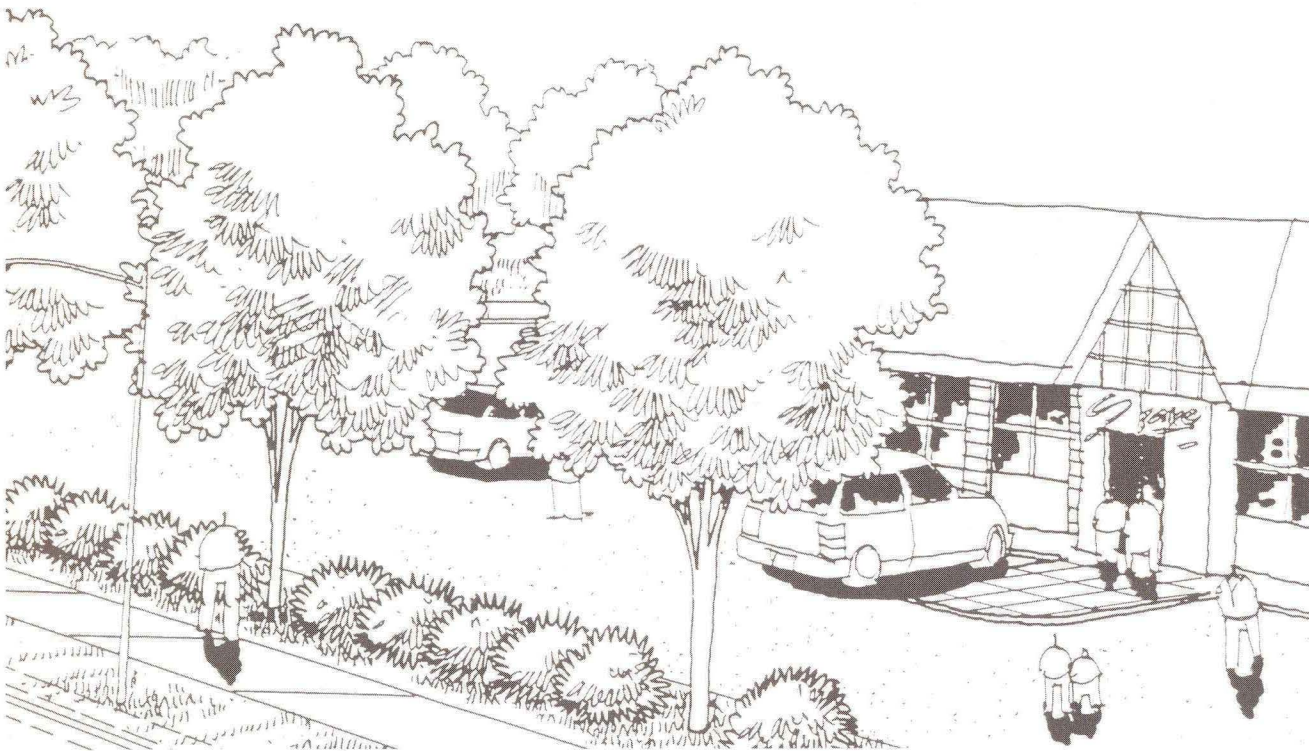


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Street Design in Community Contexts

A Literature Review



IOWA STATE UNIVERSITY
University Extension

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Table of Contents

Table of Contents	i	
List of Illustrations	ii	
I. Introduction	1	
II. Primary Sources	4	i
1. <i>How Cities Work: Suburbs, Sprawl, and the Roads Not Taken</i>	4	
2. <i>The Regional City: Planning for the End of Sprawl</i>	6	
3. <i>Streets and Patterns</i>	8	
4. <i>Great Streets</i>	10	
5. <i>On Streets</i>	12	
6. <i>Livable Streets</i>	14	
7. <i>Public Streets for Public Use</i>	16	
8. <i>Streets: Old Paradigm, New Investment</i>	18	
9. <i>Learning from Las Vegas: The Forgotten Symbolism of Architectural Form</i>	20	
10. <i>The View from the Road</i>	22	
III. Internet Resources	24	

Illustrations

ii

Figure 1.	Map of the area of rue d'Aligre in Paris showing "Space of Public Claim"	2
Figure 2.	Intersection of Hope and Manchester Boulevard	4
Figure 3.	Street designs applicable to the St. Croix Valley	6
Figure 4.	Diagrams of traditional and modern street patterns	8
Figure 5.	Plan and section drawings of Castro Street in Mountain View, California	10
Figure 6.	Illustration of the Streets Game developed for downtown Binghamton, NY	12
Figure 7.	The ecology of street life: in pictures	14
Figure 8.	Pedestrian corridor guidelines	16
Figure 9.	A conventional right-of-way, a one-way street in the town of Orangeville, and utility placement alternatives	18
Figure 10.	A comparative analysis of directional spaces in Las Vegas	20
Figure 11.	Part of a composite sketch sequence of the Northeast Expressway in Boston	22
Figure 12.	Drawing of the central business district in an agricultural community	24
Figure 13.	Pedestrian facilities	26
Figure 14.	A pedestrian travel way clear of obstructions	27

Introduction



Compiling a bibliography on streets poses a dilemma. Works devoted to streets, narrowly conceived, are not sufficiently rich to justify the exercise. Broadly conceived, "streets" is a topic that opens to extensive literatures in many fields. Some works that never use the word streets may then appear more pertinent than others that carry the word in their titles (Anderson 1987, p. 386).

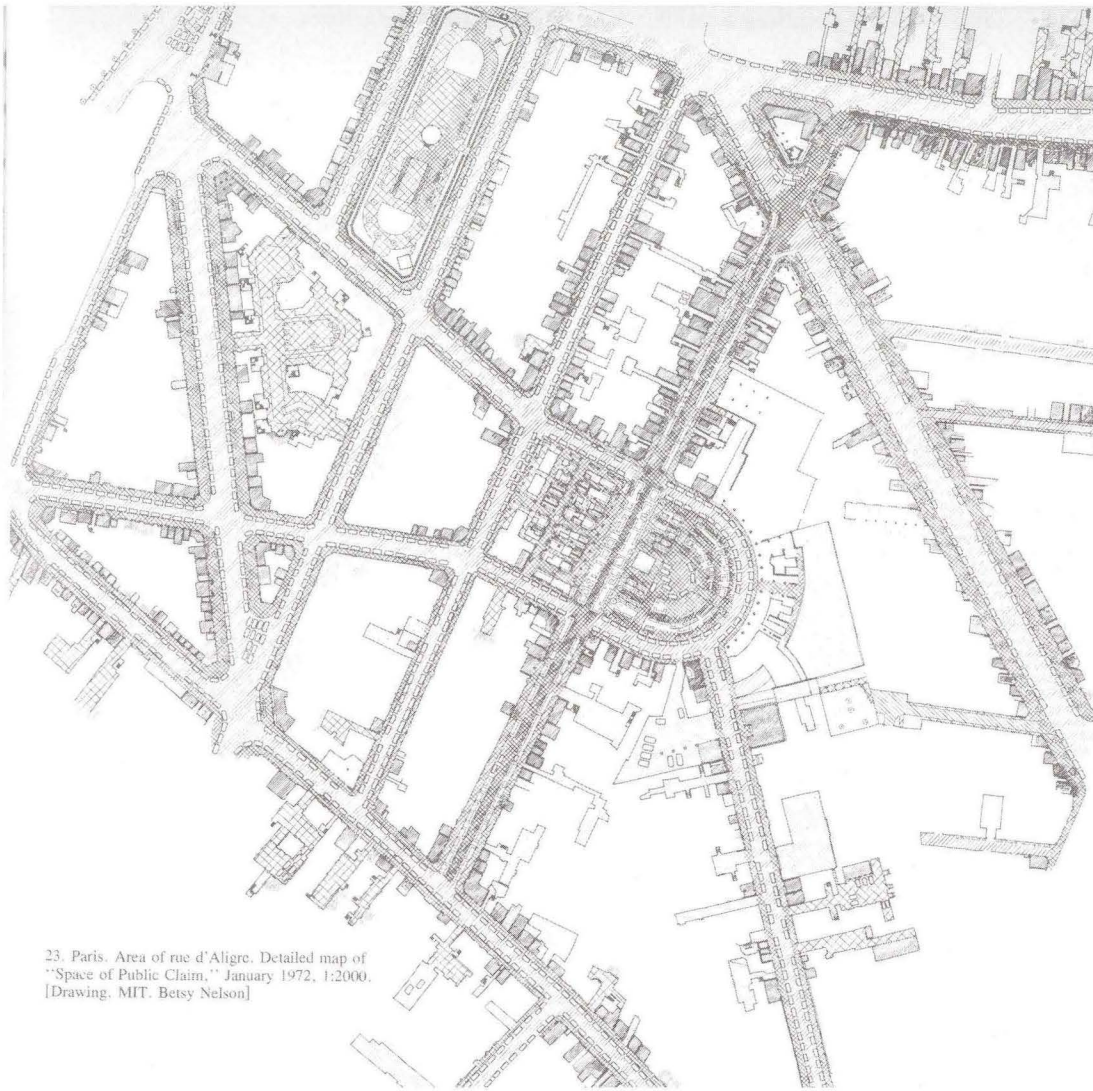
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In the introduction to his in-depth bibliography on street research in *On Streets* (1978), a book for which he was both editor and a contributor, Stanford Anderson introduces the fundamental problem of assembling a bibliography on streets. Anderson describes the problem as one of being caught between the limitations of excessive focus on the one hand and overwhelming diversity on the other.

