

ALTERNATIVES

TO



Sprawl



# Alternatives to Sprawl

This report is one in a series of policy focus reports published by the Lincoln Institute of Land Policy to address timely land-related questions of concern to policymakers. Each report is based on a workshop or conference designed to bridge the gap between theory and practice. Participants represent a range of academic disciplines, political views, levels of government and types of communities.

The conference “Alternatives to Sprawl” was cosponsored by the Lincoln Institute, The Brookings Institution and the National Trust for Historic Preservation. It was held at The Brookings Institution in Washington, D.C., in March 1995.



## Lincoln Institute of Land Policy

The Lincoln Institute of Land Policy is a nonprofit and tax-exempt educational institution established in 1974. Its mission as a school is to study and teach land policy, including land economics and land taxation. The Institute is supported by the Lincoln Foundation, established in 1947 by John C. Lincoln, a Cleveland industrialist. Mr. Lincoln drew inspiration from the ideas of Henry George, the nineteenth-century American political economist and social philosopher. Integrating theory and practice of land policy and understanding forces that influence it are major goals of the Institute. Through multidisciplinary research, courses, conferences and publications, the Institute seeks to advance and disseminate knowledge of critical issues in land and tax policy.



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## National Trust for Historic Preservation

The National Trust for Historic Preservation, chartered by Congress in 1949, is a nonprofit organization with over 250,000 members. As the leader of the preservation movement, it is committed to saving America's diverse historic environments and to preserving and revitalizing the livability of communities nationwide. The Trust has seven regional offices, owns 17 historic sites, and works with thousands of local community groups in all 50 states. The Trust sees sprawl as a major preservation issue because this type of development weakens the economic vitality of older cities and towns, where historic resources are concentrated.

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## Introduction

To some, it seemed a “dream” project: Who better to interpret (and popularize) American history for a mass audience than Walt Disney, the corporate icon of wholesome, upbeat and skillfully produced entertainment?

But to others, the prospect of a “Disney’s America” theme park in the scenic, history-rich Virginia countryside was more nightmare than dream. The theme park, they pointed out, was merely the centerpiece of a much larger development that would include expansive housing subdivisions, retail space and office buildings—a sizable new town, in effect, sprouting in the middle of open countryside.

Moreover, the Disney project was certain to generate a volume of traffic that would clog existing roads and attract additional development—motels, restaurants, gas stations and the like—that would devour farmlands and other open space and overwhelm existing infrastructure. In short, opponents insisted, the area would be swamped by sprawl.

Disney ultimately dropped its plans for the Northern Virginia Piedmont site, but the alarm felt by residents of this area is mirrored in other parts of the United States:

*In Westford and Greenfield, Massachusetts, grassroots efforts succeed in preventing construction of Wal-Mart stores on the outskirts of town. In both communities, residents argue that “superstore sprawl” would drain vitality from existing downtown commercial areas, generate traffic congestion, cause extensive environmental damage and destroy their cherished small-town way of life.<sup>1</sup>*

*In New Jersey, a study concludes that implementation of a statewide plan to contain sprawl could, over a period of 20 years, preserve almost 30,000 acres of “frail” natural areas and 42,000 acres of productive farmland. At the same time, planned growth could save the state about \$1.4 billion dollars in capital infrastructure costs, including \$699 million in road costs, \$561 million in water and sewer costs and \$173 million in schools.<sup>2</sup>*

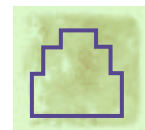
*In Colorado, an opinion poll reveals that the number-one concern among a sizable majority of residents is not crime or unemployment, but uncontrolled growth. Vehicles sport bumper stickers reading “Don’t Californicate Colorado.”<sup>3</sup>*

*And in California itself, a coalition led by Bank of America—a leader of the mainstream business community that traditionally supports policies favoring unlimited growth—issues a report stating bluntly that sprawl is bad not just for the environment but for business as well.<sup>4</sup>*



Constance Beaumont

*Sprawling malls like this one near Holland, Michigan, are familiar elements on the American landscape.*



Sprawl is not a recent phenomenon. There is general agreement that it began in the construction boom of the post-World War II years and really came into its own with the initiation of the Interstate Highway System in the 1950s. There is general agreement, also, that it entered a new and much more destructive phase in the “boom” years of the past decade. As the boom has turned to bust, citizens have voiced growing disaffection with development policies and practices that are costly (in social and environmental as well as fiscal terms) and increasingly unworkable.

It must be noted that the perception of sprawl as a serious problem is by no means universal. Many see sprawl as a uniquely American phenomenon, a manifestation of the same spirit that drove previous generations to spread across the continent and reap the bounty of its seemingly inexhaustible resources. A closely allied view holds that, for better or worse, sprawl is this country’s growth pattern of choice, the logical fulfillment of the American dream of a suburban house, lawn and unlimited mobility. Still others feel that sprawl—like it or not—is simply the price of progress.

A growing number of Americans, however, find themselves in agreement with the sentiment expressed by William Faulkner in a 1947 letter to his hometown paper, the *Oxford (Mississippi) Eagle*, protesting



the threatened loss of a local landmark: “They call this progress,” he wrote. “But they don’t say where it’s going; also there are some of us who would like the chance to say whether or not we want the ride.”

With more and more people deciding that they don’t want the ride—or, at the very least, deciding that the price of the ticket may be too high—the search for methods of dealing with sprawl and for less destructive patterns of development has taken on new urgency.

As a part of this effort, on March 22, 1995, The Brookings Institution, the Lincoln Institute of Land Policy and the National Trust for Historic Preservation cosponsored a day-long conference entitled “Alternatives to Sprawl.” The speakers represented a wide range of expertise, affiliation and opinion. Their comments, ideas, research findings and recommendations are summarized in the following pages. We hope they may serve as a resource for private citizens and public officials in making informed choices about the future growth patterns of the cities, towns and countryside where we all live.

#### Alternatives to Sprawl Conference Speakers

*Robert W. Burchell, Professor of Urban Planning, Center for Urban Policy Research, Rutgers University, Piscataway, New Jersey*

*David Burwell, President, Rails-to-Trails Conservancy, and Chairman, Surface Transportation Policy Project, Washington, D.C.*

*Peter Calthorpe, Architect and Principal, Calthorpe Associates, San Francisco, California*

*Anthony Downs, Senior Fellow, The Brookings Institution, Washington, D.C.*

*Andres Duany, Principal, Andres Duany and Elizabeth Plater-Zyberk, Architects and Town Planners, Miami, Florida*

*Peter Gordon, Professor of Economics, University of Southern California, Los Angeles, California*

*Jerald S. Kayden, Associate Professor of Urban Planning, Harvard University Graduate School of Design, Cambridge, Massachusetts*

*Peter Linneman, Professor of Real Estate, Finance and Public Policy, Wharton School of Business, University of Pennsylvania, Philadelphia, Pennsylvania*

*Richard Moe, President, National Trust for Historic Preservation, Washington, D.C.*

*Myron Orfield, State Representative, Minnesota House of Representatives, Minneapolis, Minnesota*

*Kenneth Orski, President, Urban Mobility Corporation, Washington, D.C.*

*John Pucher, Professor, Department of Urban Planning, Rutgers University, New Brunswick, New Jersey*

*Henry R. Richmond, Chairman, National Growth Management Leadership Project, Portland, Oregon*

*Rodney Slater, Administrator, Federal Highway Administration, Washington, D.C.*

*Roger S. Ulrich, Associate Dean for Research, College of Architecture, Texas A & M University, College Station, Texas*



# Sprawl: How It Began, How It Spreads

What is sprawl? When did it begin? What caused it? What policies and practices continue to encourage, mandate or reward it? Answers to these questions are varied—and frequently contradictory.

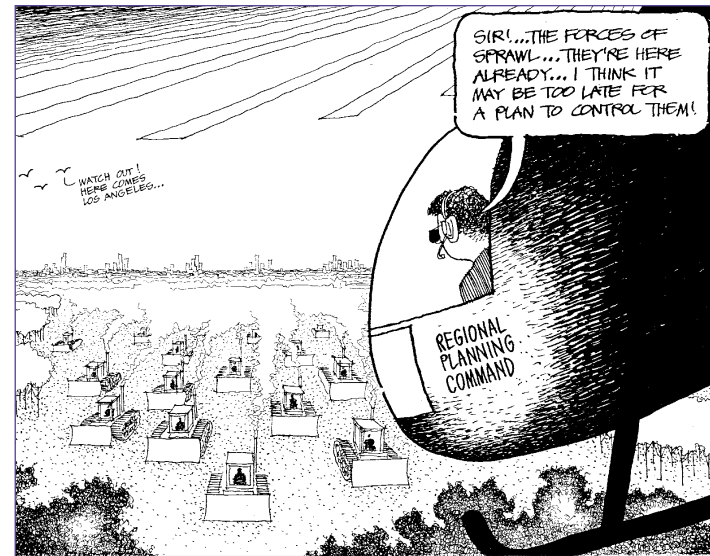
Even a simple definition of the term “sprawl” is difficult to obtain, partly because there is no clear distinction between suburbanization and sprawl. Anthony Downs defines the former as merely “the growth of population outside the central city” at no specified density or scale of land consumption. Sprawl, he says, is “a specific form of suburbanization that involves extremely low-density settlement at the far edges of the settled area, spreading out far into previously undeveloped land.”

