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# New American Urbanism

## Re-forming the Suburban Metropolis

2000

**Skira**

# Contents

# Introduction

Over the past few decades, many American architects have reclaimed land development patterns as an important, even central, *architectural* issue. This renewed interest in "town planning" emphasizes the relationships between buildings and open spaces that form urban patterns. A range of appropriate urban patterns organized into neighborhoods, these architects argue, can best meet the physical and social needs of increasingly diverse residents, and restore a sense of community. Architecture and urbanism, in this view, become agents of social change and reform.

The projects in this book represent this attempt to restructure urban growth into cohesive designs that balance buildings, open space, infrastructure, landscape, and transportation. In place of what the designers see as the piecemeal advance of placeless, car-dominated suburban sprawl, they envision dense, mixed-use neighborhoods with walkable streets, civic amenities, defined open spaces, and, if possible, connections to transit. Regional preservation of open land is enabled by concentration of dense, compact development. Much of the architectural designs are based on local building types and attempt to respect the local ecological conditions. The work ranges from entire new towns to urban infill. Many of the architects practicing these ideas have formed a movement called the Congress for New Urbanism (CNU), which most clearly and effectively has articulated this alternative vision.

The impetus for this renewed emphasis on town planning has been a rampant suburbanization of unparalleled magnitude throughout America, and indeed much of the western world. Particularly over the past half-century, the suburbs have exploded at a pace which has decimated many cities and consumed open land at an unsustainable rate. Towns and neighborhoods, the critics of sprawl argue, have been supplanted by subdivisions, malls, and office parks connected by an ever-expanding system of roadways. The mobility and freedom promised by the automobile have not been delivered by its dominance. Rather, a growing frustration has emerged, both popularly and with some architects and planners, that the forms of development geared solely to the automobile cannot produce livable places that serve a larger range of community interests. New Urbanists in particular have carefully crafted a critique of this sprawl that serves as the rationale for their urban interventions and new towns.

Much of the recent urbanism, especially that of the New Urbanists, focuses on rebuilding "community." As the historian Thomas Bender makes clear, "modern Americans fear that urbanization and modernization have destroyed the community that earlier shaped the lives of men and women, particularly in the small towns of the American past."[1] Interestingly, if Americans historically feared urbanization as destructive of community, the New Urbanists see rampant *suburbanization*, in the form of sprawl, as the destructive agent. Reestablishing urban priorities in architecture, whether in a small town, vacation resort, or dense urban infill, is central to the movement.

The contradictions found in this movement make it a fascinating case study of architectural ideology at this particular point in time. It is a small movement, whose members have designed only a fraction of contemporary development, yet has a large impact. It is primarily an architectural movement, yet depends on the alliance and cooperation of other professions (particularly engineers, planners, and developers). It is critical of current development as the simplistic translation of suburban conventions, yet promotes its own standards in the hope of enabling new conventions. It is an inherently conservative movement, yet is radically challenging and changing the way America builds. It is anti-heroic, yet produces leaders with vision and followings. Finally, it presents itself as anti-

modern, yet is fundamentally part of the larger modern project of reform.

It is important to understand that this book is about particular tendencies, not ownership of ideas. Although the movement of the Congress for New Urbanism presents its position in the proprietary form of a charter, its ideas are representative of much broader strains of architectural ideology, and, indeed, are part of a larger search to find ways to address the problems of the modern city. New Urbanism is merely the latest movement to seek alternative forms to reshape society. In this way, it can be seen as a continuation of modernism, not its antithesis.

The positioning of the city, and urban space, as the site of architectural investigation and practice has a long tradition in the twentieth century, including such diverse work as Otto Wagner, Raymond Unwin, Le Corbusier, Archigram, Robert Venturi, and Rem Koolhaas. It would be too simplistic to claim that the New Urbanists represent a reinvigoration of the suburbs as an antithesis to this urban condition. Rather, they have attempted to broaden the idea of "urban" to include all settlement patterns, regardless of density, and thereby claim the ubiquitous suburb as an urban form with its own particular characteristics. The implications of this recognition for an architectural profession that has principally ignored suburbs is immense. Although the ideas of the New Urbanists have met much resistance within the profession, and confront the overwhelming inertia of conventional development practices, they have reached a level of success that cannot be ignored. The directions indicated by the movement are no longer a footnote to the history of American urban development but part of it, and need to be reassessed in that context.

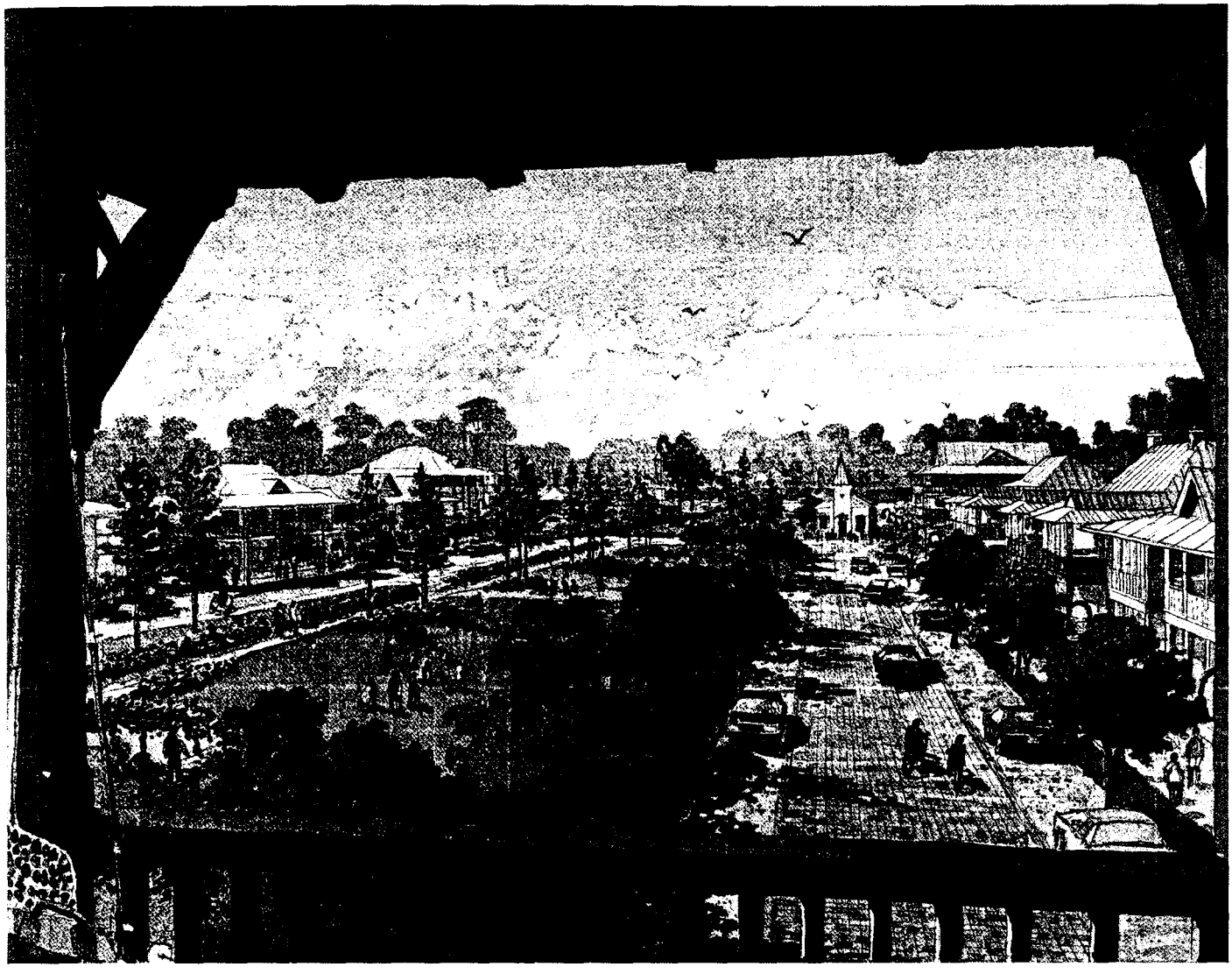
The purpose of this book is to explain and demonstrate this work, not through projects, but through a critical narrative of themes. The first four chapters outline the theoretical position of the work. Chapter One describes the critique of sprawl that has been so effectively developed and used as a foil to New Urbanist work. What is sprawl, and is it a uniquely contemporary occurrence? How have the construction of the critique and its response been formulated? Chapter Two explores methodologies and practices, that is, how the practices of urban design and architecture have been affected and how the idea of the "project" has been reframed. Chapter Three investigates the renewed emphasis on building "typology" as the mediation between architecture and urban design. The fourth chapter focuses on the restructuring of built environments through new codes and conventions.