This problem remains with us today. As a matter of technical concern, the issues of street design have been defined largely in terms of safety, efficiency, economy, and durability. On the other hand, historians, economists, sociologists, environmentalists, architects, landscape architects, and planners have researched and analyzed streets from other perspectives.

Consequently, the investigation of the history, theory, and design of streets remains a heterogeneous field that draws together a broad range of disciplines and areas of expertise, as is evidenced by Anderson's thorough bibliography and the wealth of research published on this subject since.

This diversity of street research derives in part from the definition of the term itself. In most dictionaries the word *street* is defined as a relatively wide, paved road or thoroughfare in a village or town, which typically includes both the roadway and sidewalks, as well as the adjacent buildings on either side and their inhabitants. The street is thus a complex human construct that defines the relationship between the public domain of the roadway and sidewalks and the private domain of property and buildings



23. Paris. Area of rue d'Aligre. Detailed map of "Space of Public Claim," January 1972, 1:2000. [Drawing. MIT. Betsy Nelson]

Figure 1. This map of the public domain of the area of rue d'Aligre in Paris shows "Space of Public Claim," January 1972, 1:2000. Figure 23 from *On Streets*, edited by Stanford Anderson, MIT Press, © 1978. Reproduced by permission MIT Press. [Drawing. MIT. Betsy Nelson.]

adjacent to the right-of-way. It is a spatial and material order that accommodates public and private spaces, the circulation of people using various modes of transportation, people engaged in various forms of exchange, and animal and plant life.

This variety of uses, users, and material constructions creates many opportunities for research and design investigations. For much of the twentieth century, however, research and design of the street has been undertaken autonomously by a number of disciplines, with little dialogue between or influence on one another. Street research and street design/construction have become distinct activities practiced by distinct disciplines with their own priorities and areas of focus.

And yet, the practice of design is an inherently synthetic process that is capable of addressing and responding to a broad range of issues. However, the primary problem for street planning and

construction in this country during the past century has been that the issues have been defined too narrowly. These practices, established largely in terms of rationalizing automobile transportation, are increasingly being called into question as the unintended consequences of much recent street construction—such as sprawl, the loss of transportation choices, and public health concerns. These consequences have become a significant issue for politicians, public agencies, and the general public.

The challenge for those involved in street design today is to redefine the problem so as to address a broader set of issues, from concerns for economy, efficient circulation, and public health and safety to those of transportation choices, public/private distinctions and thresholds, street life and culture, symbolic communication, phenomenal experience, aesthetics, etc. To do so, street designers will need to draw from the full breadth of

street research undertaken during the past fifty years and work to incorporate this knowledge with engineering and artfulness in the design process.

The intention of this literature review, therefore, is to introduce designers, government staff, politicians, and the public to some of the essential research and writings on streets undertaken since 1960, incorporating diverse disciplinary perspectives and considerations. It is not intended as a comprehensive bibliography, such as that of Stanford Anderson offered in the final pages of *On Streets*, but is rather a description of ten primary texts from some of the most distinguished authors in the field of street research and design from the past century.



Primary Sources

1. How Cities Work: Suburbs, Sprawl, and the Roads Not Taken

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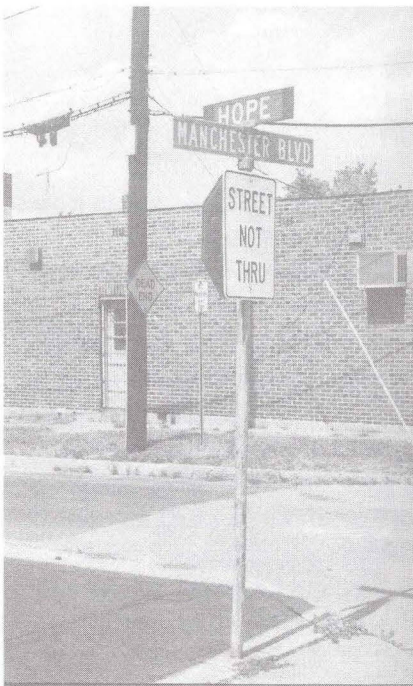


Figure 2. Is there a way out of the "dead end" of sprawl to coherent, pleasing places and cities? There is "hope," Marshall argues, in the public control of transportation funding and planning. Photo by Teresa W. Wingfield. From page 283 of *How Cities Work* by Alex Marshall, University of Texas Press, © 2000. Reproduced by permission by University of Texas Press.

The structure of a human settlement rests on a three-legged stool of politics, economics, and transportation. Of these, transportation is the most visible and active in shaping a place. ...It's a simple rule: How we get around determines how we live (Marshall 2000, pp. x–xi).

So writes Alex Marshall in the introduction to his book *How Cities Work*, a critical study of contemporary patterns of urban development and how these have been shaped by our transportation choices. Marshall's thesis, as stated in the quote above, is that the form and character of our towns and cities are foremost products of the transportation systems we use. For example, the concentrated pattern of buildings in older city centers is a product of walking and horse drawn

carts, and later streetcars, as primary modes of transportation at the time of their construction. Similarly, the sprawling pattern of suburbs, shopping malls, strip malls, and office parks built during the last fifty years is a product of our choice of the automobile as an exclusive mode of transportation.

Marshall develops this relationship between transportation choices and the form and grain of our settlements in an examination of four different urban environments:

– Alex Marshall

- the highly publicized, new urbanist development named Celebration, located south of Orlando, Florida, and sponsored by the Disney Corporation
- the classic automobile-driven sprawl of Silicon Valley in California
- the anachronistic streetcar/ subway urbanism of the Jackson Heights neighborhood in Queens, New York
- the growth-controlled, transit-oriented development of Portland, Oregon

The point to be made here is that the differences between these communities are not primarily historical, or in any way inevitable, but a product of human choices.

The choice of transportation system, what type and where to build, is one that belongs to our elected governments and, by extension, to the public. As Marshall points out, cities exist to create wealth, and transportation, particularly that which links a city to other cities, is one of the primary means available to governments to facilitate this process. A city’s internal transportation system, however, not only structures access to resources and market, but determines the character of life within—the qualities of our neighborhoods and shopping districts. Again, it is matter of choices for our governments, and more importantly, for ourselves.

Marshall concludes his book without offering detailed recommendations for cities and

their citizens, but rather several rules of thumb for shaping places. The first is to acknowledge the central role of government, at all levels, in establishing clear and simple rules for when and where development should occur. The second is to recognize the significance of transportation decisions in shaping both the economy and character of a place and allocating resources intentionally. Lastly, Marshall suggests that we should recognize the regional scale of most urban places and reform our political structures to reflect this reality. Issues of transportation, commerce, and the environment have to be addressed at a regional level, as well as a local level, if we are to have a chance to shape our communities in a desirable and sustainable manner.

2. The Regional City: Planning for the End of Sprawl

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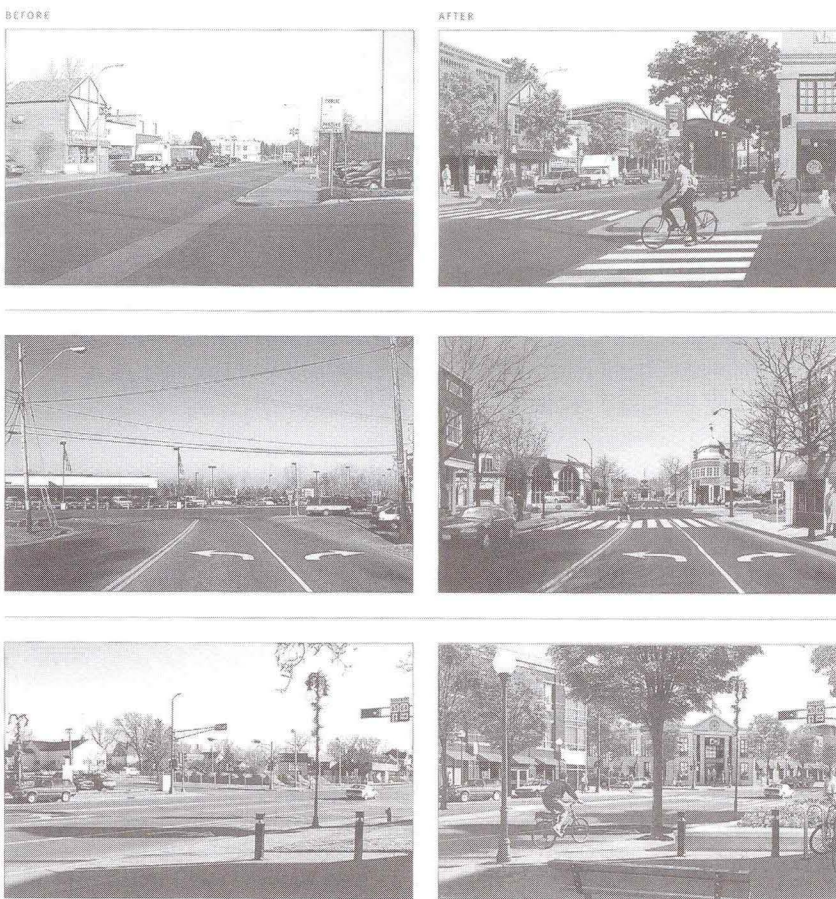


Figure 3. Before and after photos demonstrate three street designs that could be applied to communities in the St. Croix Valley. Plate 33 in *The Regional City* by Peter Calthorpe and William Fulton, © 2001 by the authors. Reproduced by permission of Island Press.