Richard Moe expands this concept, defining sprawl as low-density development on the edges of cities and towns that is “poorly planned, land-consumptive, automobile-dependent, designed without regard to its surroundings.” He characterizes two major forms:

“sellscape” retail development, frequently spurred by major discount chains such as Wal-Mart and Kmart, occurring along major arteries and at highway interchanges; and

spread-out residential development, usually consisting primarily of single-family detached houses, located on the edges of existing communities or “leapfrogging” into previously undeveloped areas.

Both forms result in abandonment or underutilization of existing infrastructure in older neighborhoods, coupled with duplication of services and infrastructure in sprawling newly developed areas. Moe contends that much of this “fiscally irresponsible” process is subsidized by inner-city taxpayers.



Roger K. Lewis, FAIA. Originally published in *The Washington Post*.

## What Causes Sprawl?

Just as there are many definitions of sprawl, there is little consensus on its origins or root causes. Many observers see sprawl as the natural product of an inherent trait in the American character. Peter Linneman, for instance, advances the notion that modern-day sprawl can be traced to the historic American drive to push back the frontier and settle a vast continent. “Sprawl,” he says, “is something this country has been trying to do . . . since our creation.”

Rodney Slater agrees, saying that the growth of sprawl “should not surprise us in a nation that sprawled across the continent, pushing back the wilderness well ahead of transportation technology, well ahead of government, well ahead of planning, and always in search of what has sometimes been called elbow room.” Moe also notes that the tendency to sprawl arises in part out of deeply entrenched attitudes such as “the notion of boundless space, the concept of throwaway culture [and] the conviction that newer is always better.”

Another assertion is that sprawl is no more than the result of market forces at work—the product, in Slater’s words, of “individual choices made by citizens, developers, governmental units, farmers and others.” Henry R. Richmond agrees that simple market forces—what he calls “individuals and municipalities acting in their own self-interest”—are among the factors that



contribute to sprawl. But, he states, “sprawl is hardly the result of supply-and-demand forces in some sense reaching equilibrium naturally.”

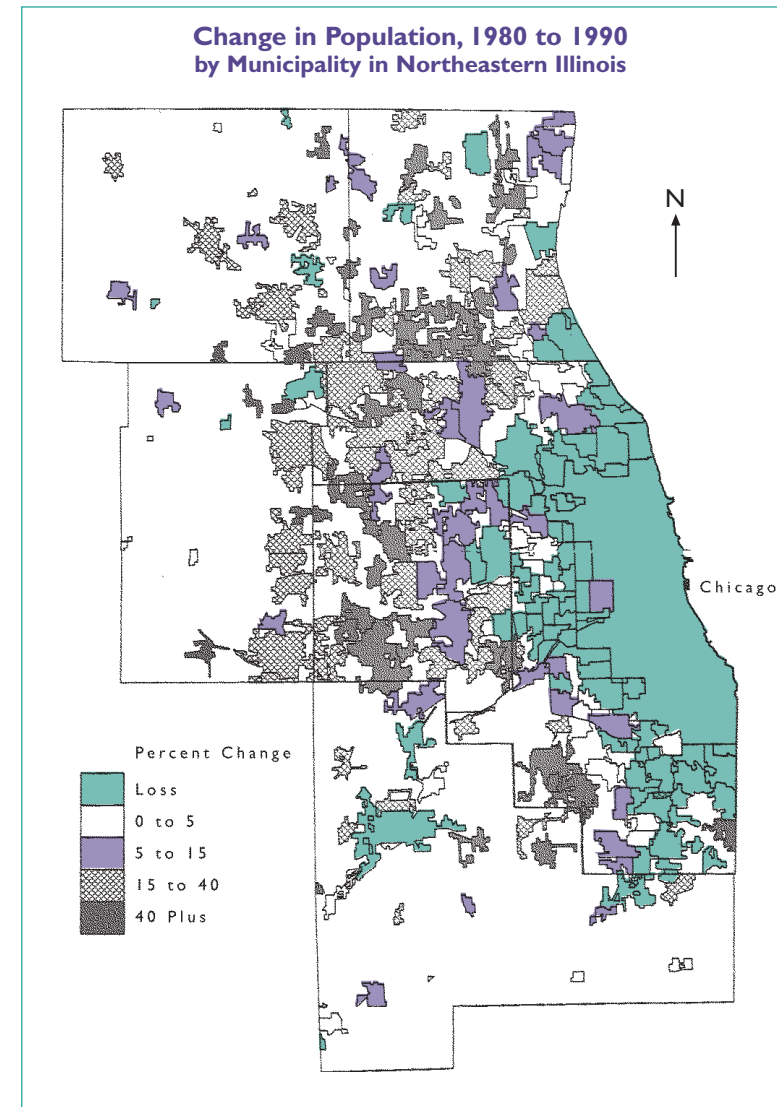
Richmond feels that arguments in favor of the so-called free market fail to recognize that there is a “tilt of existing public policy” in favor of sprawl. Even those who do feel that sprawl is predominantly a market-driven phenomenon admit that a web of policies and practices at all levels of government and throughout the private sector contributes substantially to the growth of sprawl.

### What Factors Encourage Sprawl?

As examples of policies and practices that encourage sprawl, Slater mentions postwar transportation and housing initiatives as forces that accelerated—but did not cause—sprawl. Richmond cites the mortgage insurance system, which heavily favors the construction of single-family housing, primarily in suburban areas. The property tax system also plays a role, he says, because tax-base-poor cities in search of revenue impose high tax burdens that, in turn, drive development and investment to outlying areas with lower taxes.

According to Richmond, sprawl is most likely to occur in:

- 1 “fragmented” metropolitan areas, i.e., those in which there are numerous governmental jurisdictions with zoning authority. There are 263 such jurisdictions in the six-county Chicago area, for example, while the Philadelphia area has 245. New York City has more than 700, spread over three states.
- 2 spatially expanding metropolitan areas. The urbanized area surrounding New York City expanded by 65 percent between 1960 and 1985, though the population grew by only 8 percent in the same period.<sup>5</sup> Cleveland’s urbanized area expanded by 33 percent between 1970 and 1990, even though the regional population fell by 11 percent during those two decades.<sup>6</sup>
- 3 regions where investment is distributed unevenly. This may include public investment in such infrastructure elements as schools, sewers and transportation systems, and/or private investment in housing or job creation.



Source: U.S. Bureau of  
the Census, January 1991  
Prepared by Northeastern  
Illinois Planning Commission

- 4 regions that show disparities in the means of financing essential public services such as education, public safety and infrastructure maintenance.
- 5 areas with patterns of development—such as low density and separation of land uses—that enforce dependence on the automobile.

Downs attributes the growth of sprawl to five factors, which he characterizes as goals that have been achieved by most American households:

*occupancy of single-family homes in wide-spreading, low-density developments;*

*universal use of private automobiles;*

*dominance of scattered low-density workplaces, most of them providing convenient free parking;*

*fragmentation of powers of governance over land use; and*

*reliance on the “trickle-down” economic process to provide housing for low-income households.*

Perhaps most important among these, in Downs’s view, is fragmented governance, characterized by the presence of numerous small jurisdictions, each of which exercises complete autonomy in making land use decisions.


Such fragmentation has the effect of entrusting power and responsibility for zoning decisions to small, relatively homogeneous groups of householders who can effectively prevent lower-income groups from entering their community in significant numbers. This exclusionary process forces large numbers of poor people to live together in areas of concentrated poverty. These areas, in turn, are increasingly cut off from the resources in more affluent outlying areas, and increasingly burdened with a low tax base that reduces their ability to provide adequate services to their residents.

This situation has serious negative consequences for both the city and the outlying urban fringe. The quality of inner-city life spirals downward, characterized by rising crime and violence, the rearing of children in poverty, poor public education and failure to integrate many workers into the mainstream workforce.

Simultaneously, the sprawling suburbs must contend with a series of growth-related problems: excessive travel, traffic congestion, air pollution and other environmental degradation, excessive consumption of open space, and inability to finance adequate infrastructure or to find sites for locally undesirable land uses.





## Sprawl and the Automobile

If critics of sprawl agree on anything, it is on the identity of the factor most inseparably linked with the origin, subsequent spread and current explosion of sprawl: the automobile. Sprawl and the auto enjoy a truly symbiotic relationship: auto dominance in urban travel encourages low-density sprawl, and the growth of sprawl, in turn, virtually ensures that the automobile will remain the only form of transportation that “works” in a sprawl-type setting.