The last two chapters explore the incarnation of these ideas in two kinds of broad applications. The projects in Chapter Five illustrate how urban and suburban transformation can occur through interventions in existing urbanized areas. Chapter Six focuses on new towns and neighborhoods, where a more unadulterated realization of New Urbanist ideas can occur. Finally, although this book is not a monograph and is based around a narrative of specific themes, six case studies are presented in a more complete representation. These are intended to help the reader understand the different incarnations and applications of the ideas discussed in the previous chapters.

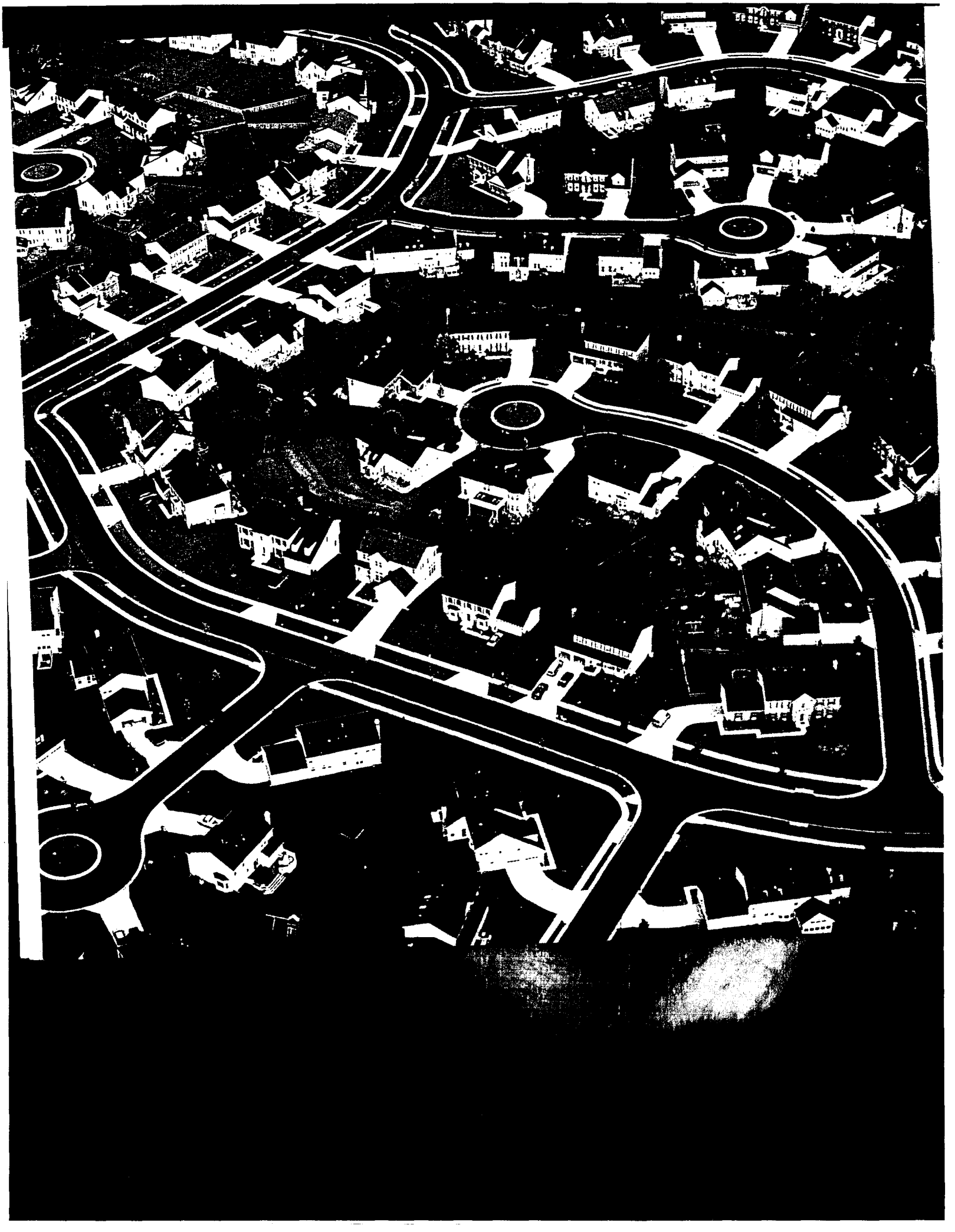
I have tried to distill this recent American urbanism into constituent parts, or themes, that are central to the work. In doing so, I hope to give the reader the ability to understand the work in a more complete context, so he/she can judge the success of the ideas and their applications. Although much has been written recently about the American revival of town planning in general, and the New Urbanism in particular, most of the writing consists of either partisan declarations of New Urbanism's ability to rebuild American community or facile dismissals of the movement as nostalgia-peddling suburbanism. The truth, of course, is somewhere in-between. There is undoubtedly, as one sympathetic critic has claimed, "an odd disconnect between what is exciting about the ambitious New Urbanist agenda and the places New Urbanists claim as success."[2] This book will hopefully present readers with their own chance to judge the ideas and work, and to participate in the ongoing search for alternative forms of the contemporary city.

[1]Thomas Bender, *Community and Social Change in America* (Baltimore: The Johns Hopkins Press, 1978), 3–4.

[2]Ellen Dunham-Jones, "New Urbanism as a Counter-Project to Post-Industrialism," in *Places* 13, no. 2 (spring 2000), 28.



View of Watercolor, Florida, Cooper Robertson and Partners, 1996. This new town is conceived as an extension to Seaside. (see fig. 2.6)



# Critique and Response

In the 1980s, a group of architects and planners began to perceive that the way we build suburbs directly affects our existing cities and regions. Land development patterns at all scales—region, town, neighborhood, and building—are interconnected, they argued, and need to be reassessed in terms of one another. Only a coordinated approach to regional planning, town planning, and architecture could redress the recent deterioration of our built environment by the onslaught of "sprawl."

This critique focused on the rapid growth of low-density suburbia, and the associated social, environmental, and economic costs. Despite its sometimes simplistic hyperbole, it is an important product of recent architectural thought, for it has spawned alternative tendencies in practice. Much of the critique was later canonized in a Charter by the self-proclaimed movement of New Urbanism, which has had a growing influence on policies of urban and suburban development. One of the more far-reaching effects has been the recuperation of land development patterns and building conventions as viable architectural subjects once again.

Although the focus of the critique is the recent sprawl of post-World War II suburbs, and in particular the explosive development of the past two decades, sprawl can be seen as a symptom of larger transformations of the modern city. For over a century architects have tried to contain and shape the form of the modern city, largely through the discipline of town planning. The idea of town planning in the modern age, according to architectural historian Leonardo Benevolo, emerged in England during the industrial revolution as a "corrective intervention" to the seeming chaos of burgeoning industrial cities. Town planning, therefore, by its very nature "retains a strictly remedial character."[1] The recent critique of sprawl sets the stage for a similar act of contemporary "corrective intervention."

New Urbanism continues the paradoxical stance of previous modern movements, from the Garden City Movement to CIAM (Congrès Internationaux d'Architecture Moderne), by combining remedial intervention with a utopian agenda. In both cases, urban and architectural form becomes the agent for societal reform. Cognizant of the pattern of failure of previous purely architectural movements, however, New Urbanists have encouraged the inclusion of a broad coalition of non-architects. Planners, environmentalists, developers, politicians, and engineers have forged an alliance to reform current building and development practices. Yet the sources of the modern city's problems for the New Urbanists are still, at the core, the physical symptoms—patterns of conventional suburban development labeled "sprawl." This chapter will describe how a critique of sprawl and post-war planning has been constructed and used as a foundation for a renewed emphasis on town planning principles.