As if in response to Alex Marshall's concluding comments in *How Cities Work*, Peter Calthorpe and William Fulton argue in their book, *The Regional City*, published a year later, that regions have emerged as the primary economic, ecological, and social units of the contemporary American urban landscape. Calthorpe and Fulton appear to have accepted a reality of contemporary urbanity, or sprawl, in which the primacy of cities and towns as the focus of urban life has been eclipsed by a system of networks that bind metropolitan communities economically, socially, and environmentally to a broader region. The *regional city* is a city without a dominant center, but with multiple centers and districts, in which open space becomes interstitial and open land a resource to be preserved.

– Peter Calthorpe and William Fulton

If the regional city can be considered a product of sprawl, it is also considered by the authors as the framework for its solution. Sprawl and the social inequities and environmental degradation that it generates are identified as among the most serious challenges to contemporary urban life. To address these issues effectively and improve the quality of life and sustainability of a region, the authors offer policy, planning, and design recommendations at both the regional and local scales. These include strategies to increase settlement density, conserve open space, increase transportation options, and diversify neighborhoods.

Calthorpe and Fulton identify four key elements—centers, districts, preserves, and corridors—that are the focus for planning and design of the regional city, in contrast to traditional land use categories. Transportation policy and planning, or corridor design,

is emphasized as one of the central elements behind urban growth and its control at the regional and local scales. The introduction of public transit as a key element of a regional transportation policy has been an ongoing concern for the authors.

In his earlier book, *The Next American Metropolis* (1993), Calthorpe introduces the concept of “transit-oriented development” (TOD)—that is, concentrated commercial and civic nodes located at transit stops in a regional transit system, offering pedestrian accessible focal points for residential development as an alternative to traditional suburban development. In this earlier publication, Calthorpe provides guidelines for policy, planning, and design of streets, neighborhoods, commercial centers, and open spaces for TODs, demonstrating their integration in a regional system with numerous hand-drawn illustrations.

The second section of *The Regional City* presents a series of planning studies for specific regional cities—including Portland, OR; Salt Lake City; Chicago; and New York—in which Calthorpe draws from his earlier studies. Each study includes a proposal for making that region more coherent and sustainable. The last section of the book presents a series of design projects from Calthorpe’s office that focus on restructuring suburban sites to create more pedestrian- and transit-friendly conditions and higher settlement density, as well as restructuring and renewing existing inner-city urban neighborhoods with similar objectives. The regional city is as much a construction of neighborhoods and streets as it is a network of social ties, economic activity, transportation systems, and ecosystems.

3. Streets and Patterns

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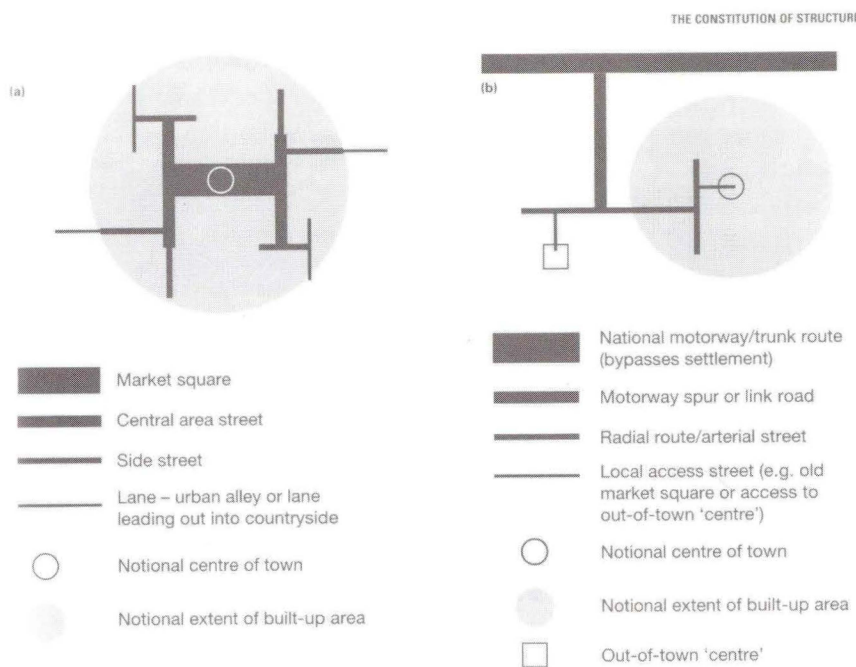


Figure 4. The two diagrams above, corresponding to the structure of traditional and modern street patterns, reveal an inversion of the relative status of settlement and street. Diagram (a) illustrates the typical structure of historic settlements with the road hierarchy focused on the center of the community, whereas the typical modern pattern illustrated in diagram (b) puts the center of the settlement in an isolated position relative to the hierarchy of roads. Figures 1.4 and 1.5 from *Streets and Patterns* by Stephen Marshall, Spon Press © 2005. Reproduced by permission of Taylor & Francis Group, LLC.

In the world of urban design there remains today a large and often unrecognized gap between the concerns of urban planners and designers and concerns of transportation engineers. The recent publication *Streets and Patterns* makes an attempt to bridge this gap. Writing from a British perspective, with numerous U.S. references, author Stephen Marshall outlines the challenge of urban planning and design as one of creating better urban places without ignoring or compromising the functionality and safety of circulation and access. In the author's own words:

The challenge is to address the street as an urban place as well as a movement channel, and how to make this conception of the street work – not just as an isolated architectural set piece, but as a contribution to wider urban structure” (Marshall 2005, p. 15).

– Stephen Marshall

To meet this challenge, Marshall analyzes and critiques the basic principles of transportation and street design. He starts by examining street types and their hierarchy in transportation theory, presenting a broad range of examples from that of the modernist architect Le Corbusier to that of the 1963 Buchanan Report—Traffic in Towns—from the UK, and the street nomenclature system of the U. S. Institute of Transportation Engineers (ITE). Based on an inverse relation between traffic and urban functions, in which these functions are at odds with one another, Marshall argues that these modern street hierarchies are fundamentally dysfunctional. He offers an alternative logic for street hierarchy based on the concept of *arteriality*, a form of strategic contiguity in a network drawn from the research of British cartographer Alastair Morrison.

Marshall continues with an examination of the logic of street patterns, route structure, and network topology, offering numerous illustrations and new diagrammatic tools to represent abstract and technical considerations. Criteria for a taxonomy of street patterns are offered in Chapter Four. Chapter Five provides an analysis of route structure in terms of continuity, connectivity, and depth, and synthesizes it in a *routegram* that can be used to compare street patterns and networks. Chapter Seven presents the structure of hierarchical road networks in terms of arteriability and access. In particular, the tree structure of modern road hierarchies (shown in diagram (b) of figure 4) is critiqued for its lack of connectivity, a consequence of the exclusive use of access constraint in the network, which works well for cars but hinders pedestrian options and public transit efficiency.

Marshall concludes with a discussion of the differences between the composition, configuration, and constitution of street patterns and hierarchies. These analyses of first principles lead to the outline of a new integrated urban design code based on a constitutional approach to the design of urban structure. Marshall's approach integrates the idea of *street* into a larger conceptual framework, combining transport, land use, and urban design codes in seven constitutional rules. The generation of structure with constitutional rules is not an unfamiliar practice to the highway engineering tradition, and may in fact offer a common ground for the road engineer and the urban designer. This is Marshall's primary objective: to define a ground where the hierarchy of the transportation engineer and the urban code of the urban designer can be integrated in the making of better urban places.

