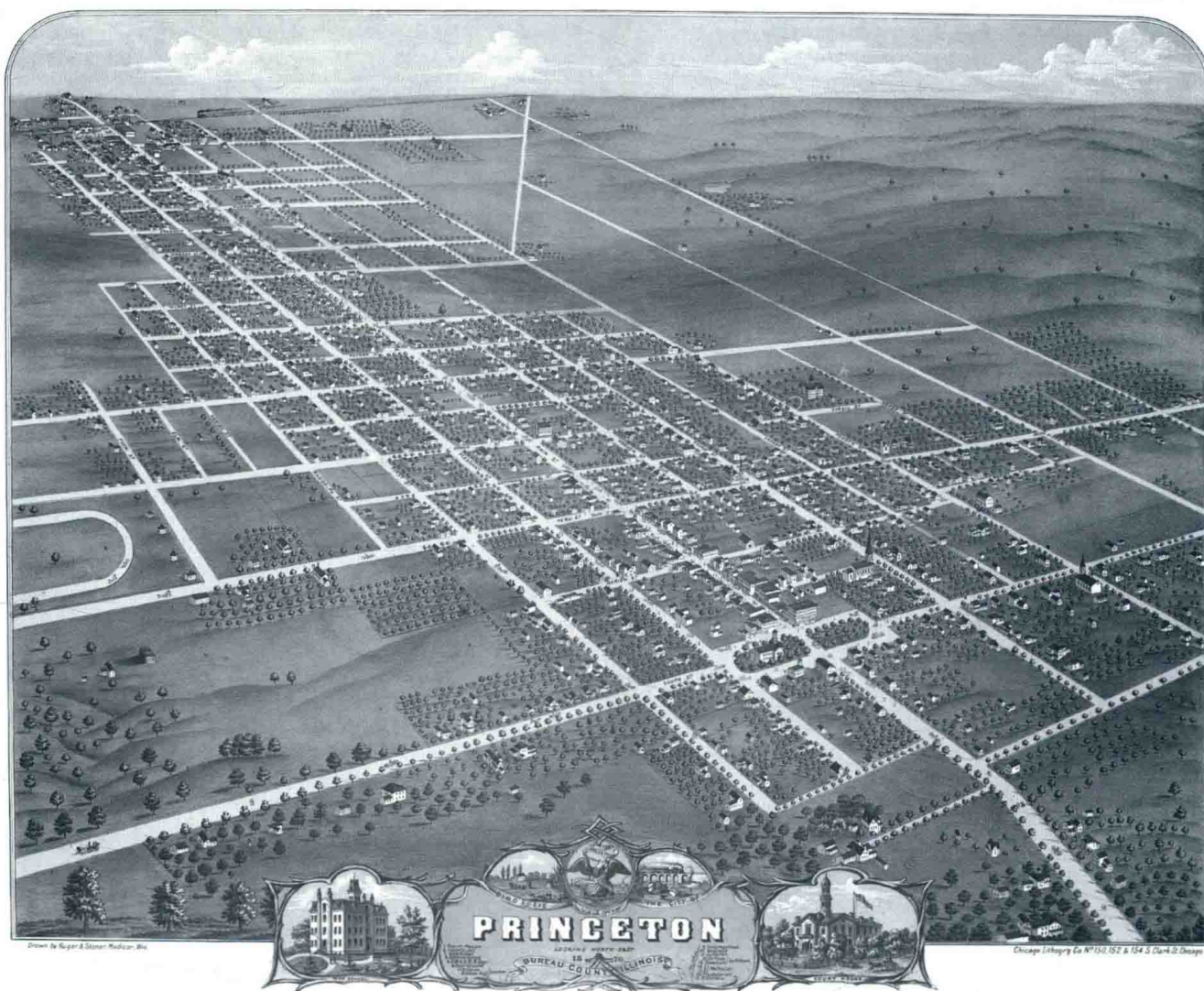
*decumanus*. *Cardi* were north–south streets, and *decumani* east–west streets: the two central axes were the largest streets, known as the *cardo maximus* and the *decumanus maximus*. Where they crossed at the center of the town, there was normally a forum, or public square. The most important streets in many European, Middle Eastern, and North African cities and towns today are still where the Romans built their *cardo maximus* and *decumanus maximus*.

Many early towns and cities in America were laid out by commercial interests that saw the grid as an efficient,









**Figure 1.9:** Princeton, Illinois. Bird's eye view of Princeton in 1870. A perspective map looking northeast, not drawn to scale. Bird's eye views like this were commonly made for American cities and towns in the nineteenth century. *Library of Congress, Geography and Map Division, Ruger Map Collection, g4l04p pm001800*

The predictability of how the grid will shape development is another of its advantages. In 1811, New York's city fathers platted a grid across the island of Manhattan, which was still mainly covered by farmland, woods, and wetland. As in the American towns established by commercial interests, the grid made surveying and selling lots with clear title simple and straightforward. Land speculation started immediately, and the popu-

lation of Manhattan alone multiplied almost fourteen times before the end of the century. Speculation and growth were helped by the fact that the Commissioners' Plan of 1811 continued block sizes already in use in lower Manhattan, so that building types developed there could be easily used in new parts of the city. "A city is to be composed principally of the habitations of men, and that strait sided, and right angled houses