Trends in Private Car Ownership and Use							
Country	Private car ownership per 1000 population			Kilometers of private car use per capita per year			
	1980	1990	Increase (%)	1980	1990	Increase (%)	
USA	548	648	18	14,598	17,002	16	
Denmark	271	312	15	7,479	10,458	40	
France	357	417	17	8,445	10,413	23	
Great Britian	278	376	35	7,112	10,586	49	
Italy	310	433	40	5,685	8,555	50	
Portugal	114	242	112	4,087	6,173	51	
Sweden	347	421	21	8,018	10,071	26	
Switzerland	356	443	24	8,723	9,776	12	
The Netherlands	322	370	15	7,195	8,992	25	

Source: Adapted from Pucher, “Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part I. Travel Behaviour, Urban Development and Automobile Use.” *Transport Reviews*, 1995, vol. 15, no. 2, p. 101.



Mode of Transportation (as percentage of total trips)					
Country	 Automobile	 Public Transport	 Bicycle	 Walking	Other*
USA	84	3	1	9	3
Canada	74	14	1	10	1
Denmark	42	14	20	21	3
France	47	12	5	30	6
England and Wales	62	14	8	12	4
Italy	42	16	5	28	9
Sweden	36	11	10	39	4
Switzerland	38	20	10	29	3
The Netherlands	45	5	30	18	2

Source: Adapted from Pucher, "Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part 1. Travel Behaviour, Urban Development and Automobile Use." *Transport Reviews*, 1995, vol. 15, no. 2, p. 103.

\* variable by country but includes motorcycles, mopeds, taxis and minibuses.

The fact that sprawl is a uniquely American phenomenon derives largely from the role of the automobile as the primary means of transportation in this country. The number of automobiles per thousand people is roughly twice as high in America as in Western Europe; in some individual countries the difference is much greater.




Research indicates that 84 percent of all trips in urban areas in the United States are made by car; this compares with 74 percent in Canada and an average of 40 percent in Western Europe. Only three percent of all urban trips in the United States utilize public transit, while in Canada and Western Europe the percentage is four or five times as high. The percentage of trips made by walking and bicycling is also about four times greater in Western Europe than in the United States.<sup>7</sup>

The economic implications of this auto dominance are significant. Studies indicate that automobile-related expenses account for 16 to 20 percent of American household expenditures.<sup>8</sup>

Peter Calthorpe insists that travel behavior "is remarkably elastic if there are reasonable alternatives," citing data from two communities in the San Francisco Bay area. In Rockridge, a community well served by mass transit and featuring walkable neighborhoods with a density of eight units per acre, vehicle miles traveled (VMT) annually per household totaled 15,000. By comparison, annual VMT in Danville/San Ramon, a community with more typical sprawl-type development, totaled 30,000, whereas in San Francisco itself the figure was about 11,000.<sup>9</sup>

At an average cost of 30 cents per mile, the average Rockridge resident spent \$4,500 less on transportation than his or her Danville counterpart. This amount translates roughly into \$51,500 of mortgage capacity. On the other hand, housing farther from downtown is typically less costly than that closer to the city; so driving farther enables commuters to reach less expensive units.

While several countries have instituted deliberate policies to encourage public-transit use (and have seen transit ridership increase in response), the United States has consistently pursued policies that encourage automobile use at the expense of all other modes of transportation. Increases in the level of public-transit subsidies in the United States are largely nullified by sprawling land use patterns and a failure to provide the sort of coordinated service that would make transit use a convenient and attractive alternative to the car. Most transportation plans offer only the most rudimentary accommodation to the needs of bicyclists or pedestrians.

Government Roadway Expenditures and Taxes, 1989-1990			
Country	 Roadway taxes per motor vehicle (in US \$)	 New car sales tax*	 Ratio of roadway user taxes to government roadway expenditures
USA	234	5% - 8%	0:6
Denmark	1,518	105% - 180%	3:0
France	1,151	25%	—
United Kingdom	1,386	25%	4:2
Portugal	—	20% - 144%	—
Sweden	1,136	19%	3:0
Switzerland	1,174	7%	1:3
The Netherlands	1,108	18% - 27%	5:1

Source: Adapted from Pucher, "Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part I. Travel Behaviour, Urban Development and Automobile Use." *Transport Reviews*, 1995, vol. 15, no. 2, p. 106.

\* includes sales tax, value added tax, first registration fee and import tax in some countries; range of rates due to car size differences.

Among policy factors that encourage automobile ownership and use, John Pucher cites:

*low gasoline prices—about 1/4 as much as in Europe, with most of the differential attributable to taxation policy;*

*low sales tax on automobiles—about 1/4 or 1/5 as much as in Europe;*

*low roadway user fees, accounting for only about 60 percent of government's expenditures in building, maintaining and policing the roads in the United States;*

*ready availability of free parking. According to the Nationwide Personal Transportation Survey, about 95 to 99 percent of all private car trips benefit from free parking in the United States;<sup>10</sup>*

*underpricing of auto use through hidden subsidies and failure to internalize social/environmental costs. Studies (some of whose findings admittedly are controversial) indicate that total subsidies may range from \$400 billion to \$900 billion per year, the equivalent of \$3 to \$6 per gallon of gasoline sold.<sup>11</sup>*

### In Defense of Sprawl

Sprawl does have its defenders. Linneman says that sprawl may ultimately improve the quality of urban life by forcing cities to confront the fact that they cannot hope to attract and retain middle-class residents unless they develop meaningful incentives and create more attractive urban environments. In the same vein, Peter Gordon argues that suburbanization is, in fact, an effective "congestion reduction mechanism" that shifts road and highway demand away from densely developed inner cities.

Linneman holds the view that most opposition to sprawl is elitist and hypocritical. He notes that most Americans—including some who pay lip-service to concern over sprawl's supposedly harmful effects—consistently choose sprawl over alternative forms of development. Slater agrees, saying, "People generally don't want to stop sprawl [because it] encompasses the freedom and lifestyle they seek."





# Living With Sprawl

Attempts to quantify the impact of sprawl generally focus on its “costs.” What are some of the economic, environmental/aesthetic, social and psychological costs to those communities and individuals that deal with it directly, and to American society as a whole?

## Economic Costs of Sprawl

To arrive at a measure of sprawl’s economic cost, studies by Robert W. Burchell and others have compared “trend” (traditional suburban sprawl) and “plan” (a managed-growth approach) in terms of their relative capacity for saving land and reducing infrastructure costs without raising housing costs or diminishing the community’s tax base unacceptably.<sup>12</sup>

For the purpose of these studies, trend is characterized by the dominance of single-family residential subdivisions of ¼- to ½-acre lots, highway-oriented strip commercial development, minimal voluntary infill development, agricultural and forest land as the source of land for new development, and significant investment in road construction and water and sewer infrastructure.



Plan features more compact development around existing centers, less intensive development in outlying areas, and formally defined goals for the retention of agricultural and forest land and the establishment of riparian corridors. Both types of communities are viewed as desiring and experiencing the same levels of growth and development in jobs and population.

Preliminary evidence from Burchell’s studies indicates that planned development consumes 20-45 percent less land than does sprawl. Likewise, infrastructure costs are lower in planned development than in sprawl: 15-25 percent less for local roads, and 7-15 percent less for water and sewer lines. By contrast, housing costs and overall fiscal impacts (municipal and school services), while favoring planned development, exhibit less of a difference from sprawl.

Much of the value of this research derives from its refutation of two commonly held views. The research shows, first, that planned development will not inevitably drive costs upward to the point at which the provision of “affordable” (by whatever definition) housing will no longer be economically feasible. Secondly, the research indicates that planned development does offer a considerable saving in the cost of infrastructure construction as compared with the cost of infrastructure in a sprawl environment.

Savings in PLAN over TREND Development			
	New Jersey <sup>1</sup>	Lexington, KY <sup>2</sup>	Delaware Estuary <sup>3</sup>
Developable Land	43.5%	24.2%	20.5%
Infrastructure Costs			
Roads (Local)	25%	14.8%	19.7%
Utilities (Water/Sewer)	15%	8.2%	6.7%
Housing Costs	5%	2%–3%	8.4%
Fiscal Impacts	2%	N/A	6.9%

1. Burchell, Robert W., et al. *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report III: Supplemental AI PLAN Assessment*. Report prepared for New Jersey Office of State Planning. Trenton, NJ. April 1992. pp. x-xx.
2. Burchell, Robert W., and David Listokin. *The Economic Effects of Trend Versus Vision Growth in the Lexington Metropolitan Area*. Report prepared for Bluegrass Tomorrow, Lexington, KY. November 1994. p. 129.
3. Burchell, Robert W., William Dolphin and Harvey S. Moskowitz. *Impact Assessment of DELEP CCMP versus STATUS QUO on Twelve Municipalities in the DELEP Region*. Report prepared for the Delaware Estuary Program. Philadelphia, PA. August 1995. p. 12.