4. Great Streets

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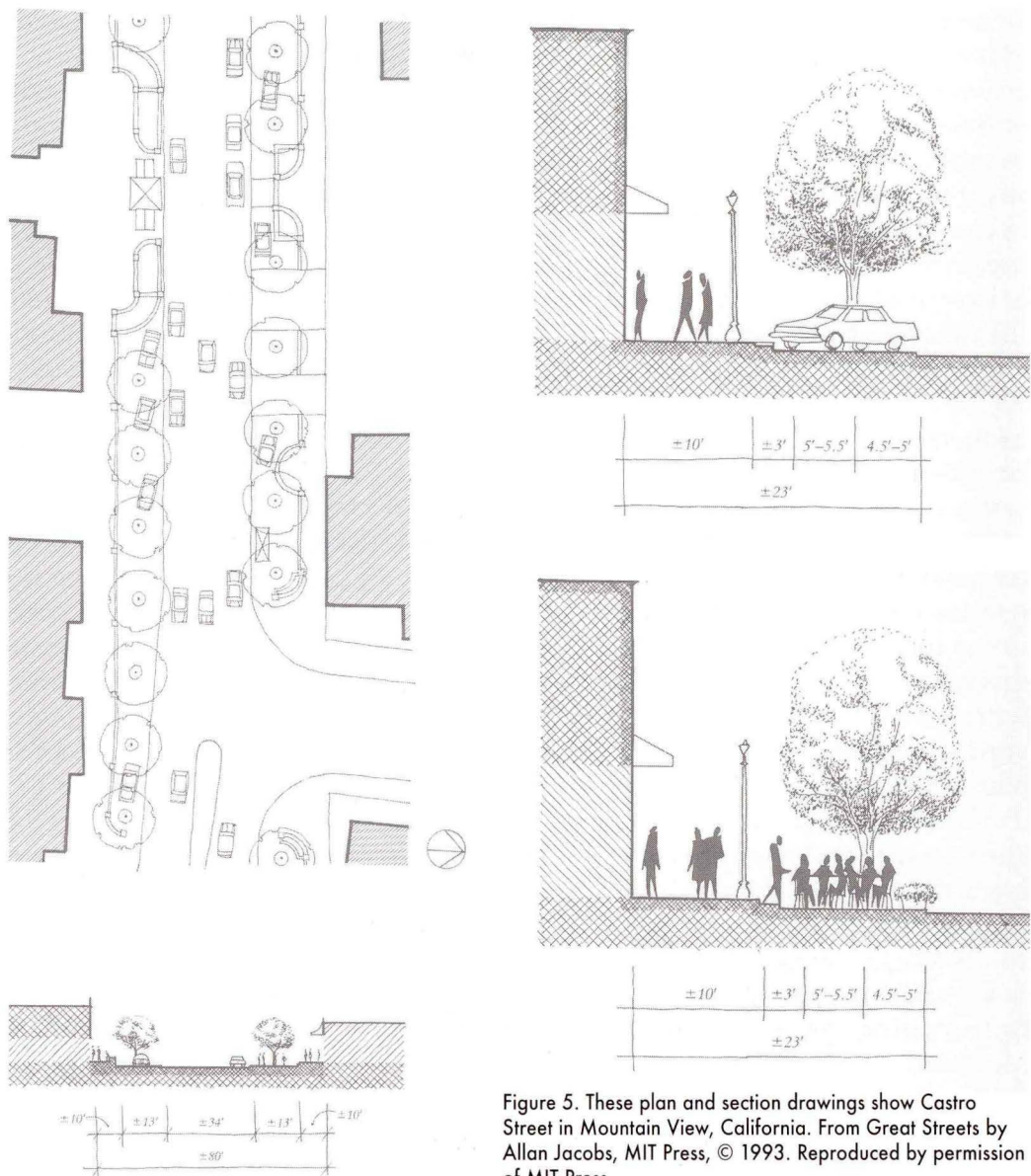


Figure 5. These plan and section drawings show Castro Street in Mountain View, California. From *Great Streets* by Allan Jacobs, MIT Press, © 1993. Reproduced by permission of MIT Press.

– Allan Jacobs

Drawing on more than twenty years of research and teaching, Allan Jacobs, professor and chair of the department of city planning at the University of California at Berkeley, has written this book as a comparative examination of some of the most memorable streets in cities around the world.

The effort here is to study streets from a diversity of cultural backgrounds and historical periods, but the emphasis is on the street as it is experienced today, particularly from a pedestrian perspective. Streets created prior to the enforcement of engineering design codes and standards are thus the focus, leading the author to give greater attention to the streets of Europe than to those on this side of the Atlantic.

Part One presents a collection of paradigmatic streets, including Roslyn Place in Pittsburg, PA; the Boulevard Saint-Michel in Paris; and a medieval street, Via dei Giubbonari, in Rome. A brief

description and history for each street studied is provided, as well as scaled drawings in plan and section that emphasize the spatial arrangement of roadways, sidewalks, landscape elements, and buildings.

Parts Two and Three provide a broader survey of streets and street patterns from around the world documented in plan and section at similar scales to facilitate comparison.

In the final section, Part Four, Jacobs discusses the specific factors that make streets great: buildings of similar height, certain ratios of building height to street width, interesting façades, trees, windows that invite viewing, intersections, beginnings and endings, stopping places, and, most importantly, space for walking.

Jacobs has thus provided to the street and urban design community, as well as the lay reader, an invaluable reference

book on streets. Despite the wealth of textual information, it is foremost a book of drawings—plans and sections with dimensions, eye-level perspective sketches, and figure-ground (black-white) representations of block-street patterns—without the use of a single photograph. The fifty figure-ground drawings of one-square-mile areas from a range of cities all across the world, featured in Part Three, are particularly noteworthy. These drawings provide the opportunity to see the implications of different block sizes, shapes, and patterns of repetition on urban form. But, in the final analysis, it is the combination of drawings—street plans and sections, perspectives, and figure-ground—for each particular street, sometimes found in different parts of the book, that is the most valuable lesson, revealing a method of representation of a street that can be used with great benefit by professionals in the street design field.

5. On Streets

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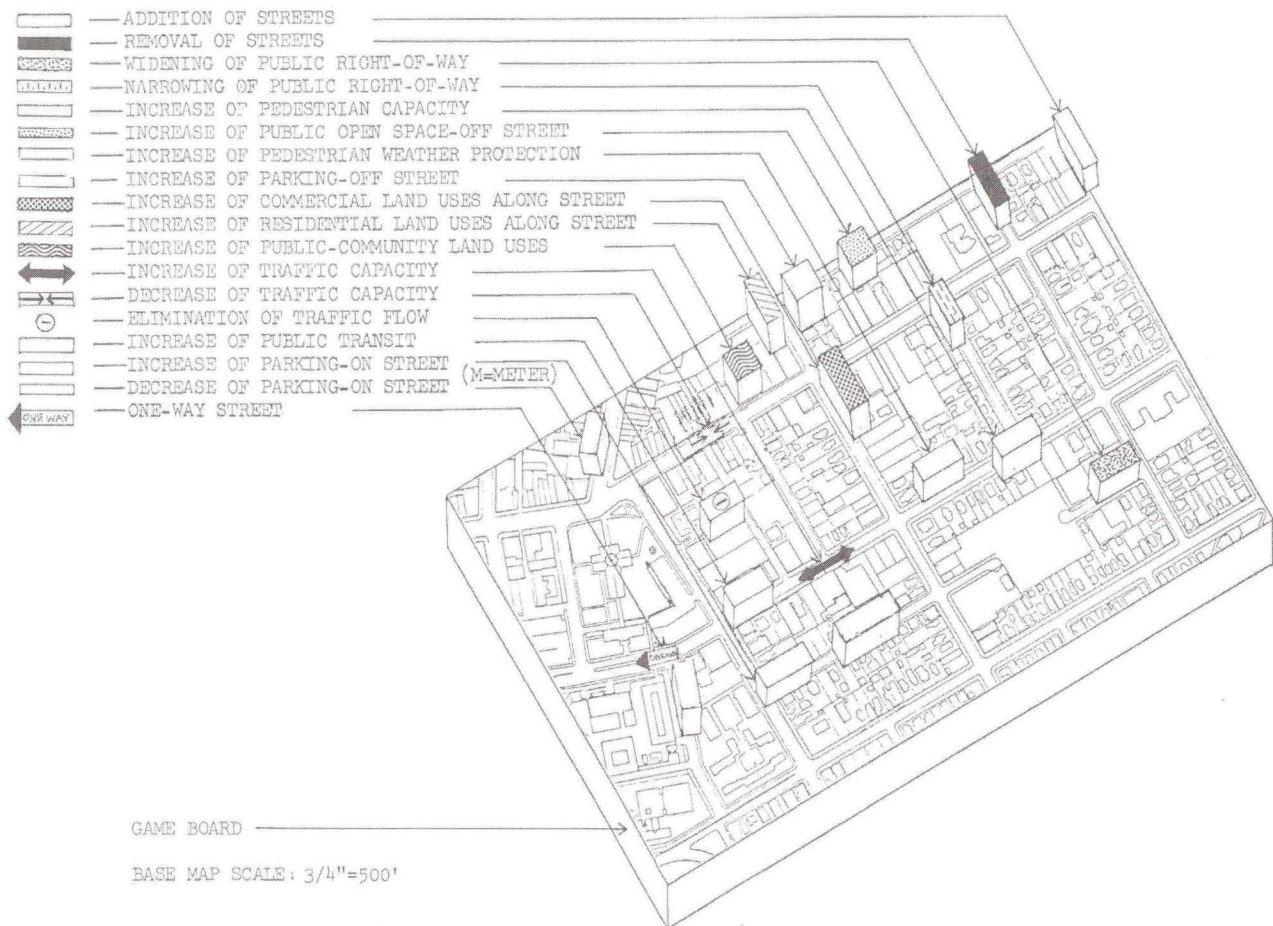


Figure 6. The Streets Game, pictured above, was developed to redefine the range of possible community goals for the improvement of alternative public environment and street interventions for downtown Binghamton, New York. Demonstration Project figure 6 in *On Streets* by Stanford Anderson, MIT Press, © 1978. Reprinted by permission of MIT Press.