## From Suburbia to Sprawl

Since the critique of sprawl centers on suburbia and in particular its pervasive, prevailing patterns of development, it is important to understand some of its history. How did the forms of sprawl emerge and so dramatically alter our built environments? The history and patterns of suburbia are actively cited by New Urbanists—both as model and foil—for their projects.

The growth of the suburbs is perhaps the most significant change in the American post-war physical and cultural landscape. The phenomenon has been well documented for the Anglo-American model, with an awareness of parallels to the rest of the world.[2] Suburbia, originally situated as a distinct middle landscape between city and country, has now become the armature and model of growth everywhere. Its original dependence on the commercial, social, and civic life of the city has dissipated. Today suburbia has become autonomous and pervasive, invading both traditionally urban and rural areas.

The original forms of suburban development as created by John Nash in England, or Frederick Law Olmsted and later John

Subdivisions in Gaithersburg, Maryland, within the larger Washington, D.C., metropolitan area, showing conventional suburban development of single-family houses on cul-de-sacs, 1995. (Photo: Alex MacLean)

Nolen in the States, were distinct places with their own particular urban characteristics and identities. No one could mistake Olmsted's Riverside with George Merrick's Coral Gables or Nolen's Mariemont, for example. Today, suburbia is created by national developers who construct nearly identical housing subdivisions, shopping centers, and office parks across America. But it is not merely the architecture that is homogeneous; it is the pattern of development. The ubiquitous, contemporary suburban landscape of highways, shopping centers, parking lots, housing subdivisions, streets lined with strip malls, or repetitive three-car garages along cul-de-sacs is a far cry from the bucolic promise of early suburbia.

The origins of suburbia represented a transformation of the notion of urban life, of work and family, and of the relative value of city center and periphery, notions still relevant in the unfolding history of contemporary suburbia. The earliest suburban houses, outside of London, were presented as "ideal villas in nature." These houses were, in accordance with contemporary evangelicalism, places to nurture family life and protect children from urban vice.[3] This moralistic tone was evident in the writings of early American proselytizers of suburban life too, such as Calvert Vaux, Andrew Jackson Downing, and Catharine Beecher. These nineteenth-century reformers promoted the suburban detached dwelling as a place of isolated domesticity within a moral community.

The earliest planned suburbs, although still financially dependent on the city, especially for jobs, did possess a mix of uses other than housing that contributed to a larger autonomous community. The pre-World War II suburban developments in America, particularly in the 1920s in places like Mariemont, Ohio or Country Club District in Kansas City, were more than just bedroom communities for commuters. They were neighborhoods with diverse housing, civic buildings, town centers, and dedicated open spaces such as parks and squares. Like much of suburbia, they were relatively exclusive communities, segregated by race and class from the nearby urban neighborhoods. These towns are important formal precedents for many New Urbanists, who have strived to accommodate their planning principles in a more inclusive form of suburbia.

The suburbs expanded at an enormous pace after World War II. By 1980, two thirds of America's 86.4 million dwelling units consisted of single-family houses surrounded by a private yard.[4] Metropolitan areas were "suburbanized" as their residents moved to new single family houses on the periphery. By 1990, 60 percent of the metropolitan population lived in suburbs. Open land was being consumed at an enormous rate that far outpaced population growth. From 1960 to 1990 the population of metropolitan areas grew by less than 50 percent, while the amount of developed land doubled. Perhaps most striking, the amount of land developed between 1982 and 1992 equaled one sixth of the total land developed in the history of the United States.[5] (see opening image)

The reasons for such growth, amply covered in contemporary literature on the subject, are cultural and social, sustained by specific policies of the federal government. Those who marketed suburbia tapped into American ideals of individualism, domesticity, and upward mobility as represented by the image of the detached house. Anti-urban sentiment, as well as blatant racism, helped propel people from cities to suburbs. Affordable car ownership made the suburbs accessible for many Americans. Two federal policies in particular promoted and enabled the outskirts of long-settled metropolitan areas to be developed at rapacious speed: the Federal Highway Act of 1954, which began the creation of the largest highway system in the world, and Federal Housing Authority mortgage programs, which subsidized and guaranteed mortgages for much of middle-class America.

That more people suddenly had access to these suburbs certainly created some of their problems. No longer exclusive enclaves for the wealthy, vast tracts of land were opened up to the middle classes. Developers streamlined procedures for building the new houses as efficiently as possible to keep up with demand. With the lack of support for good housing options in the inner cities, it is not surprising that a wholesale relocation of the middle and sometimes working classes occurred. Many of the critiques of suburbia in the past decades, not surprisingly, have, therefore, an air of class snobbery. Since many of the valued historical suburbs are low-density enclaves for professionals who commute to the city, a challenge for New Urbanists, to live up to their own claims, is to successfully adapt these earlier conventions of suburbia for the diversity and size of the contemporary suburban population.

For the most part, the growth and form of suburbia occurred with the tacit acquiescence of the planning and architectural pro-

fessions. At first, after the widespread introduction of the automobile, there was experimentation with suburban forms, such as Wright and Stein's Radburn, New Jersey, or Greenbelt, Maryland. These developments focused on separating cars from pedestrians by creating superblocks of development ringed by access roads. Yet most of suburban expansion has occurred beyond the purview of the architectural profession. By contrast, by making their critique of sprawl an architectural one, New Urbanists are able to make the claim for the renewed relevance of architecture and planning professionals in redressing the problems of contemporary development.

**A Theory of Sprawl**

Despite the popular appeal of the recent critique of sprawl, it is a difficult term to define precisely. Like the cliche regarding jazz ("I can't describe it, but I know it when I hear it"), sprawl is amorphous and eludes easy description, but everyone seems to recognize his/her own version of it. Although not inherently bad in itself, sprawl is a symptom of problems with the modern city that have existed for over a century. It is also a sign, a rhetorical construct, representing frustration and dissatisfaction toward the seemingly chaotic condition of the late modern city and suburb. Originally employed to describe the peripheral expansion of cities, sprawl is applied today more commonly to suburbia. Yet, despite the ambiguity of sprawl and its often histrionic invocation, post-war suburbs do represent the largest land development changes and growth in American history. Recent critics of suburbia have pointed out that these settlement patterns of post-war America are a radical disjunction from previous urban tendencies, and can be identified through shared characteristics. The New Urbanists, in particular, have freed the idea of sprawl from its geographical moorings. For them, sprawl no longer implies merely the centrifugal development at the periphery, but rather a form of development pervasive everywhere. This form of development certainly has its most unadulterated incarnations at the periphery, but it has also become the convention for new development anywhere, including within existing metropolitan areas.

Today, sprawl most commonly refers to the low-density, amorphous, aggregate development of single-use "pods" (e.g., housing subdivisions, office parks, shopping malls) connected by few and large roadways. It is diffuse, de-centered, without clear boundaries, and car-dominated. It is typically a patchwork of privatized spaces, with little figural public space such as squares, greens, or plazas. Open space is therefore merely residual. The dispersed development of sprawl forces residents to depend on cars for mobility: rarely are daily activities such as shopping and working accessible to pedestrians, and densities are too low to support mass transit. Consequently, sprawl is marked by excessive space for roadways and parking lots, and building access is typically oriented toward the car, rather than the pedestrian as in a traditional town or city. Street networks in sprawl suburbs are based on a sparse hierarchy, meaning that individual developments with local cul-de-sacs or long loopy roads feed large collector streets. All car trips feed into a decreasing number of roadways, from local streets to collectors to arterials, which become increasingly overburdened and congested with new development. Widening these streets usually results in streets inhospitable to pedestrian life and does little to reduce traffic (in fact some argue that adding lanes actually increases traffic).[6]

Are such patterns and methods of building merely a reality of post-industrial capitalism, the inevitable form of market-driven development? What has caused, according to architectural and social critic Mike Davis, "the downward spiral from garden city to crabgrass slum?"[7] New Urbanists, in formulating a general theory of sprawl, have identified five primary reasons for its emergence.