## Socioeconomic Factors

Taking another approach to sprawl's costs, Richmond suggests five negative impacts on the economy, the environment and society:

- 1 *Poverty is concentrated in urban areas, setting in motion significant consequences for future economic development. For example, concentration of poverty makes urban schools dysfunctional, and lack of education becomes a major contributing factor in rising crime rates.*
- 2 *Society is resegregated along economic and racial lines in residential patterns and in access to education.*
- 3 *Public investment in urban services such as schools, public safety and mass transit systems is rendered unfeasible.*
- 4 *Increased automobile dependence undermines or nullifies efforts to improve air and water quality and to conserve energy. The Environmental Protection Agency's employer trip reduction programs, for example, have been ineffective because land-development policies and practices (most of which originate at the local level) that are the primary determinants of travel behavior are weighted heavily in favor of sprawl and its attendant dependence on the automobile.*
- 5 *Financial instability, spurred by such factors as rising housing costs and decreased availability of certain types of employment, creates widespread anxiety among the middle class.*



Critics of this type of appraisal, such as Linneman, say that the concentration of poverty in urban areas has resulted from a reliance on ineffective and uncoordinated local anti-poverty efforts, instead of a truly effective national program to improve the plight of the poor. In Linneman's view, the decline of urban school systems and the rise of middle-class financial instability are the result of a range of complex factors that bear little relation to sprawl.

*"Americans have embraced low-density development as their overwhelming choice for residential living."*

Peter Gordon

Gordon also takes issue with many suppositions regarding the harmful aspects of sprawl. Many of his arguments are based on the notion that governmental policy intervention in the face of a clear public preference for sprawl is ineffective and likely to incur higher costs than the public is willing to bear. He asserts, for example, that "we are not . . . in any danger of having

cities encroach on reserves of prime agricultural land," noting the abundance of farm surpluses and alluding to studies showing that policies which attempt to contain sprawl in order to preserve farmland "have a severe, very high welfare cost." Likewise, he disputes the idea that sprawl's role in energy consumption is a legitimate issue of concern.

Calling the "efficiency" of compact development largely a matter of allegation and presumption, Gordon points out the lack of hard data on this subject. He argues that high-density development is worthwhile if transportation costs are high. But in fact, transportation costs are dropping steadily and technological advances offer us new options for substituting communication for transportation.

Gordon's basic premise is simple: Americans have embraced low-density development as their overwhelming choice for residential living. This choice has been influenced only slightly, if at all, by public policy in the past and should form the basis for all public policy in the future.

According to this view, accepting this preference for low-density living as a historical fact means recognizing that the very nature of high-capacity public transit renders it unattractive and impractical as an alternative to the automobile. Emphasis on policies that subsidize auto use obscures the fact that the amount of mass-transit subsidy per transit user is much greater than the corresponding amount of auto subsidy per owner. Gordon does admit, however, that private "mobility. . . is not priced correctly."

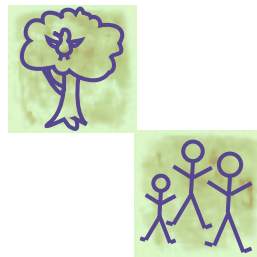
Justifying historic preservationists' interest in sprawl, Moe asserts that it has "helped drain the life out of thousands of traditional downtowns and inner-city neighborhoods," hampering efforts to revitalize areas of older cities and towns where historic resources are concentrated. He characterizes current efforts to curb sprawl as the modern-day equivalent of preservationists' opposition to urban renewal in the 1950s and 1960s. "Being anti-sprawl is not being anti-growth," Moe insists.

As evidence of increasing recognition of sprawl's harmful effect, he cites the recent report on sprawl cosponsored by the Bank of America, which states that California "can no longer afford the luxury of sprawl," which "has shifted from an engine . . . of growth to a force that now threatens to inhibit growth and degrade the quality of our life."<sup>13</sup>

Moe states also that sprawl is "corroding the very sense of community that binds us together as a people and as a nation." Among the social costs of sprawl, he cites the increasing isolation of sectors of the populace unable to drive and lacking access to alternative forms of transit. With other critics, he asserts that sprawl leaves inner-city dwellers "victimized by economic segregation, stagnant property values and declining public services." He notes that children growing up in sprawling subdivisions are "often characterized by a lack of faith in the future and a diminished sense of community."

*"Being anti-sprawl is not  
being anti-growth."*

Richard Moe



## Sprawl and Public Health

The psychological impact which Moe infers is difficult to document. Significant data have been gathered, however, from numerous studies that have investigated the links between stress and such characteristics of commuting as time, distance and traffic congestion.<sup>14</sup>

Research by Roger S. Ulrich at Texas A&M University suggests that there are psychological effects of visual clutter, especially due to the lack of nature (such as street trees and other landscaping) frequently associated with sprawl. These effects can be measured in elevated blood pressure, higher skin conductance and increased muscle tension among those who are exposed to videotapes or slides of urban settings. The impact of what Ulrich calls "an onslaught of visual elements" also affects mood and might have lingering effects on work performance.<sup>15</sup>

In a project currently in progress, Ulrich and colleagues Louis Tassinari and Russ Parsons have placed their subjects under stress by exposing them to a safety video showing workplace accidents and injuries. Once they were stressed, subjects were assigned to one of four simulated commutes while their blood pressure, respiration, heart rate, skin conductance, facial muscle activity and eye movements were monitored.

Preliminary results raise the possibility that different "roadsapes" might have different influences on commuters' stress levels and lingering after-effects on work performance, and that the effects of viewing sprawl might be more negative for females than males.

Reporting on this research, a recent article in the *Washington Post* quoted a local commuter who "grows more and more tense as he drives. . . and then spends the beginning of his work day trying to unwind. 'People have learned . . . to stay away from me for the first 15 minutes of the day,' [he] said."

Ulrich observes that further research is needed to ascertain whether "roadside blight and strip sprawlsapes . . . [are] in some respects a public health issue" because they are "the stuff of daily experience for tens of millions of people." Critics question the validity of the findings, however, contending that any sprawl-related stress experienced by suburbanites is trivial compared with that to which urban dwellers are subjected, such as fear of violent crime.<sup>16</sup>

# Creating and Encouraging Alternatives To Sprawl

Can the problems caused by sprawl be solved?

Organizing and conducting a successful fight will be difficult for a number of reasons enumerated by David Burwell:

- 1 There is no clear villain in the sprawl scenario, except possibly the American dream.
- 2 Even those who are morally or philosophically opposed to sprawl must admit that they derive some benefit from the auto-dependent culture that fuels it.
- 3 The majority of people who benefit from auto-dependence also bear its costs—the accidents, the congestion, the stress—so we perceive the net outcome as “fair.”
- 4 Those people who do not benefit from the auto-dependent culture seem little inclined to take up the issue, and sprawl’s opponents enjoy little credibility as advocates on behalf of this minority.

Left: Empty stores in deserted suburban malls are an increasingly common sight due to overbuilding in the retail sector.

Right: An alternative to retail sprawl is the CambridgeSide Galleria in Cambridge, Massachusetts. This three-level mall includes several department stores, many specialty shops and a food court. It is within several blocks of mass transit lines, mixed-income residential neighborhoods, office buildings, Boston’s Museum of Science and a water park connected to the Charles River.



Constance Beaumont



Calthorpe points out the danger of reducing the issue of sprawl to overly simplistic and misleading alternatives. “It is not a matter of sprawl versus the city, high-density living versus low-density living,” he says, but of fashioning functional regions out of all the disparate parts. Likewise, it is not a fight between mass transit and the car, but rather a question of “opening more options for everybody in their daily lives. It is not the American dream and elbow room versus some type of social engineering; it is actually coming to terms with and recognizing the new realities of the demographics of America and the economic evolution of the middle class.”

### Breaking the Stranglehold of the Automobile

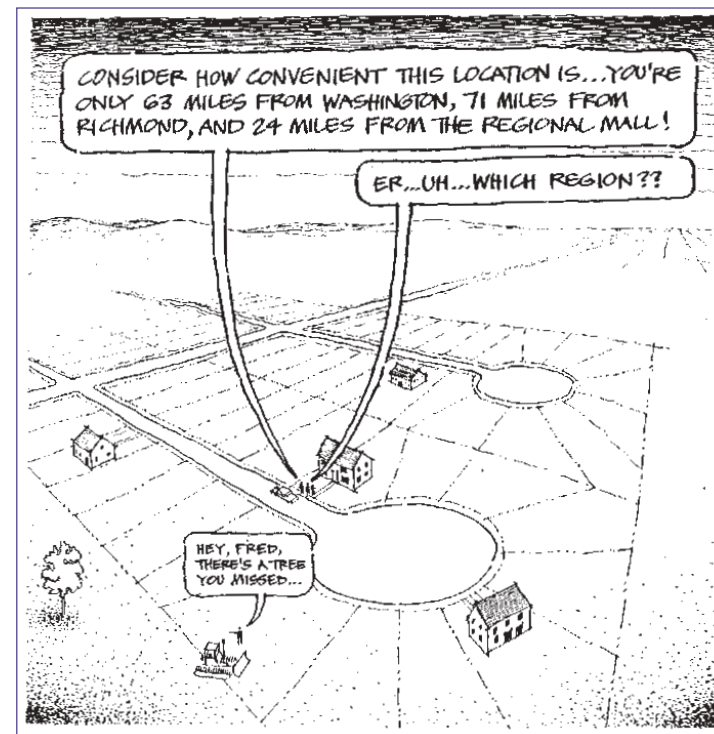
There is universal agreement that success in controlling sprawl is directly linked to success in reducing Americans’ dependence on the automobile. But given the low cost and convenience of automobile travel in the United States, is it reasonable to expect that Americans can be lured out of their cars? Trends in American utilization of various travel modes demonstrate a decline in public-transit use during the 1960s and early 1970s, a slight recovery in the late 1970s and a further decline thereafter. By contrast, automobile utilization has increased steadily over the same period.