– Stanford Anderson (ed.)

On Streets, an edited collection of articles by members of the Institute for Architecture and Urban Studies (IAUS) of New York, constitutes one of the first serious multi-disciplinary examinations of the street from historical, theoretical, and analytical perspectives. The book was initiated in a research project at the institute in 1970 with funding from the U.S. Department of Housing and Development.

The agency had an interest in developing street design guidelines for urban centers, and asked IAUS to study the topic. The IAUS team that undertook the project, however, believed that the diverse issues tied to street design could not easily be reduced to design formulas, but needed to be studied more thoroughly in their own right. Consequently, topics ranging from the history and sociology of the street to issues of pattern and structure, communication of meanings, street form and use, modes of transport,

and the economic framework of funding were studied in the writings undertaken for the book.

While the essays largely overlook the more practical concerns of the agency funding the project, the book laid the groundwork for further scholarship and research on streets from multiple perspectives, clearly challenging the dominant conception of the street as a vehicular channel. Moreover, the essays by Anthony Vidlers on the history of the street, Stanford Anderson's presentation of an ecological model for the analysis of the public and private spaces of streets, and Kenneth Frampton's examination of the street concept in late modern architecture are some of the most notable writings on the history of street design of the past century.

The volume concludes with a demonstration project undertaken by a team from IAUS led by Peter Eisenman for the redesign of

downtown Binghamton, a small community approximately 170 miles northwest of New York City. The intention of the project team was to offer an example of a rigorous urban design process, testing the ideas and theories presented earlier in the book. The primary outcome was the proposition that public spaces (the spaces between buildings), more so than buildings or roadways, were the lifeblood of a successful business district and thus most needing of attention in the design project.

On Streets has been limited in its impact on professional practices involved with street planning and design. Nonetheless, it established a rigorous precedent for later research and scholarship on streets in the urban context. Assisting the ongoing efforts of researchers is an annotated bibliography by Stanford Anderson, perhaps the most comprehensive bibliography on streets and urbanism from the late twentieth century to be found.

6. Livable Streets

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FIGURE 8 (cont.).

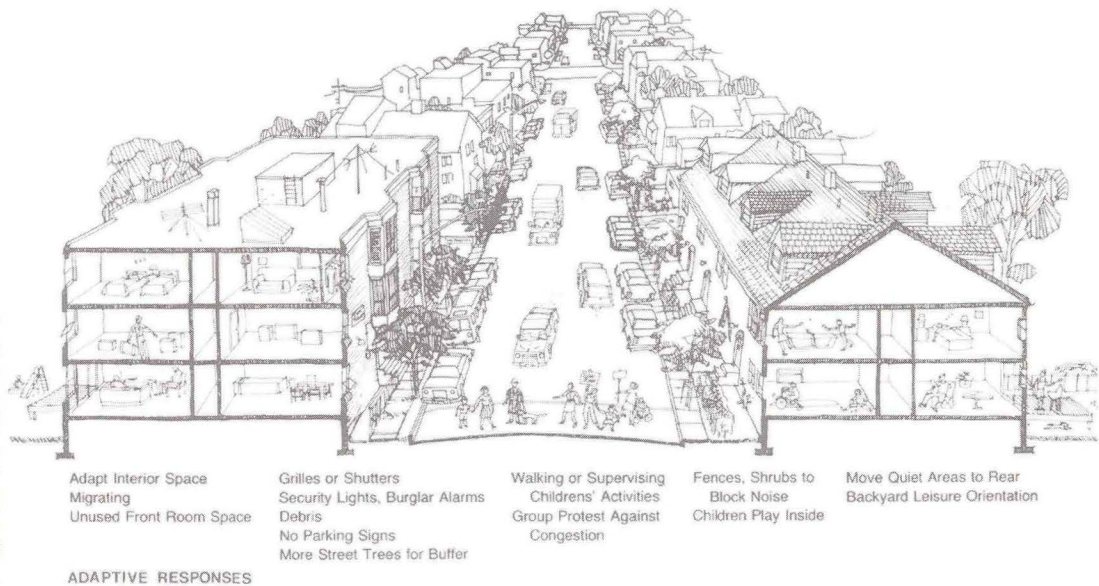
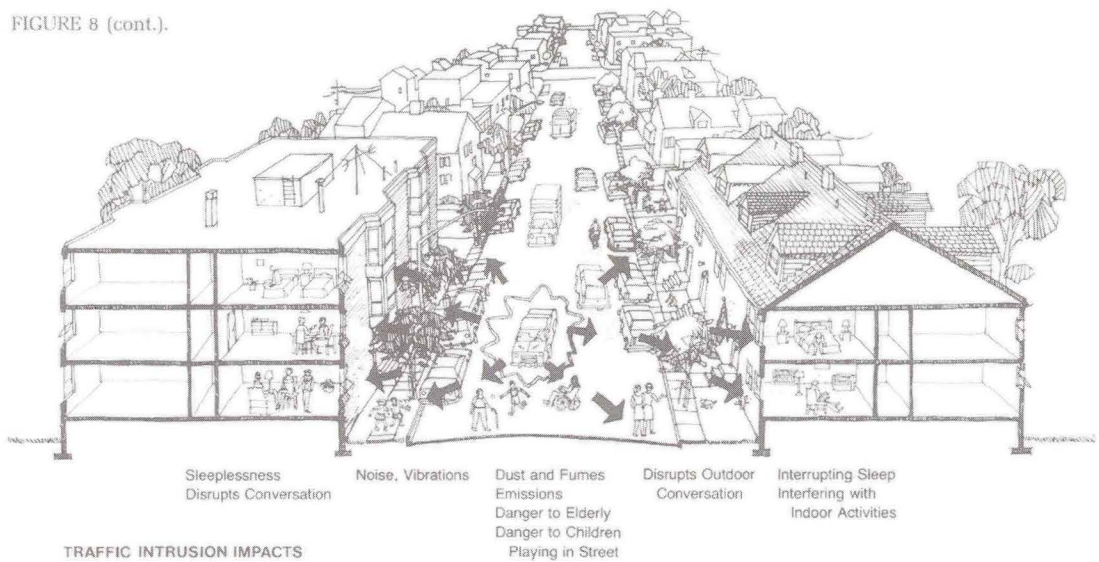


Figure 7. The ecology of street life: in pictures. Figure 8 from *Livable Streets* by Donald Appleyard, University of California Press, © 1981. Reprinted by permission of University of California.

– Donald Appleyard

A landmark study of the impact of traffic and street planning on the social lives of local residents, this book has enjoyed broad appeal and interest among professionals, academics, and lay readers alike. This interest can be attributed to Appleyard's thorough and pragmatic approach, combining social and technical analyses with clearly illustrated examples and case studies and detailed descriptions of how to improve street environments for local residents.

The book is divided into three parts. In the first section, *Living with Traffic*, Appleyard lays out an ecology of the street based on a decade of research in the San Francisco Bay Area. Appleyard's research documents the impact of different traffic volumes on the social lives and perceptions of community and home space of local residents, and develops

new techniques of mapping these conditions. The research demonstrates the social and psychological affect of traffic volume on residents, comparing those living on streets with high traffic volumes and speed to residents on streets with low traffic volume. In addition, Appleyard demonstrates how people's perceptions and experiences of social life, trash and litter, pollution, noise, and pedestrian safety change with the volume of traffic on the streets where they live. He combines this information in the creation of an ecological model of the street as it is experienced. The model is then used to quantitatively study twenty-one different streets in San Francisco, categorized by traffic volume, using charts, photos, and sketches with quotes from residents to convey the depth of the impact of traffic on community life.

Part Two, *Early Street Battles*, chronicles a series of community struggles in London and California to improve the safety and livability of existing residential neighborhoods for local residents through the mediation of unwanted traffic.

Part Three, *Liveable Streets and Protected Neighborhoods*, offers a statement of principles and practical recommendations for creating livable (i.e., safe) street environments in the North American context. While stopping short of providing detailed guidelines for traffic control or specific design models for more livable streets, Appleyard's research and recommendations have provided a framework for the efforts of researchers and professionals in transportation planning and street design today.