*Lack of Regional Planning*

The lack of coordination and planning at a regional scale results in great ecological and economic costs, which impact metropolitan areas as well as surrounding suburbs and open land. It also abets the coalescence of cities, countryside, first ring and new suburbs, and even edge cities, into a single, sprawling, suburban metropolis. The separate and inequitable tax bases of suburbs and cities have also left many cities poorer cousins to their surrounding suburbs, exacerbating further flight to the suburbs. Without a regional plan, it is difficult to direct growth to preserve land and natural resources while encouraging urban and suburban infill. Transit, which many New Urbanists emphasize as an effective alternative to the automobile, requires certain population densities and compact development patterns that are best encouraged and coordinated at a regional level.

*Lack of Neighborhood Design*

New Urbanists also blame sprawl on the lack of design and planning which focus on the neighborhood as the primary pedestrian-oriented unit of design. As critics of sprawl, they point out that contemporary suburbia has all the elements of a traditional town or neighborhood, but dispersed in isolated, car-accessible pods. Piecemeal agglomerations of single-use projects, such as housing subdivisions and malls, do not add up to a sense of place or a coherent neighborhood. Andres Duany and Elizabeth Plater-Zyberk even postulate a simplistic but convincing hypothesis that there have only been two types of urbanism in America: a neighborhood pattern and a suburban pattern.[8] The richness and complexity of the traditional neighborhood pattern, they argue, can be found in urban areas like Georgetown or Greenwich Village, suburbs like Forest Hills or Coral Gables, or traditional New England villages. But after World War II the suburban pattern became dominant, leading to the isolated and dispersed forms of sprawl. The physical isolation of projects and the inevitable grouping of similar populations in suburban housing subdivisions prevent the serendipitous physical contact with different people they believe necessary for community.

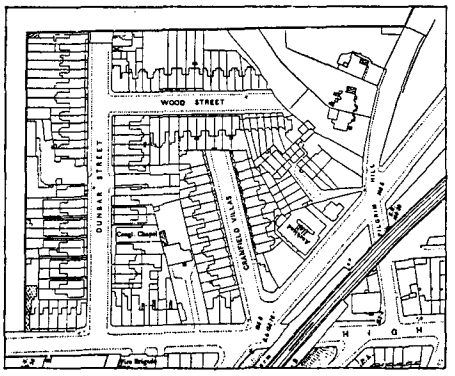
*Zoning and Government Policies*

New Urbanists charge that zoning policies and other governmental programs have explicitly encouraged sprawl development. Zoning is a modern system of regulating building uses to separate human activities. Its original purpose, to separate noxious industries from residential areas, is mostly unnecessary in today's post-industrial cities. Now zoning is an instrument of separation and segregation, resulting in thousands of acres equally divided into identical lots, typically housing people of similar socio-economic status. While zoning is not necessarily the cause of the resulting racial segregation, it does reinforce certain tendencies in American culture through its parallel segregation of forms of development. The multiple and layered uses that once coexisted in cities and towns are now separated and isolated from each other, connected by vast roadways. Zoning is a "one size fits all" policy; that is, its regulations are established for universal application across a municipality. A zoning designation of multifamily residential, for example, applies the same regulations in any location where such a use is allowed. New Urbanists contend that such zoning guidelines are, therefore, unable to accommodate different urban situations or densities and contribute to a homogeneous built landscape. Zoning also results in temporal segregation, producing places that are used only for certain times of day or night. Business districts and office parks are active in the day and stand empty in evenings. Conversely, entertainment districts are oriented to evening activity, often remaining desolate during the days.

*Specialization and Standardization*

An increased specialization and standardization of the building, development, design, and engineering industries has also contributed to sprawl, according to its critics. In the early twentieth century, specialties emerged to address the seemingly chaotic qualities of the modern city. Cities and suburbs began to be built by associations of specialists each working to resolve problems in a particular realm of expertise. New Urbanists see this as a significant departure from the tradition of building places by generalists, whether architects or developers, up to the 1920s, when the ideas of the Modernist functionalist city began to develop. In their view, the generalist can provide an overview for development missing in current, overspecialized processes.

The separation of uses, as prescribed by zoning, has corresponded to specialization within professions. Builders, developers, and architects specialize in components of suburban development, whether single-family housing, multifamily housing, office parks, or retail (malls and shopping centers). Banks typically lend money only for single-use projects (mixed-use projects don't conform to their pro-formas). The consequences of this specialization and separation are buildings developed in isolation from each other. The relationships between buildings and a larger urban context are subsumed by the splintered focus of specialization. Traffic engineers connect these islands of unique development. Resolving access and parking for each building becomes paramount. Ironically the mall, that great icon of suburbia, is in many ways an exemplary demonstration of the inherent urban relationship of parts to the whole. Its success in incorporating mixed uses and shared parking in the service of a well-maintained pedestrian environment has influenced the New Urbanist design of new towns and neighborhoods.




1. Plan of West Norwood, London, showing what Raymond Unwin calls the "futile arrangement resulting from lack of town planning powers." (From Unwin's *Town Planning in Practice*, 1909. Reprinted by Princeton Architectural Press)

*Role of Automobile and Highways*

The invention and widespread ownership of the automobile gave the middle class a new mobility that enabled the rapid development and dispersion of suburbs. Unlike the railroad suburbs, such as those west of Philadelphia which emerged along fixed rail lines, the car suburbs were able to spread wherever the seemingly cheap roadways could be constructed. With the federal government building an ever-expanding national network of highways and local municipalities absorbing the costs for local roadways to new developments, roads seem plentiful and free. The single-minded goal of efficient car movement has altered the forms of new and existing development to consist of large curb radii at intersections, multilane roadways with accelerator and left-turn lanes, three car garages facing the street, large setbacks of parking, vast network of wide uncrossable arterials and highways.

**Sprawl and the Modern Metropolis**

Sprawl, for all its impact on late twentieth-century urban landscape, is not a uniquely contemporary phenomenon. One can find similar complaints about uncontrollable development patterns in previous eras, particularly in cities at the onset of industrialism. Paradigmatic transformations in the economy at that time resulted in explosive, new patterns of urban growth. If cities, according to one historian, reached their apotheosis with the industrial age,[9] is suburban sprawl the built legacy of the post-industrial, service economy?

The similarities between the criticism of late twentieth-century suburban sprawl and contemporary criticisms of late nineteenth-century urban expansion highlight the extent to which the modern city continues to challenge, and resist, its critics. For example, the work of Raymond Unwin, one of the founding theorists and practitioners of the early twentieth-century Garden City Movement, was a reaction to the haphazard urban development accompanying rapid industrialization. Today, the New Urbanists and other suburban critics react against the physical results of an equally powerful transformation into a post-industrial, service-oriented economy. England first experienced the urban impact of industrialism at a scale which made it the laboratory for the rest of the soon-to-be-industrialized world. America, similarly, has created the world's first and largest post-industrial economy. Its forms of sprawl are now being replicated across the globe. How America addresses its sprawling suburban metropolis will no doubt influence other countries confronting similar predicaments.

The struggle against uncontrolled development pervades modernism's approach to the city and, later, the suburbs. Unwin's description of urban development in late nineteenth-century England could have almost been written by today's critics of sprawl:

"Miles and miles of ground, which people not yet elderly can remember as open green fields, are now covered with dense masses of buildings packed together in rows along streets which have arisen in a completely haphazard manner, without any consideration for the common interest of the people."[10] (fig. 1)

Similarly, the Athens Charter of CIAM (1933), written by Le Corbusier, proclaimed:

"It is the uncontrolled and disorderly development of the Machine Age which has produced the chaos of our cities.

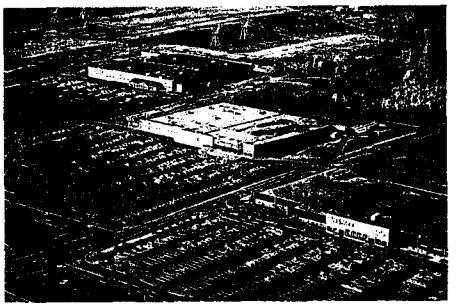
"Modern suburbs have developed rapidly, without planning and without control... Their process of growth and decay often escaping all control, frequently these suburbs take on the shape of shack-towns—disorderly groups of hovels constructed of all imaginable kinds of discarded materials."[11]

Although this view of an uncontrolled chaos pervades much of the recent criticism of today's suburban sprawl, there has also been, significantly, a shift to an almost contradictory position. Rather than unformed chaos, some critics of sprawl, like Andres Duany and Elizabeth Plater-Zyberk, contend that suburban sprawl is a ruthlessly rational product:

"Unlike the traditional neighborhood model, which evolved organically as a response to human needs, suburban sprawl is an idealized artificial system. It is not without a certain beauty: it is rational, consistent, and comprehensive. Its performance is largely predictable. It is an outgrowth of modern problem solving: a system for living."[12]

These present-day critics value the "traditional," or pre-modern town, for its "organic" forms, and consider systematic and orderly suburbs problematic. Their valorization of the organic town echoes the work of Camille Sitte in the nineteenth century, who favored picturesque urban form based on medieval precedent.