Americans are driving more than ever—and more of them are driving solo. In the period from 1980 to 1990, the biggest change in travel behavior was an increase in single-occupancy auto use, despite massive investment in mass transit during the decade along with widespread promotion of commuter alternatives such as carpooling and vanpooling. An essay in *American Demographics*, cited by Kenneth Orski, attributes this trend to several factors.<sup>17</sup>

Job migration to the suburbs has resulted in what Orski calls “a Brownian movement throughout metropolitan areas,” as cars travel like molecules moving randomly in a gas. The rise in the number of two-worker families has brought about a corresponding rise in multiple-function commutes. Some studies show that up to 70 percent of suburban workers make intermediate stops on their way to or from work and that many also use their cars to run errands during the day.<sup>18</sup>

The changing nature of employment, with fewer workers on regular shifts and more utilizing flex-time or irregular work hours, has made it more difficult for these workers to use alternative modes of transportation. The increased presence of women in the workforce has been a significant factor, as studies have demonstrated that women are more likely to shun mass transit and prefer driving alone.

Finally, the simple fact that cars usually save time cannot be overstated as a critical factor, particularly as time becomes an increasingly precious commodity for two-worker commuter families. A 1990 study cited by



Roger K. Lewis, FAIA. Originally published in *The Washington Post*.

## Efforts to Reduce Automobile Dependence

According to Kenneth Orski, efforts to reduce automobile dependence fall into three major categories, none of which has enjoyed marked success.

**Command-and-control policies** are the most numerous and best known. These include so-called traffic reduction ordinances enacted by some 50 communities during the 1980s, which led to some sponsorship of ridesharing and transit-promotion programs, but had no significant effect on overall levels of traffic or congestion. In 1987 Southern California adopted “Rule 1501” (also known as Regulation XV) to help reduce vehicle emissions by requiring large employers to increase employees’ car occupancy by 25 percent. This law has been universally condemned as onerous, expensive and ineffective, has failed to achieve its objective, and now has been repealed by the California legislature.

Likewise, a provision of the federal Clean Air Act requiring large employers in eleven “ozone nonattainment” areas to reduce employees’ auto usage by 25 percent has generated such widespread opposition that it provoked a congressional moratorium and faces a possible repeal. In the meantime, the regulation already has been suspended in five of the affected jurisdictions.

Downs found that the average automobile commute took 21 minutes, compared with an average of 36.2 minutes by public transit bus and 46.7 minutes by rail.<sup>19</sup>

The validity of this conclusion is debatable in some urban areas where congestion slows traffic to an average speed of less than five mph at peak traffic times. Nevertheless, popular thinking in this regard is summed up in a statement by noted urban planner Mel Webber, which Orski cites: “The ideal suburban transportation system will serve its passengers on demand, from door to door, with no transfers, no waiting, and at an acceptable price. The name of that transit system is the automobile.”

Burwell holds out some hope in the development of intelligent transportation systems. He cautions, however, that this new technology is value-neutral: It can be applied merely to

the development of “smart highways” that may well contribute to a further explosion of sprawl, or it could be applied to the development of other transportation options and the provision of information that will help people make wise choices.

Slater finds it likely that auto use, along with all other modes of transportation, eventually will be accurately priced, at least in part as a means of protecting existing investments in transportation infrastructure. Still unanswered, however, is the question of whether forcing drivers to pay the full costs of auto use would bring about a marked reduction in that use. After

all, any shift from automobiles to other modes would be strictly limited by the availability and attractiveness of the alternatives. In any event, we have no experience with this issue.

*“The ideal suburban transportation system will serve its passengers on demand, from door to door, with no transfers, no waiting, and at an acceptable price. The name of that transit system is the automobile.”*

Mel Webber

**Market mechanisms** have fared no better. Despite aggressive promotion, the Federal Highway Administration’s “congestion pricing” pilot program attracted only one applicant—the San Francisco Bay Bridge, which proposed to increase tolls during peak travel periods. Even that project is now in abeyance for lack of support among local political leaders.

The effectiveness of parking fees in reducing auto demand is undermined by the widespread availability of free parking and the willingness of most employers to absorb employees’ parking costs as a legitimate (and tax-deductible) business expense. Parking cash-out, which requires employers to offer employees a cash allowance in lieu of subsidized parking, has limited application and is unlikely to see widespread implementation unless tax-related questions are resolved.

Finally, **voluntary efforts** such as public ride-sharing programs, corporate commuter-assistance programs, transportation management associations and transit marketing have played only a modest role in reducing auto dependence. The development of “transit villages,” an urban design concept explicitly formulated to encourage use of public transit, is now underway at a few locations, but widespread acceptance of the concept is still problematic. Richmond acknowledges this in his statement that Portland advocates of transit-oriented development hope only to offer “a small, little sliver of the market in the Portland metropolitan area a choice not to have two cars in the household.”

## Reinventing Urbanism

In Burchell's opinion, redirecting growth back into urban centers is unlikely to find widespread acceptance without massive efforts to improve schools and public safety in inner-city areas. In the suburbs and exurbs, the "growth problem" is somewhat different. Between these two areas, growth exists in a "closed system." The achievement of desired goals (conservation of agricultural land or buffering natural habitats, for example) is entirely dependent on citizens' willingness to accept increased residential density in the areas remaining to be developed or redeveloped. Skillful design can achieve fairly significant increases in density that are almost indiscernible to the average viewer. Even so, marketing higher residential density as a desirable goal is a difficult challenge.



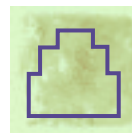
*A street scene at Laguna West.*

Calthorpe Associates

Traditional nuclear families now make up only 26 percent of the population. Since this decline in the percentage of nuclear families has been going on for years, why has the housing industry failed to diversify and meet the needs of emerging population sectors? Calthorpe believes that it is because people buy a particular type of house as an investment, not because it meets their needs. Changes in the economy and demographics, however, are likely to put an end to the ever-escalating resale value of traditional single-family houses—and that, in turn, will lead to increasing diversification of housing product.

Hailed as an alternative to spreading subdivision development is the design philosophy espoused by practitioners of the so-called "New Urbanism," including Andres Duany and Peter Calthorpe. Laguna West, for example, is a new community in Sacramento that features a town center and a mix of residential types laid out on a plan that, in Calthorpe's words, "allows a ten-year-old to get to most of his daily destinations without going out onto the arterial." Single-family detached houses are constructed at ten units per acre. Special attention has been paid to integrating upper- and lower-income housing and to incorporating such features as front porches, sidewalks and "granny flats." The success of this concept, according to Calthorpe, is illustrated by the fact that Apple Computer, after considering a number of alternative office-park locations, chose to build a major new facility at Laguna West so that employees could take advantage of the pedestrian-friendly environment.

But while they win plaudits for their attractiveness and their emphasis on walkable, human-scaled environments, widely publicized examples of the New Urbanism such as Calthorpe's Laguna West and Duany's Seaside and Kentlands have yet to prove their relevance as alternatives to sprawl. All of them are located on previously undeveloped land on the periphery of existing urban centers.





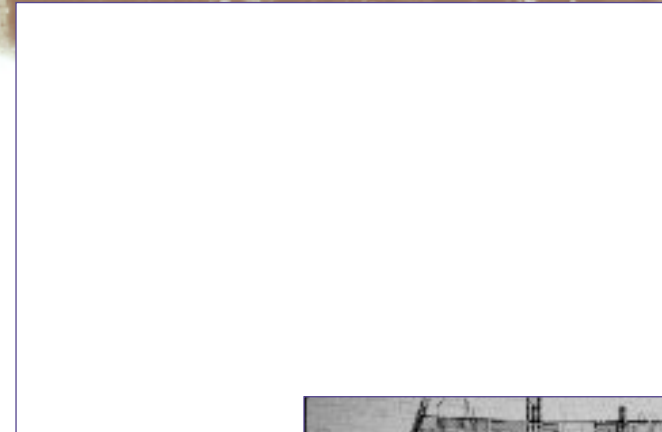
## Mending the Urban Fabric

More promising, perhaps, are efforts now underway to transform areas already decimated by sprawl into higher-density, transit-oriented communities. The experience in Portland, Oregon, culminated with preparation of the Metro 2040 plan, designed to accommodate a population increase of 1 million people over the next 50 years while limiting expansion of the urban growth boundary to no more than six percent. The city had already made significant progress in downtown revitalization. It had created an award-winning transit system, emphasized pedestrian-friendly development in the urban core, and replaced a riverfront expressway with a park. As a result, downtown Portland has seen an increase in jobs with no increase in parking spaces.