7. Public Streets for Public Use

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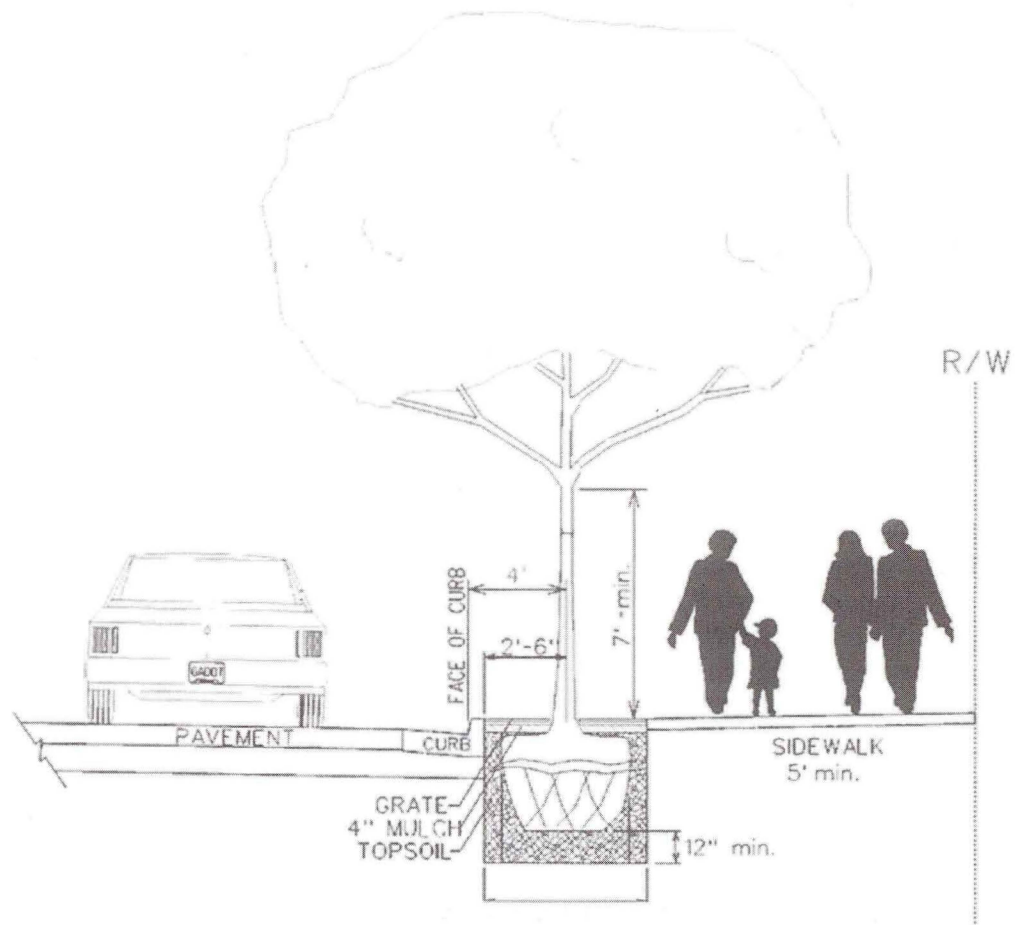


Figure 8. In its *Pedestrian and Streetscape Guide*, the Georgia Department of Transportation provides guidelines for pedestrian corridors that accommodate the community outside the scope of automobile traffic while maintaining clear zone safety standards. Reprinted from Georgia Department of Transportation, p. 100.

– Anne Vernez Moudon (ed.)

In 1982, Anne Vernez Moudon, director of urban design in the College of Architecture and Urban Planning, University of Washington, in collaboration with Pierre Laconte, from the Catholic University of Louvain, Belgium, organized an international conference in Seattle titled "Streets as Public Property." The conference brought together street advocates from around the world, including Stanford Anderson, Donald Appleyard, and Amos Rappaport. The focus was on planning and design considerations for streets, understood foremost as public spaces and central to the discipline of urban design.

Vernez Moudon later assembled writings from ten of the original contributors to the Seattle conference, with additional authors, in the book *Public Streets for Public Use*. This volume includes a collection of essays and

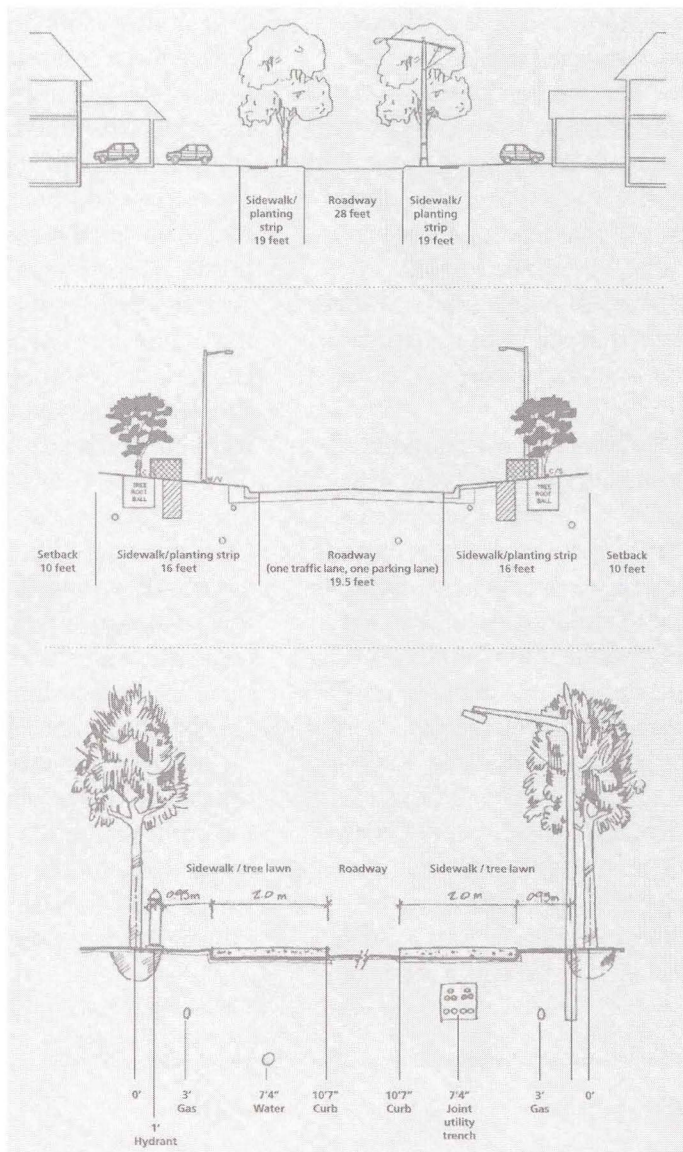
case studies written by thirty-two respected urban designers, planners, and architects, as well as a foreword by Donald Appleyard. The book is organized around the central thesis that streets are not simply channels for automobile traffic, but rather, constitute a network of public space for diverse users that can be used to organize and unify the urban environment.

The essays and case studies are organized into four parts with different themes. Part 1, *Better Streets*, focuses on the pedestrian experience of streets, particularly that of children, in relation to automobile traffic. American and European experiences are examined. Notable in this part of the book is the essay by Rappaport on the cultural dimensions of street use. Part 2, *Better Cities*, addresses the existing and possible roles of streets in the broader urban experience. Part 3, *Streets Reclaimed*, presents a series of

case studies examining efforts in different communities on both sides of the Atlantic to redesign streets to accommodate a larger cross section of the population, ie. pedestrians, children, bicyclists, etc., in addition to vehicular traffic. The message throughout is clear—that streets, as part of the public domain, belong to all citizens, not just those who are driving, and need to be designed more creatively to serve everyone.

The final part of the collection, *Considering the Future*, presents a series of writings that take up this challenge, offering a range of ideas, strategies, and tools for the planning and design of successful streets. The recommendations include the necessary ingredients for an effective public policy, including standards and regulations, for the creation of streets that can accommodate the full spectrum of potential users.

8. Streets: Old Paradigm, New Investment



The Summer 1997 edition of the journal *Places* brings together a heterogeneous collection of case studies and research projects focused on street design drawn from two symposia of the same name—Streets: Old Paradigm, New Investment—held first at the University of California at Berkeley in November 1995 and again at the Pratt Institute School of Architecture in April 1996. Donlyn Lyndon, editor of *Places*, introduces the collection, noting:

What is remarkable is the degree to which the articles collected here investigate the many layers of information embedded in streets—from the placement of utilities underground and lighting above, from the agility of emergency vehicles to patterns of pedestrian movement (Lyndon 1997, p. 3).

Figure 9. The top drawing is a conventional right-of-way, the center drawing depicts a one-way street in the town of Orangeville, and the bottom drawing shows possible utility placement under sidewalks and planting strips. First appeared in "Places: Forum for Design of the Public Realm," *Places*, © 1997. Reproduced by permission of *Places*.

– Donlyn Lyndon (ed.)

Most importantly, Lyndon notes, “the projects included in this issue claim for streets their rightful role as places of public good, places that serve many needs for a diverse people and are deliberately shaped to enhance the lives of local citizens (Lyndon 1997, p. 3).”

The journal is divided into three sections of articles based on different topics. The first part presents a series of case studies that offer new design guidelines for residential streets, as well as larger volume commercial streets and boulevards. Implementation studies in Los Angeles, Boston, and Ontario (Canada) reveal the difficulties of revising street and utility design standards to address a broad set of public issues. At the same time, the increasing willingness of traffic engineers, planners, fire officials, etc., to

reconsider existing standards and regulations according to a larger set of performance criteria is also noted.

The second group of articles shifts to more of a research focus, studying such topics as pedestrian and vehicular movement patterns, connectivity, and livability, drawing on the research methods of the late Donald Appleyard. Paul Hess’s study of street patterns and pedestrian connectivity is particularly notable in this section for the depth and clarity of the study. Hess compares six neighborhoods of roughly equal size, population, and commercial activity, three from older areas of Seattle, and three from postwar suburbs. The article demonstrates the many challenges to pedestrians in more contemporary settings, due in large part to a reduced

number of streets, super-size blocks, and other impediments such as fences, lack of sidewalks, and large areas of parking.