There is already concern that American settlement patterns will soon be transformed into a new type of "digital sprawl." These even-lower density settlement patterns would result from the ability to work from one's home via



2. Urban sprawl in the form of big box retail encroaches into farmland in Clay, New York, 1997. (Photo: Alex MacLean)

computer. As the mobility promised by the car has proven unattainable, the networked computer is being claimed by some as the next decentralizing technology. Such a vision is, perhaps, the logical extension of media hype (particularly computer laptop commercials) claiming that we will soon all lead dispersed and isolated lives in unspoiled nature, connected only by broadband data pipes and satellite transmissions.[13]

**The Costs of Sprawl**

Is sprawl as bad as its critics suggest, or is their criticism merely nostalgia for the small-town America of yesteryear? Is it simply an aesthetic reaction to the mass culture detritus of strip malls and spec housing subdivisions? While sentimentalism plays a role in much of the criticism of sprawl, even Duany and Plater-Zyberk, designers of some of the most traditionally "beautiful" new towns, realize "the problem with suburbia is not that it is ugly." They continue: "The problem with suburbia is that, in spite of all its regulatory controls, it is not functional. It simply does not efficiently serve society or preserve the environment."[14] A number of organizations, researchers, and journalists have studied sprawl,[15] and many conclude that there are serious social, financial and environmental implications to the current pattern of development.

Recent studies have found an inverse correlation between density and municipal capital cost. For example, one study calculated the costs of providing infrastructure and services for low-density, non-contiguous development at $69,000 (1998 dollars) per dwelling, compared to $34,500 per dwelling for contiguous, compact development.[16] Much of the difference is caused by reliance on the automobile and its associated infrastructure, comprehensively described in Jane Holz Kay's *Asphalt Nation*.[17] Many of those costs are hidden, since they are paid from general taxes and not levied specifically on the user. The federal government, for example, subsidizes highway infrastructure and fuel.

The direct costs, in time and money, for the average family is enormous. A typical suburban household owns 2.3 cars, and takes 12 automobile trips a day while driving 31,000 annual miles. Except for housing costs, suburbanites spend more on cars than any other category of expenses, including food. Car ownership costs the average American $6,000 annually per car. Commuting time continues to increase, especially as the suburbs sprawl outward and traffic worsens. Vehicle miles traveled increased by 40 percent between 1983 and 1990.[18] In Atlanta, a resident drives an average of 34 miles each day. American newspapers are filled with anecdotal evidence about the erosion of family time spent together under such circumstances.

A particularly compelling argument against the current suburban patterns of development is that the environment costs have been considerable and irreversible. The Natural Resources Defense Council reports that in the 1980s America lost 400,000 acres per year of prime farmland. (fig. 2) In California's Central Valley, containing some of the nation's most productive farmland, the population is expected to triple in the next four decades, resulting in a loss of an estimated one million acres of farmland. Energy costs are high: Americans use more than one third of the world's transportation energy, although they constitute only 4.7 percent of the world's population. A large percentage of air pollution results from cars emanating carbon monoxide, benzene, formaldehyde, and volatile organic compounds (VOCs). The health damage from car-related ozone pollution causes economic losses estimated between one and two billion dollars annually. Wildlife habitat and ecosystems, which depend on large uninterrupted areas, are also threatened. California alone has lost more than 91 percent of its original wetlands. Runoff pollution "is now the nation's leading threat to water quality, affecting about 40 percent of our nation's surveyed rivers, lakes, and estuaries."[19] Such pollution and general watershed degradation results from the increasing imperviousness of the ground, since the concentrations of pollutants on the transportation-related pavement which supports sprawl development (parking lots, roadways, sidewalks, etc.) are particularly high in pollutants.

There are also many criticisms of suburbia as a place that spawns social isolation. The disconnected, piecemeal patterns of suburbia which eschew complexity and diversity, and discourage walking, has exacerbated segregation by race and class. Its dispersed, auto-oriented patterns have left many people, particularly those who cannot drive or own a car (the very young, the very old, and the poor), socially isolated and dependent on the service of others. The serendipitous encounters of many types of peoples so necessary to urban culture is less likely to occur, it is argued, in the isolation of sprawl suburbs where most human contact is planned and controlled.[20]

The flight to suburbs has created severe disinvestment in the central cities, an imbalance

difficult to rectify because of unequal tax rolls. Metropolitan areas find themselves with costly and increasing demands for their services (schools, utilities, garbage collection, etc.) over an ever-widening suburban periphery. While the government has subsidized much of the middle class flight to suburbia, there has not been a corresponding investment in affordable housing in the inner cities, further exacerbating the race and class divisions between suburbs and cities. Nor have the effects on first ring suburbs and urban neighborhoods been only financial: many have been decimated by the highway infrastructure built to accommodate commuters from the expanding suburbs.

**Response to Sprawl**

The current attempt to reform contemporary cities and suburbs continues a century-long response to the problems of the modern city through architectural and urban intervention. The origin of modernism's critique of the city, however, was a simplistic history that reified the city as inherently chaotic, violent, and unforgiving. Le Corbusier declared this assessment as a matter of fact:

"...we may admit at once that in the last hundred years a sudden, chaotic and sweeping invasion, unforeseen and overwhelming, has descended upon the great city; ... The resultant chaos has brought it about that the Great City, which should be a phenomenon of power and energy, is to-day a menacing disaster, since it is no longer governed by the principles of geometry."[21]

Urban reformation, therefore, required a wholesale introduction of new solutions and forms. Ebenezer Howard, in *Garden Cities of To-morrow* (1898), justifies the adoption of a new type of settlement pattern because of the social consequences of the previous urban form:

"These crowded cities have done their work; they were the best which a society largely based on selfishness and rapacity could construct, but they are in the nature of things entirely unadapted for a society in which the social side of our nature is demanding a larger share of recognition."[22]

New Urbanist theories have emerged as a hybrid between this modernist view negating the existing city and the belief in pragmatic adaptation.

The creation of a critique of sprawl is the first step in this process of redeeming cities and suburbs. By presenting their history of the form of sprawl as a crisis in modern planning, the New Urbanists are able to architecturalize the problem. In this way, particular responses that redress the situation seem logical if not inevitable. By focusing on the physical ramifications of sprawl, they are able to offer specific design solutions at scales ranging from regional planning to architecture. They present building type and design, open space and landscape, street networks and block configuration, transportation design, regional planning, and sustainability as interdependent design issues.