With this success as background, the Metro 2040 plan made the expanding public transit system, rather than the freeway network, the armature for future growth. The plan established a hierarchy that features bus corridors feeding into nodes of transit-oriented development at so-called “activity centers” strung along light-rail routes which in turn lead to the city center.

Crucial to the success of the plan is the rebuilding of existing underutilized commercial centers at higher densities. At Clackamas Town Center, for example, a design proposal superimposes the downtown Portland street grid on the parking lots around a fading 1970s shopping mall. Plans for the site call for filling the grid with buildings—none more than three stories tall—to house parking, retail and office space, along with apartment structures, townhouses and single-family houses. The central focal points of the pedestrian-oriented development are a civic complex and the transit line.

The adoption of an area-wide plan in projects such as this eliminates the need to postpone development until large blocks of land can be acquired and aggregated. Instead, the plan allows as-of-right development (as long as it meets the standards of the plan) to proceed parcel by parcel. Implementation of the plan involves completion of an umbrella Environmental Impact Study, eliminating the need to prepare an EIS for each parcel. The area plan also incorporates its own zoning ordinance and a financing mechanism for necessary public improvements.



*An existing shopping mall at Clackamas Town Center near Portland (photo and top plan) could be rebuilt in the scale of Portland's downtown street grid to include mixed-use neighborhoods, a civic complex and light rail transit (bottom plan).*



## Sprawl and the Property Rights Issue

Any effort to regulate land use, whether on a limited local basis or in more ambitious regional plans, is enormously complicated by the supposed “inalienable right” of landowners to do whatever they wish with their property. Arguing the need to “move the property-rights issue from a transaction perspective to a community perspective,” Richmond cites the lack of mechanisms for producing credible cost/benefit analyses of various land use and development patterns.

He cites Burchell’s study indicating that adherence to a statewide non-sprawl land use plan in New Jersey would deprive some land owners of \$353 million in sale value by imposing caps on permissible development density—but would also save New Jersey taxpayers \$9.3 billion over 20 years in infrastructure and accumulated operating costs associated with unregulated sprawl. “Should these [property owners] be able to insist on getting a \$353 million benefit if it means imposing an \$9.3 billion problem . . . on everybody else?” he asks. “This is not a lawyer’s problem or the arcanities of the Constitution or some sort of jurisprudential complexity. It is a simple question of fairness.”<sup>20</sup>

Jerold Kayden notes that the implementation of alternatives to sprawl presupposes government’s capacity to regulate private land—a capacity that has been upheld on numerous occasions by the courts. He contends that all the regulatory tools heretofore invented to control sprawl remain valid today, even though they may deprive an owner of some of the value of his or her property. This issue is currently receiving considerable judicial and legislative attention.

Focus of this attention is the passage in the U. S. Constitution which states, “Nor shall private property be taken for public use, without just compensation.” Over the years, the U. S. Supreme Court has determined that a regulation will constitute a taking if: (1) it does not substantially advance a legitimate state interest, or (2) it denies an owner all economically viable use of his or her property. Despite the fact that these tests have not been discarded or substantially revised, some recent Court rulings have given rise to the notion that takings jurisprudence has undergone a radical change. In fact, Kayden insists, it has not.

Government’s continuing ability to regulate land use is grounded in several facts that should be borne in mind by those attempting to control sprawl:

*Owners are not automatically entitled to the highest and best—or most profitable—use of their property. Even without regulation, they are constrained, as they always have been, by the common law requirement that their use of their property not be injurious to others.*

*Diminutions of property value do not automatically constitute a taking.*

*An owner who buys land that is subject to regulation cannot subsequently demand a change in the regulation as a matter of constitutional right. In Kayden’s words, “If you buy a swamp, you [do not] automatically own a 100-unit subdivision opportunity.”*

*Government’s regulatory power is not limited to measures necessary for the protection of public health and safety. Government may regulate in pursuit of quality-of-life goals, even if the regulation results in a reduction of property value.*

*Government regulation does not always reduce the value of property. A key purpose of zoning and historic-district regulation is the protection of property values.*

*Not all value in property is privately created. An example is the increase in value which occurs when a landlocked parcel is connected to a road built with public funds.*

Despite the reassurance offered by these facts, it should be noted that the proposed federal private property protection legislation has already inspired “copycat” state laws which, if they are applied to zoning and other land use mechanisms, could pose a serious threat to local governments’ capacity to control sprawl.

In dealing with this new political climate—and as a matter of sound procedure—it is essential, Kayden asserts, that citizens and agencies drawing up land use regulations:

*know the law;*

*review the regulations to ensure that needless owner expectations are not created by, for example, overzoning capacity;*

*always provide a procedural remedy through which owners may bring claims for relief;*

*link land use regulations to the provision of infrastructure;*

*support regulation through studies that address specific issues, rather than through rote recitation of rationales that may not be applicable or palatable;*

*consider innovative ways to compensate owners for losses; and*

*allow an owner some use of his or her property wherever possible.*

The Denver Dry Goods Building, an historic landmark in downtown Denver, exemplifies another alternative to suburban retail sprawl that can also bring new life to deteriorating city centers. After sitting vacant for several years, this building was renovated as a mixed-use project with housing on the upper floors and offices and retail outlets on the lower levels.



*“Lowly, unpurposeful and random as they appear, sidewalk contacts are the small change from which a city’s wealth of public life must grow.”*

Jane Jacobs,  
*The Life and Death of Great American Cities*



Constance Beaumont



## Alternative Patterns for Growth

What should new regulations aim for? What are the alternatives to sprawl?

Downs's book *New Visions for Metropolitan America* proposes three metropolitan area growth patterns as alternatives to the currently dominant pattern of unlimited low-density growth, or sprawl. (The book also proposes several strategies for attacking problems at the "decay frontier" in inner-city neighborhoods, but these are outside the scope of this report.)

At one extreme of Downs's range of possible alternatives is **bounded high-density growth**. It involves delineating a tightly drawn urban-growth boundary and confining all future growth within it. This option raises the density of residential development in both new and established areas, emphasizes the use of mass transit and ridesharing, adopts metropolitan government, and provides subsidies for low-income housing in both new and established neighborhoods. Downs believes that most Americans probably would not find this pattern acceptable.

**Limited-spread, mixed-density growth** involves confining most—but not all—future growth to the area defined by a more loosely drawn boundary. It raises average residential density by placing scattered higher-density multifamily units in areas where lower-density single-family development now predominates. This scheme also emphasizes ridesharing but not mass transit, adopts a regional governance framework incorporating existing local governments, provides voluntary incentives for clustering jobs in nodes, and provides some subsidized low-income housing in newly developed areas. While this alternative is likely to be more palatable than the previous one, it is unlikely to end many of the problems associated with growth, particularly traffic congestion.

The **new communities and greenbelts** alternative concentrates future growth in a few planned communities, each of which has its own urban growth boundary within which most development is of the limited mixed-density pattern described above. These communities are separated by greenbelts and linked by mass transit with major nodes within the urban growth boundary of the central city.

These three alternatives to sprawl share two essential elements in common: some form of growth boundary to limit future expansion, and some regional governance structure to provide coordination and cooperation among local government bodies. Both constraints are extremely unpopular among the two groups most directly affected by them: suburban dwellers and local officials. Few members of either group recognize the interdependent relationship between the inner city and their own outlying communities, and most are reluctant to yield any land use authority to a regional government body.