The final group of articles in the journal shifts focus again to a more detailed scale, with a series of case studies examining elements of a streetscape. Bus shelters, tree planting, lighting, sidewalk/parking overlaps, news kiosks, and public toilets are studied in various locations from New York to Houston and San Francisco. The journal concludes with a discussion of notable books on streets and an impassioned argument on the true cost of freeways and the need to provide the citizens of cities and smaller communities with transportation choices that include walking, bicycling, rail travel (in larger communities), and automobiles.

9. Learning from Las Vegas: The Forgotten Symbolism of Architectural Form.

20

DIRECTIONAL SPACE

	SPACE - SCALE	SPEED	SYMBOL sign-symbol - bldg ratio
EASTERN BAZAAR		3 M.P.H.	
MEDIEVAL STREET		3 M.P.H.	
MAIN STREET		3 M.P.H. 20 M.P.H.	
COMMERCIAL STRIP		35 M.P.H.	
THE STRIP		35 M.P.H.	
SHOPPING CENTER		3 M.P.H. 50 M.P.H.	

8. A comparative analysis of directional spaces

Figure 10. This illustration is a comparative analysis of directional spaces in different urban environments, showing the ratio of the communication elements of signs, symbols, and buildings for several areas of Las Vegas. The Middle Eastern bazaar has no signs, compared to the Strip, which is virtually all signs. The medieval town and Main Street have some signs, but communication works through the sights and smells from the stores along the street. Figure 18 in *Learning from Las Vegas* by Robert Venturi, Steve Izenour, & Denise Scott Brown, MIT Press, © 1972. Reproduced by permission of MIT Press.

Written more than thirty years ago, this once controversial book is a case study of the now historic Las Vegas strip considered as a significant urban phenomenon. This study offers lessons for understanding the impact of automobile transportation on the late-twentieth century American city and the emergence of a new symbolic vocabulary in the manifestations of urban sprawl. In the words of the authors:

Passing through Las Vegas is Route 91, the archetype of the commercial strip, the phenomenon at its purest and most intense. We believe a careful documentation and analysis of its physical form is as important to architects and urban designers today as were the studies of medieval Europe and ancient Rome and Greece to earlier generations (Venturi, Izenour, and Brown 1972, p. ix).

– Robert Venturi, Steve Izenour, and Denise Scott Brown

The central argument in the book is that signs have come to dominate over space—particularly the traditional, enclosed urban space of the pre-twentieth century city—in the contemporary urban environment of the strip.

The authors identify three types of signs, or message systems, on the Las Vegas strip:

- the heraldic: the physical signs, freestanding or attached to buildings
- the physiognomic: messages conveyed by the form and articulation of the buildings
- the locational: messages conveyed by relative location of a building along the strip

This new urban condition, historically unrecognized in the polemics of modern architecture, required the development of new tools of analysis to reveal the symbolic, or communicative, dimension of this new urban environment. Such was the

challenge given to the participants in a studio course focused on the architecture and urbanism of Las Vegas that was offered by the authors at the Yale University School of Art and Architecture in fall 1968.

Perhaps the most compelling aspect of the book is the graphic vocabulary developed by the authors and their students to represent objectively the new urban condition of the strip and its message systems, made evident most dramatically in the graphic layout by Muriel Cooper in the first edition of the book for MIT Press. Familiar graphic techniques for analyzing urban space—airial photos, plans, sections, elevations, and sketches—were modified and new graphic tools—informational diagrams, charts and matrices, photomontage, and film strips—were developed, assembled, and juxtaposed with numerous photos to document both the experience and the underlying pattern of the strip.

Learning from Las Vegas, once thought controversial for its apparent glorification of popular consumer culture and its urban manifestation, is nonetheless a seminal work that addresses, understands, and represents for perhaps the first time the logic of the commercial street as it was and is yet today, recognizing the critical role that signs and symbols play in this new environment.

Making the link between scale, speed, and perception, the authors suggest that the emergence of this new symbolic order on the commercial strip is at least in part a consequence of the speed of automotive transportation and the scale of the urban environment built to accommodate it. To the extent that autonomous, individual modes of transportation continue to prevail, the street design profession cannot afford to ignore the lessons of this book and can learn much from its graphic representations.

Venturi, Robert, Steve Izenour, and Denise Scott Brown. *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*. Cambridge, MA: MIT Press, 1972. ISBN: 0262220156.

10. The View from the Road

22

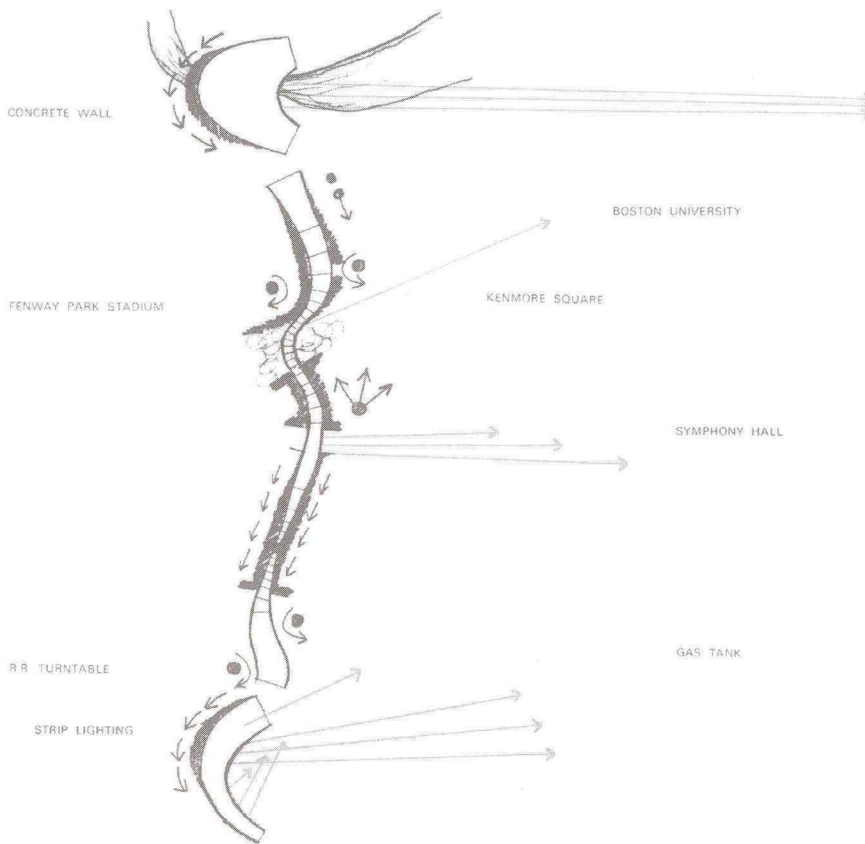


Figure 11. These drawings are a composite sketch sequence of the Northeast Expressway in Boston, showing the traveler's sense of space, motion, and view. The sequence reads from bottom to top. Figure 85 in *The View from the Road* by Donald Appleyard, Kevin Lynch, and John R. Myer, MIT Press, © 1964. Reproduced by permission of MIT Press.

Published in 1964 and long out of print, *The View from the Road* presents what was in its time, and perhaps even more so today, a radical position: that “the highway is—or at least might be—a work of art.” (Appleyard, Lynch, and Myer 1964, p. 3). Recognizing the centrality of high-speed mobility to the American city, the authors argue that the highway could and should offer a positive visual experience that helps to clarify and strengthen the driver's understanding and image of his/her environment. In the words of the authors, “To our way of thinking, the highway is the great neglected opportunity in city design.” (Appleyard, Lynch, and Myer 1964, p. 3)

The book begins with an analysis of the primary characteristics of the visual experience of the highway, which is primarily one of motion and space, viewed and felt in a continuous sequence.

– Donald Appleyard, Kevin Lynch, and John R. Myer

Examined in greater detail, the authors identify seven factors that shape the driver's experience:

- elements of attention
- road alignment
- the sense of motion
- the sense of space
- approaching a goal
- orientation
- the meaning of the experience

The highway designer, or artist, uses all of these elements to shape the driver's experience of the highway and the surrounding city.

Design, as a process, relies on graphic notational devices to represent objects and experience. Chapter Two presents the diagrammatic and representational tools necessary to describe a road or pathway as both a physical entity and a sequential visual experience. These tools and techniques are then applied in Chapter Three in the description and analysis of an

existing highway—the Northeast Expressway—as it approaches downtown Boston from the north. Chapter Four presents a method of highway design demonstrating the application of these graphic tools to the design of a hypothetical alternative proposal for the Central Artery in Boston, which at the time of the writing of the book was just under construction.

The significance of *The View from the Road* derives in part from this demonstration of new methods to describe and design the visual experience of driving on the highway. However, its authors, Donald Appleyard and Kevin Lynch in particular, are also noted advocates of the pedestrian experience of the city. Why then this focused study on the highway experience?