Ironically for a movement steeped in modernist tendencies, much of the architectural response to sprawl is inspired by the study of pre-modern urbanism and town design. Undaunted by a century of failed movements intended to reform cities, New Urbanists press ahead by looking to the past. Speaking about this seemingly contradictory stance, historian Robert Fishman remarked:

"At a time when the global economy really threatens to submerge all differences, when the avant-garde is indeed paralyzed by the multiple possibilities and dangers of change, that it's precisely in this context that the past paradoxically becomes our best source of innovation and difference that we so desperately need."[23]

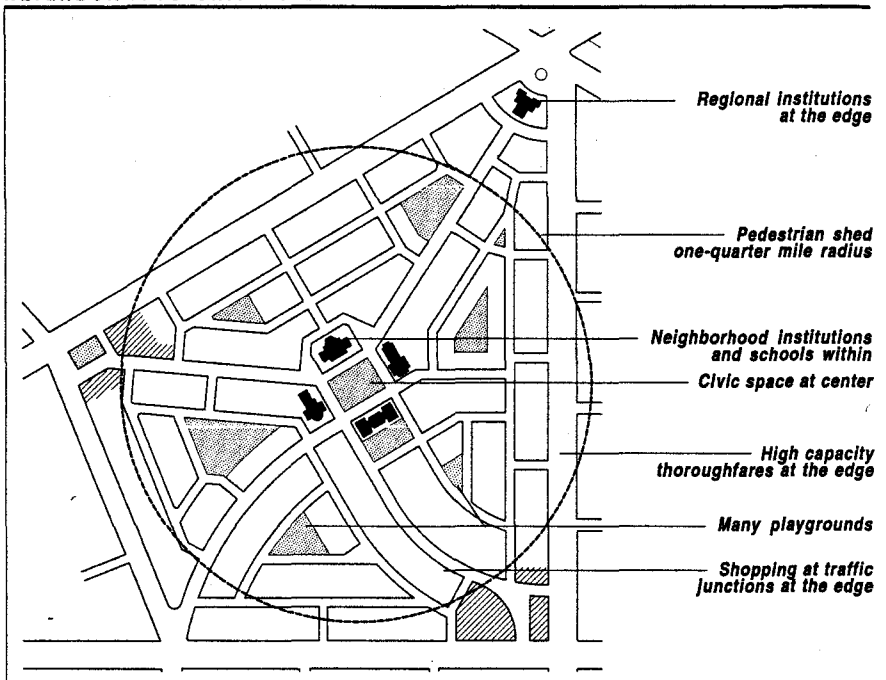
The distinction between inspiration and simulation, however, is not always understood. As Unwin, a prime influence on the New Urbanists, proclaimed in his *Town Planning in Practice* in 1909:

"Though the study of old towns and their buildings is most useful, nay, is almost essential to any due appreciation of the subject, we must not forget that we cannot, even if we would, reproduce the conditions under which they were created ... . While, therefore, we study and admire, it does not follow that we can copy; for we must consider what is likely to lead to the best results under modern conditions, what is and what is not attainable with the means at our disposal."[24]

New Urbanist design of new settlement patterns is oriented toward minimizing, but not eliminating, the need for automobile travel, and containing the low-density sprawl of the past decades. Compactness is therefore an important goal as an efficient form of building, but also to generate densities that permit such urban advantages as transit, pedestrian activity, and shared public space. A number of models have been postulated in opposition to the conventional model of suburban planning. One of them is the "traditional neighborhood unit" of Duany Plater-Zyberk (DPZ), a re-

- **Neighborhood:** the fundamental human habitat; a community sustaining a full range of ordinary human needs. In its ideal form, the neighborhood is a compact urban pattern with a balanced range of living, working, shopping, recreational, and educational accommodation. There exists a variety of models, some old, and some of relatively recent derivation that incorporate the attributes of the neighborhood.

## NEIGHBORHOOD UNIT 1927




**Neighborhood Unit:** A diagram and description from the First Regional Plan of New York (1927) which conceptualizes the neighborhood as the fundamental element of planning.

Size is determined by the walking distance of five minutes from center to edge, rather than by number of residents. Density is determined by the market. A community coalescing within a walkable area is the invariant.

An elementary school is at the center, within walking distance of most children. This is the most useful civic building, providing a meeting place for the adult population as well.

Local institutions are located within the neighborhood. Regional institutions are placed at the edges so that their traffic does not enter the neighborhood.

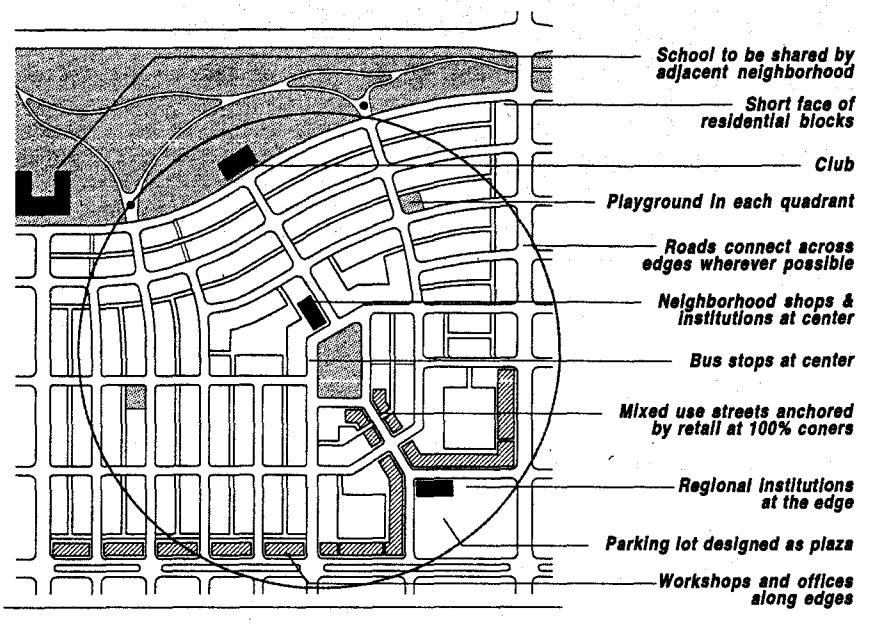
There is a civic open space at the center of the neighborhood, and several smaller playgrounds, one in close proximity to every household.

A network of small thoroughfares within the neighborhood disperses local traffic.

Larger thoroughfares channel traffic at the edges.

Retail is confined to the junction having the most traffic, accepting the realities of the automobile.

## TRADITIONAL NEIGHBORHOOD DEVELOPMENT 1997




**Neighborhood Development:** A diagram that updates the Neighborhood Unit and reconciles current models.

The school is not at the center but at an edge, as the playing fields would hinder pedestrian access to the center. The school at the edge can be shared by several neighborhoods, mitigating the problem created by the tendency of neighborhoods to age in cohorts generating large student age populations that then drop off sharply.

There are few sites reserved for local institutions at the center and more for regional institutions at the edge. Ease of transportation has made membership in institutions a matter of proclivity rather than proximity.

The shops at the busiest intersections have been modified to accommodate larger parking plazas for convenience retail and extended by an attached main street for destination and live-work retail.

More service alleys and lanes have been added to accommodate the increased parking requirements.

The minor thoroughfares are connected with those outside the neighborhood in order to increase permeability and disperse traffic. This modification, however, increases the possibility of shortcuts.

The thoroughfare types support a transect from rectilinear streets at the urban center to curvilinear roads toward the rural edge.

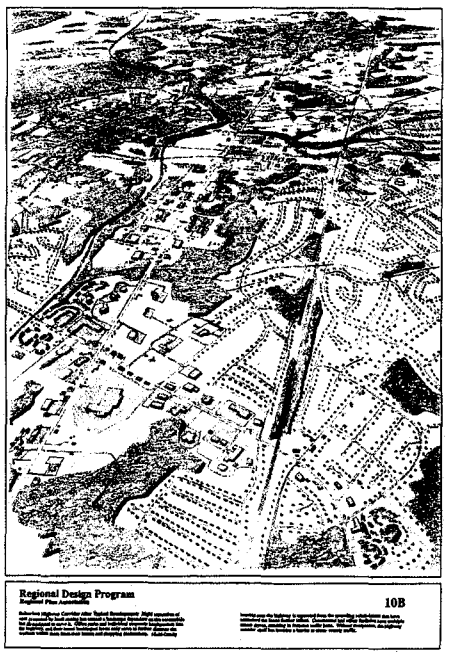
The traffic along the boulevards at the edges is more unpleasant than originally envisioned. Three mitigating strategies are proposed: the provision of an end-grain of blocks at all edges, a green buffer shown along the bottom edge, and the location of resilient building types, such as office buildings, shown along the bottom edge.

The traffic along the highway shown at the top is assumed to be hostile and therefore buffered within a parkway.