Alternative Development Patterns						
	Growth Management	Residential Pattern	Transportation	New Job Location	Form of Governance	Affordable Housing
<b>Dominant Vision: Unlimited Low-density Growth</b>	Markets allocate housing & jobs in accord with local zoning & building codes	Owner-occupied, single-family detached homes	Private automobiles	Low-rise workplaces	Small communities with strong local governments	Zoning for social homogeneity; housing trickles down to lower-income groups
<b>Alternative #1: Limited-spread, Mixed-density Growth</b>	Semi-permeable urban growth boundary	Clusters of high-density housing amid larger areas of low-density housing	Transit use encouraged	Voluntary concentration of jobs in designated nodes	Local autonomy or limited local land use planning within state-mandated frameworks	Lower regulatory barriers; some housing subsidies
<b>Alternative #2: New Communities &amp; Greenbelts</b>	Growth boundaries for designated corridors, new towns, and metro area	Similar to #1 but with housing outside urban boundary clustered in relatively high-density new communities	Emphasis on mass transit	Regulation and incentives help to concentrate jobs in new centers	Local comprehensive planning within state-mandated frameworks	Similar to #1, with lower regulatory barriers and some subsidies
<b>Alternative #3: Bounded High-density Growth</b>	Strongly enforced growth boundary & job location planning, with both housing & transit subsidies	Almost all growth occurs as densification of urban core	Heavy reliance on mass transit	Regulations force new jobs into the urban core	Areawide governance or regional government	Restricted supply of developable land keeps prices high, but subsidies are a low-income entitlement

Source: Adapted from Ingerson, "Sprawl or What? Conference to Debate Alternative Visions of Metropolitan Growth," *Land Lines*, March 1995, vol. 7, no. 2, p. 5.



## Statewide Land Use Planning: The Case of Oregon

Can the opposition of these two groups be overcome? The approach utilized in Oregon, where the statewide framework maintains and builds upon local governments in the regional governance structure, offers a useful model. Oregon's statewide land use policy represents a landmark effort to manage growth—and, by extension, to control sprawl. Despite the aggressive—some would say radical—nature of this policy, it has been endorsed by strong majorities of voters in three separate elections, reaffirmed by ten sessions of the state legislature and supported by governors from both major political parties.

A key element of Oregon's policy is the requirement that every city and major region in the state delineate an urban growth boundary within which development and publicly funded infrastructure expansion are to be confined. Supporters emphasize that the boundary is not a device to stop growth but a means of allowing a community to define the territory within which it can reasonably expect to be able to provide public services economically. Outside the urban growth boundaries, some 25 million acres—an area approximately four times as large as New Jersey—have been rezoned for agricultural and forest use.

It is perhaps not surprising that strong support for the policy has come from farmers and timber growers, who know firsthand the disadvantages inherent in typical zoning practices. If agricultural land serves as the pie from which new development parcels are carved, inflated land values make it difficult for farmers to expand their operations. Also, farmers who utilize leased land for a sizable portion of their operations must operate in an atmosphere of uncertainty, knowing that the landowner could decide at any time to sell his land for development. Recognizing that the Oregon policy supports a stable price structure for the land on which farmers depend for their livelihood, the Oregon Farm Bureau has become an advocate of the program.

Developers initially were suspicious of the program, but they also have become supporters. The new land use policy quadrupled the amount of land zoned for multifamily residential use and decreased the average size of a single-family residential lot from approximately 13,000 sq. ft. to approximately 8,500 sq. ft. That made it possible for developers to build more single-family

houses in a limited area and to build more of the multifamily housing that constitutes about half of the market demand.<sup>21</sup>

Equally appealing was the new stipulation that development applications in rezoned areas must be acted upon within 120 days of submission. These and other attempts to streamline the permitting process and to tame the “anything goes” atmosphere that prevailed in earlier zoning practices compensate developers for the fact that urban growth boundaries effectively rule much land off-limits to development.

Concern over transportation issues led to an added refinement of the land use policy in the Portland area. Projections showed that only about 16 percent of expected growth inside Portland's urban growth boundary was likely to occur within reasonable proximity to existing or planned mass-transit routes.<sup>22</sup>

The study by 1000 Friends of Oregon, with support from the Environmental Protection Agency and the U.S. Department of Transportation, demonstrated that a zoning shift that relocated residential use to so-called “transit sheds” could significantly reduce demand for increased highway capacity without increasing planned development densities. This concentration of development made public investment in transit more feasible. Portland voters responded to this opportunity by approving a \$1 billion rail line along which transit-oriented development will occur.

In calling attention to Oregon's success, Downs notes that its strategy for gaining support from a wide spectrum of state residents should have wide applicability elsewhere. However, other states have not exactly rushed to follow Oregon's lead: Nine states have enacted laws which borrow heavily from the Oregon example, while approximately a dozen others have considered or are considering specific elements of the Oregon legislation.

In many of these states, legislative action was initiated in response to some form of legal or environmental crisis. In Oregon, for instance, fear that lush Willamette River valley farmland would be overrun by typical subdivision development provided the catalyst for legislation. In Florida, the crisis was the threat of development that would ruin the Everglades and other environmentally sensitive areas. In New Jersey, planning legislation was drawn up in response to fears that state courts were about to force all suburban communities to build low-income housing.



## Revising Policies that Encourage Sprawl

Short of a massive statewide reshaping of land use policy, revision of existing federal and state policies offers some remedies to sprawl. Federal tax policy that favors new construction over rehabilitation and transportation policy that favors automobiles over alternative modes are among those Moe cites, along with local planning and zoning practices, as factors that hinder or prohibit the creation of “compact, walkable, human-scaled” environments.

As evidence of a desirable shift in federal transportation policy, many critics of sprawl hail the Intermodal Surface Transportation Efficiency Act (ISTEA). By mandating regional planning and offering funding flexibility, ISTEA provides a tool for linking transportation investment to broader planning goals. Before ISTEA, Burwell says, transportation was essentially a cash-box issue, with most attention focused on channeling funds to a given locale and very little thought given to the effectiveness with which those funds were spent.

ISTEA effectively doubled the funding available for metropolitan planning. In metropolitan areas with a population greater than 200,000, capital funds for transportation were no longer channeled through the state highway department but went directly to metropolitan planning bodies, which enjoyed great flexibility in designating funds for things other than highway construction. In return, metropolitan planning organizations accepted new administrative burdens: greater accountability and a greatly expanded process of citizen participation.

Seeing ISTEA as a model for federal policy that could help to lessen the impact of fragmented local governance, opponents of sprawl urge that its concepts be extended to other government-supported programs. Specifically, they feel that the development and implementation of regional planning should be a prerequisite for receipt of federal funding assistance in such fields as

housing, health care and the like. There is widespread acknowledgment, however, that Congress is unlikely to impose requirements that are so unpopular among so many suburban voters.

Also mentioned as evidence of a welcome policy development is EPA's recent announcement of a number of initiatives designed to encourage the redevelopment of environmentally damaged “brownfields” in urban areas. Pilot projects, selected with an eye to trying a broad variety of policies to encourage infill development, will be funded at \$200,000 a piece over two years.<sup>23</sup>

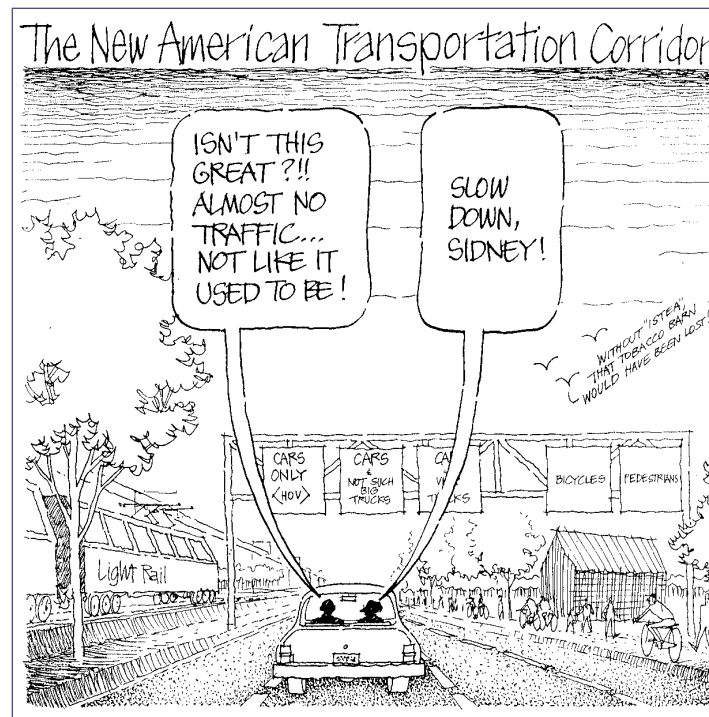
While insisting on the need for reexamination of numerous federal policies that encourage sprawl, critics caution against looking to the federal government for a nationwide solution to the problem. Many, such as Slater, suggest that recent political shifts argue against the likelihood of “greater federal intrusion into individual traveler choices and local land use decisions.”

Likewise, because the problem of sprawl transcends political boundaries and limited jurisdictions, individual communities cannot be expected to produce effective solutions. The best that can be expected at the local level,

perhaps, are programs to encourage reinvestment in urban core areas as a component of regional sprawl-control efforts. Pittsburgh and several other Pennsylvania cities, for example, are encouraging infill development through the use of a split-rate tax, i.e., a lower tax rate on building values and a higher rate on land values.

The effect of this tax is to create an economic incentive for development in areas where land values are highest—typically, those served by existing infrastructure. Recent studies in Pittsburgh have shown that, contrary to national trends, the level of residential and commercial growth in that city has exceeded the level of growth outside the city since the split-rate tax incentive was created.<sup>24</sup>

Roger K. Lewis, FAIA. Originally published in *The Washington Post*.