In an earlier book titled *The Image of the City*, Lynch discusses the capacity of people to create a map or image of a given place

in their mind as a consequence of their ability to discern distinct environmental characteristics—edges, centers or nodes, paths, landmarks, and districts. In his research in the late 1950s with people on the streets in downtown Boston, Los Angeles, and Jersey City, Lynch discovered that the legibility of these characteristics are essential to the legibility or image of a place. In the wake of the construction of the Central Artery in his hometown, however, he had come to realize that the problem now is maintaining the image of the city at a much larger scale and at the speed of a car on the new urban highways. *The View from the Road* can be read, consequently, as an attempt to define the means to describe and design the driving experience as a work of art, providing us with the tools necessary to shape highways, and more generally the city, in a coherent pattern that can be experienced and visualized from behind the wheel.

Internet Resources



24

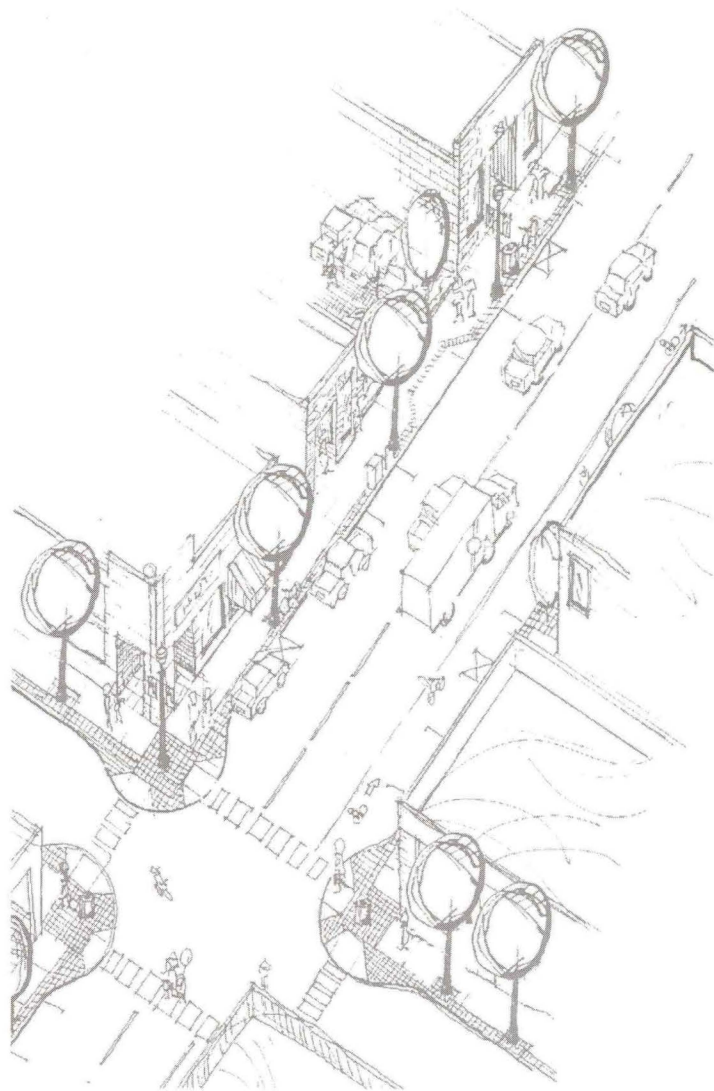


Figure 12. This drawing of the central business district of in agricultural community shows traffic calming measures taken, including curb extensions, wider sidewalks, colored pavers, and street trees. Reprinted from Transportation Growth Management Program, p. 91.

Federal Highway Administration. *Context Sensitive Solutions.org*.
<http://www.contextsensitivesolutions.org/content/gen/homepage/>

Georgia Department of Transportation. *Pedestrian and Streetscape Guide*. Atlanta: Georgia Department of Transportation, 2003.
http://www.sashto.org/dot/plan-prog/planning/projects/bicycle/images/ped_streetscape_guide_june05.pdf

Institute of Transportation Engineers Web site. Information on traffic calming, context-sensitive design, road safety, management and operations, and other related topics.
<http://www.ite.org>

Institute of Transportation Engineers. *Context Sensitive Solutions in Designing Major Urban Thoroughfares for Walkable Communities: An ITE Proposed Recommended Practice*. ITE, 2005.
<http://www.ite.org/bookstore/RP036.PDF>

Local Government Commission Web site. Information on community design, street design, bike and pedestrian design, economic development, and related topics.
<http://www.lgc.org>

Local Government Commission. Street Design Guidelines for Healthy Neighborhoods. <http://www.lgc.org/index.html>

Project for Public Spaces. *Building Community, Creating Places, Using Common Sense*. Information on transportation policy and planning, creating public places, public markets, downtown revitalization, and related topics.
<http://www.pps.org/>

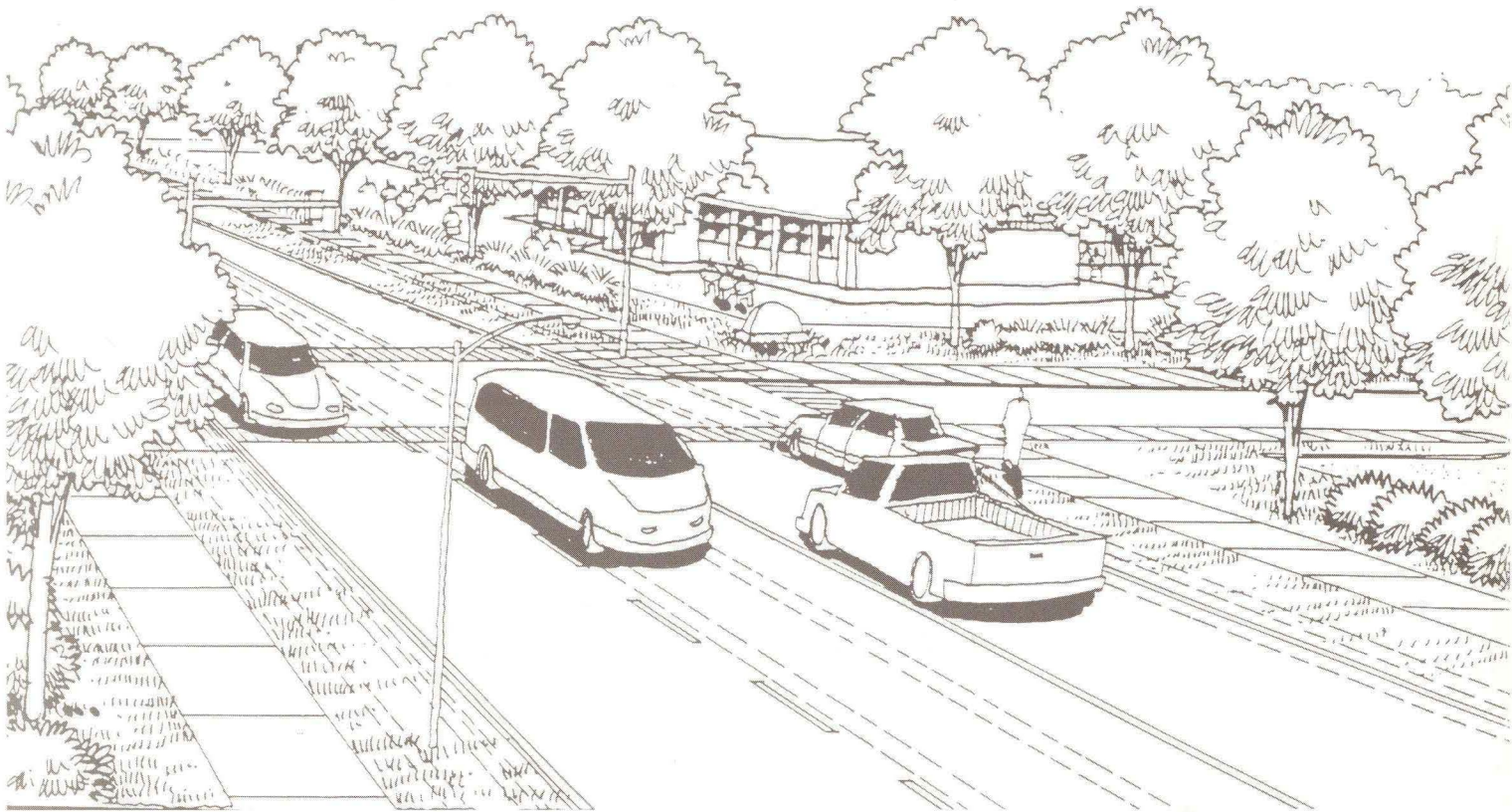
Transportation Growth Management Program. *Main Street...when a highway runs through it: A Handbook for Oregon Communities*. Oregon DOT and Oregon Department of Land Conservation and Development, 1999.

<http://www.oregon.gov/LCD/TGM/docs/mainstreet.pdf>

Victoria Transportation Policy Institute. Online Traffic Demand Management Encyclopedia, 2000. Provides detailed information on traffic demand management (TDM) strategies and chapters on their planning, evaluation, and implementation. <http://www.vtpi.org>



Figure 13. Pedestrian facilities include not only sidewalks, but curb ramps, crosswalks, traffic control devices, furnishings such as benches, and other amenities. Reprinted from Georgia Department of Transportation, p. 21.



File: Communities 1

...and justice for all

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