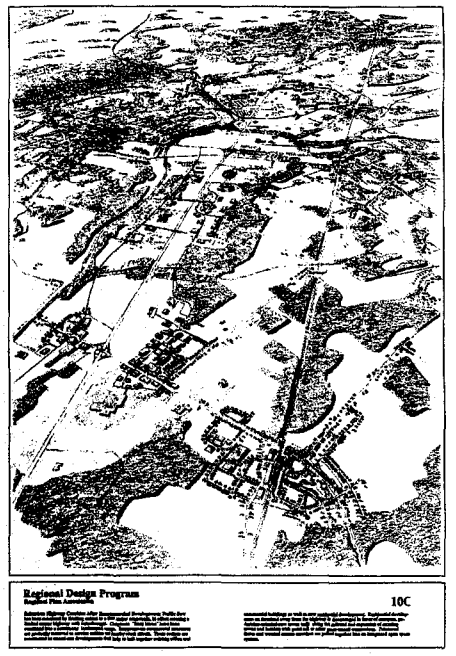
3. These diagrams compare the Neighborhood Unit of the first Regional Plan of New York (1929) with the Traditional Neighborhood Development of the New Urbanism. (From Duany Plater-Zyberk's *Lexicon*, 1999)

4 a, b, c. Demonstrating the importance of regional coordination of urban development, these diagrams by The Regional Planning Association (RPA) illustrate scenarios showing a: the existing conditions of a region, b: the sprawl pattern after conventional suburban development and c: the pattern of clustered development that preserves open space and natural ecosystems, as recommended by RPA.

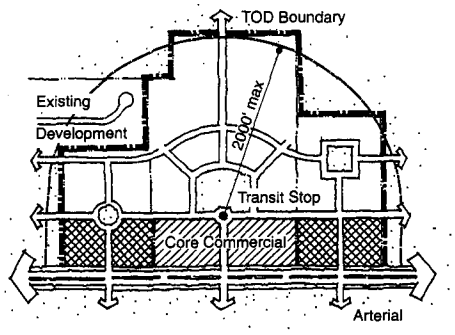

a



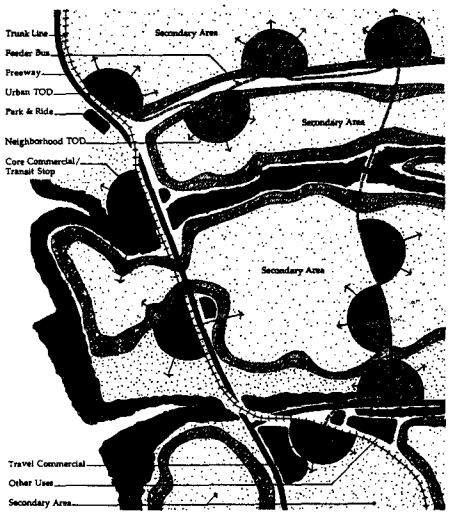

b



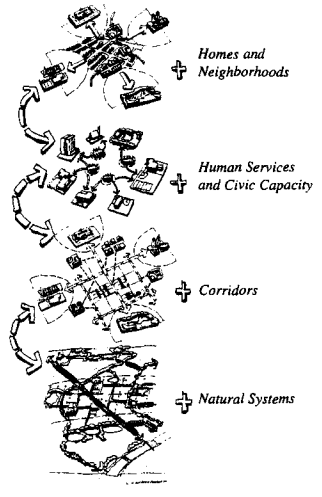

c




5. Diagram showing the concept of Transit Oriented Development (TOD). The TOD, centered on a transit stop and adjacent to an arterial, mixes residential, retail, office space and public uses. The size of the development is limited by the distance pedestrians will walk. (Calthorpe Associates)




6. Diagram showing a proposed regional relationship of transportation to urban development. Transit Oriented Developments are located on trunk transit lines or feeder bus route within ten minutes transit travel time from a stop on a trunk line. (Calthorpe Associates)




7. Analytic diagram of the "Metropolitan Town" model proposed by William Morrish illustrates his concept of the layered ecologies of housing, infrastructure, corridors and natural systems.

sponse also to the neighborhood unit proposed by the Regional Plan Association of New York in 1929. (fig. 3) In powerful but essentializing rhetoric, DPZ describes the neighborhood as a "fundamental human habitat, a community sustaining a full range of ordinary human needs."[25] Collections of neighborhoods create districts, villages, or towns. The size of neighborhoods is limited by the distance one can walk within five minutes, usually about 1/4 mile in radius for a moderate climate. The ideal Traditional Neighborhood Development contains a range of housing types, a discernible center (often a square or plaza), places to work, places for everyday shopping, an elementary school, and civic or community buildings.

Streets and blocks are the infrastructure of the new neighborhood pattern. The connected street network, commonly found in developments before the 1940s, is once again employed in place of the dendritic, cul-de-sac patterns of sprawl. The prominent transportation engineer Walter Kulash declares that such a connected network is advantageous because: 1) it reduces congestion by keeping local traffic, which comprises the majority of vehicle trips, on local roads instead of major arterial roadways; 2) travel is more direct and flexible; 3) a town center, accessible by traffic from all directions, can be concentrated in the center rather than dispersed in thin strips along highways; and 4) non-vehicle travel including walking, biking, and public transit, becomes possible, safe and more enjoyable than similar travel on arterial and collector roadways.[26]

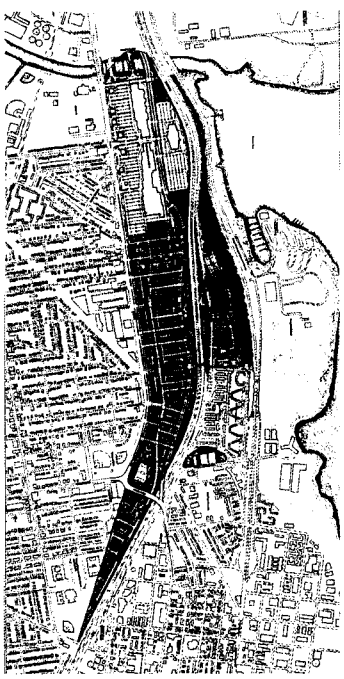
The building of new neighborhoods and towns, and the reworking of existing suburbs and cities require planning at a regional scale. (fig. 4 a, b, c) Ideally, the region is comprised of collections of neighborhoods focused on transit lines in what Peter Calthorpe calls "Transit Oriented Districts." (figs. 5, 6) Limiting metropolitan sprawl, whether through Urban Service Boundaries (USB), or Urban Growth Boundaries (UGB), such as in Portland, is a regional issue of balancing urban and rural areas. A regional plan helps direct growth in appropriate areas in order to preserve environmental assets such as watersheds, farmlands, wildlife, vegetation, and natural terrain features. Regional planning can also ensure minimum densities necessary for shared services, including utilities, stores, places of work, and other services. Such agglomerations of people can, if sufficiently sizable, support transit and other alternatives to the automobile.

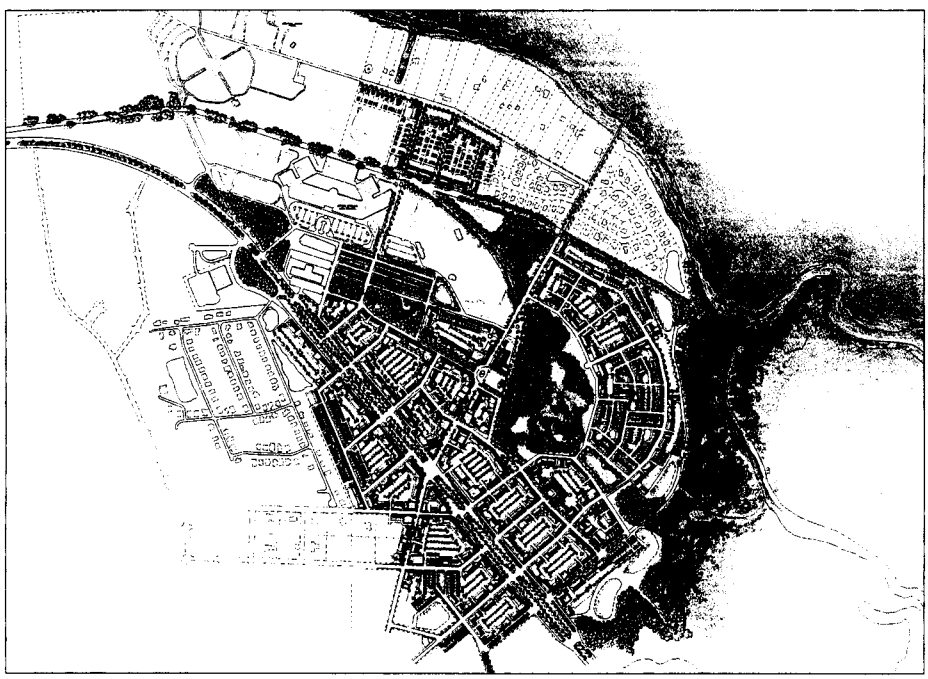
8. Master plan for Potomac Yard illustrates large urban infill development utilizing New Urbanist principles. (Cooper, Robertson & Partners, 1999)

9. Master plan for Winter Springs Mall in Florida illustrates the application of New Urbanist principles in making a new "town center" in a suburban setting. (Dover Kohl and Partners, 1998)

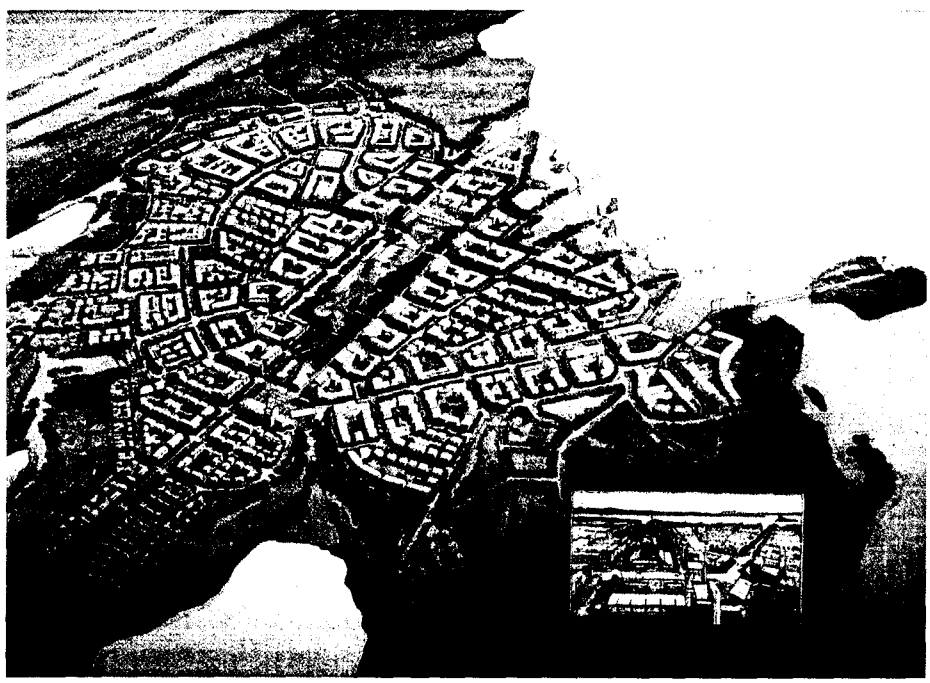
The diagram of Transit Oriented Districts dispersed discretely throughout otherwise unspoiled nature is, of course, an ideal that hardly seems attainable in areas that have already felt the impact of sprawl development. First ring suburbs, for example, were once the pastoral suburban surrounds of a city. Now they suffer from traditionally urban problems of crime and drugs, decaying infrastructure, traffic congestion, and aging housing stock. The architect William Morrish believes such a place should "reposition itself within the evolving regional environment" as "metropolitan towns." (fig. 7)

These models propose principles for structuring settlement patterns that can be applied to cities and suburbs equally, as well as applied outside the States. (figs. 8, 9, 10) The flexibility of these models, their popular appeal, and their ability to accommodate different scales and densities of development, set them apart from previous urban strategies this century. Yet despite the cogent, self-assured critique of sprawl developed by the New Urbanists, it does not necessarily follow yet that they alone possess the solutions to the problems of the modern city. Any civic community based on New Urbanist ideals of place will take generations to evolve, and undoubtedly in ways not predicted by the designers. As these models are considered by a wider range of architects, and for a wider range of places, the true potential of these models will be best tested.





[1] Leonardo Benevolo, *The Birth of Modern Town Planning*, 4th ed., trans. Judith Landry (Cambridge, Mass.: The MIT Press, 1980), ix.
[2] See for example: Robert Fishman, *Bourgeois Utopias: The Rise and Fall of Suburbia* (New York: Basic Book Inc., 1987); Kenneth T. Jackson, *Crabgrass Frontier* (New York: Oxford University Press, 1987); John R. Stilgoe, *Borderland* (New Haven: Yale University Press, 1988); and Andres Duany, Elizabeth Plater-Zyberk, and Jeff Speck, *Suburban Nation: The Rise and the Decline of the American Dream* (New York: North Point Press, 2000).
[3] Fishman, *Bourgeois Utopias*, 119.
[4] Jackson, *Crabgrass Frontier*, 7.
[5] F. Kaid Benfield, Matthew D. Raimi, and Donald D. T. Chen, *Once There Were Greenfields* (The Natural Resources Defence Council, 1999), 4–6.
[6] Duany, Plater-Zyberk, and Speck, *Suburban Nation*, presents a comprehensive argument about the nature of sprawl in Chapter 3, "The Devil is in the Details."
[7] Mike Davis, "Ozzie and Harriet in Hell," *Harvard Design Magazine* (winter–spring 1997), 4.
[8] The illustrated argument can be found in *Design Quarterly* 164.
[9] Robert Fishman, "Cities after the End of Cities," *Harvard Design Magazine* (winter–spring 1997), 14–15.
[10] Raymond Unwin, *Town Planning in Practice* (1909; reprint, New York: Princeton Architectural Press, 1994), 2.
[11] "The Town Planning Chart, Fourth C.I.A.M. Congress, Athens, 1933," in José Luís Sert, *Can Our Cities Survive?: An ABC of Urban Problems, Their Analysis, Their Solutions* (Cambridge, Mass.: Harvard University Press, 1942), 247.
[12] Duany, Plater-Zyberk, Speck, *Suburban Nation*, 4.
[13] For discussions on the unlikeliness of such a scenario see William J. Mitchell, *E-topia: "Urban life, Jim, but not as we know it"* (Cambridge, Mass.: The MIT Press, 1999).
[14] Duany, Plater-Zyberk, and Speck, *Suburban Nation*, 14.
[15] Many of the negative conclusions regarding the impact of sprawl can be found in Benfield, Raimi, and Chen, *Once There Were Greenfields*; James Howard Kunstler, *Home from Nowhere* (New York: Simon & Schuster, 1996); *New Urban News*; Duany, Plater-Zyberk, and Speck, *Suburban Nation*.
[16] James Frank, "The Costs of Alternative Development Patterns: A Review of the Literature," as reported in Benfield, Raimi, and Chen, *Once There Were Greenfields*, 97–98.
[17] Jane Holtz Kay, *Asphalt Nation* (Berkeley: University of California Press, 1997)
[18] Benfield, Raimi, and Chen, *Once There Were Greenfields*, 31.
[19] The studies and statistics referred to in this paragraph are from Benfield, Raimi, Chen, *Once There Were Greenfields*, Chap. 2, "Sprawl and the Environment," 29–88.
[20] This critique, however, has been challenged lately by revisionist historians who argue that suburbs have become more complex, more urban, and more diverse over the recent decades.
[21] Le Corbusier, *The City of Tomorrow*, trans. 8th French ed. (Cambridge, Mass.: The MIT Press, 1986), 31.
[22] Ebenezer Howard, *Garden Cities of To-morrow* (Cambridge, Mass.: The MIT Press, 1965), 145–146.
[23] Robert Fishman, Proceedings from "Exploring (New) Urbanism," Harvard University Graduate School of Design, March 4–6, 1999.
[24] Unwin, *Town Planning in Practice*, 13.
[25] *The Lexicon of the New Urbanism* (Duany Plater-Zyberk & Company, 1999) C-2.1
[26] See essay by Walter Kulash in Michael Leccese and Kathleen McCormick, eds., *Charter of the New Urbanism* (New York: McGraw Hill, 2000), 84–85.



10. Proposal for Fornebu, Norway, on Oslo's old airport site, illustrates one of a number of increasing examples of the application of New Urbanist principles outside the United States. (Duany Plater-Zyberk, Div. A architects, Sundt & Thomassen landscape architects, and Berdal Stromme, 1997)