### Forging Regional Coalitions: The Case of the Twin Cities

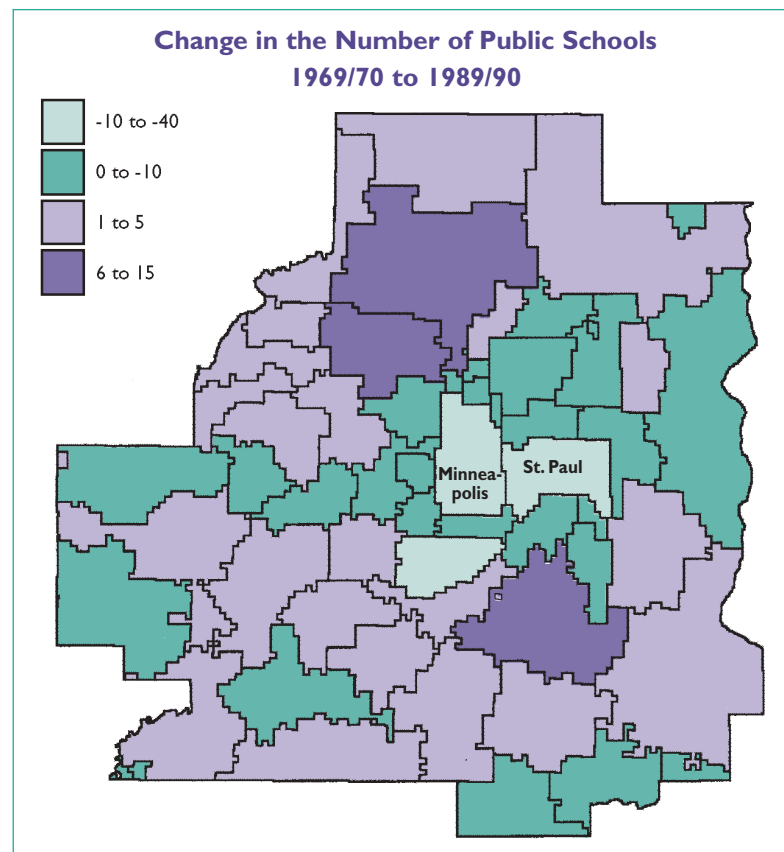
The best hope of success in controlling sprawl lies in cooperation among local governments in developing regional strategies, land use policies and regulatory mechanisms.

As a case study in the regional approach to limiting the effects of sprawl and managing growth, recent experience in Minnesota is instructive. Myron Orfield reports that in the 1980s a pattern of regional polarization emerged in the metropolitan area of Minneapolis and St. Paul.

Early signs of trouble included a dramatic increase in the size of concentrated poverty pockets and a corresponding increase in the percentage of poor minority children in inner-city public schools (from 30 percent to 60 percent in a single decade). The realization that this trend mirrored events in other major American cities a decade earlier came as a shock to many residents of the Twin Cities, who had come to believe that they were “immune” from the ills that had devastated so many other urban centers.<sup>25</sup>

Moreover, the pattern of concentrated poverty and social instability did not stop in the central core, but moved into the inner ring of working-class suburbs. Lacking a strong tax base and an established social and governmental infrastructure, many of these blue-collar communities were poorly equipped to deal with this sweeping change. Consequently, they were affected by it more dramatically than the urban core had been. During the 1980s some of these suburbs saw the number of children living below the poverty line increase by as much as 100 percent.<sup>26</sup>

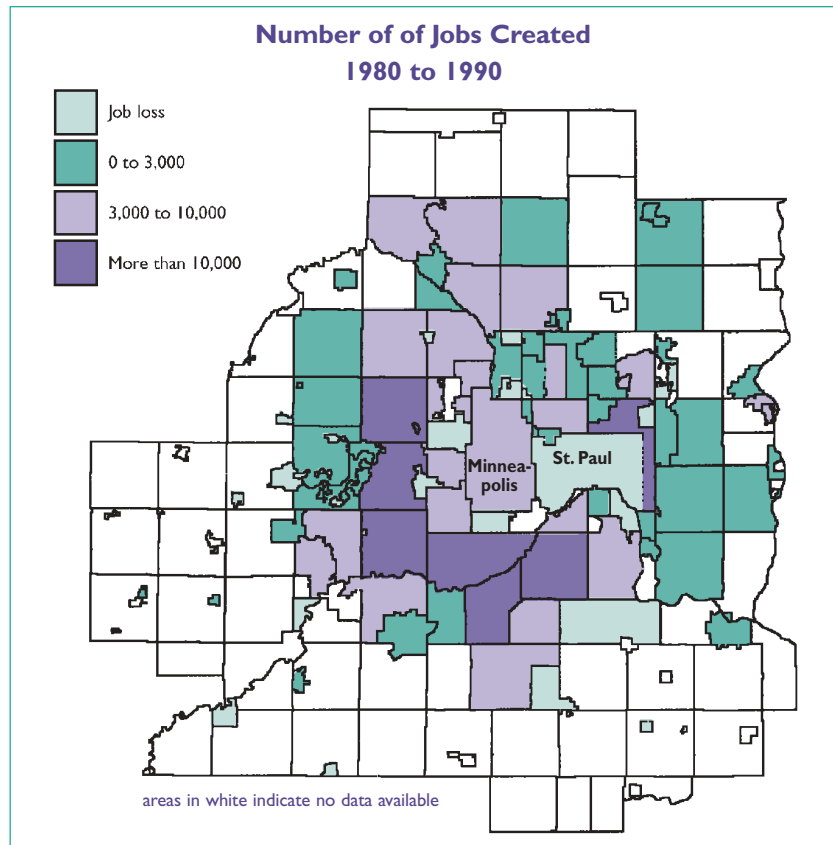
At the same time, however, a number of communities at the edge of the metropolitan area were actually getting less poor as they welcomed thousands of middle-class residents fleeing the inner city and older suburbs. As population flocked to these communities, infrastructure followed. During the 1970s and 80s the number of school-age children across the region as a whole declined by almost 80,000, necessitating the closing of 132 schools in the center city and inner suburbs. At the same time, 41 new schools were constructed in communities on the metropolitan fringe.<sup>27</sup>



Source: Minnesota Department of Education

Approximately \$1 billion was spent on freeway construction during the decade. About 83 percent of it was directed at the provision of new capacity in the southwestern quadrant of the metro area, where most of the booming new communities were located.<sup>28</sup>

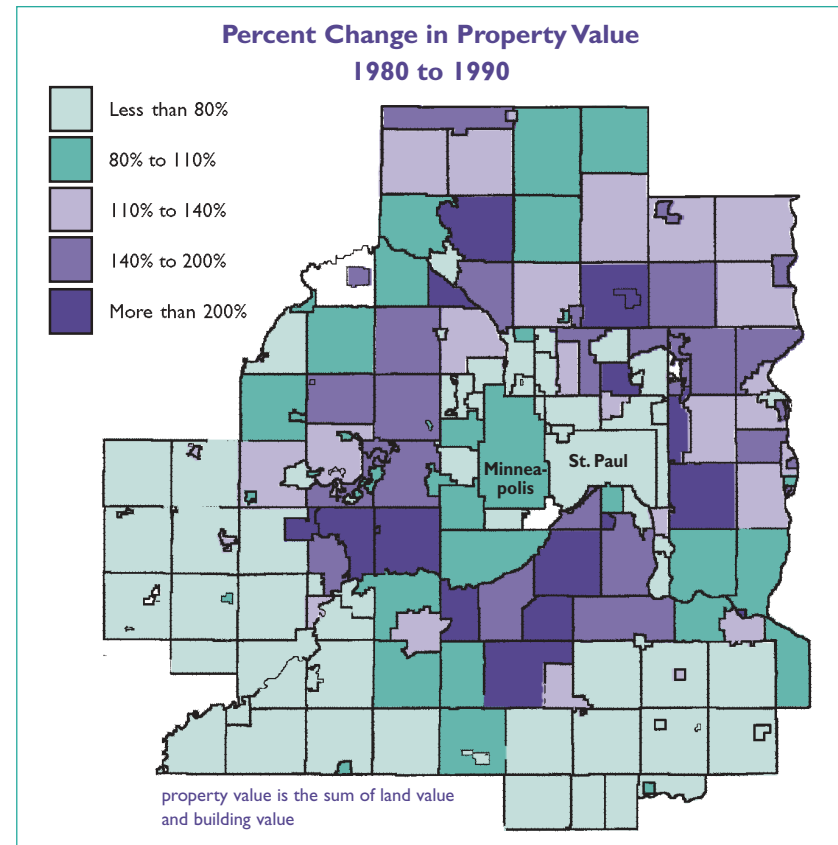
Much of this concentration of infrastructure in one portion of the region was subsidized by residents of other areas. Bonds for \$1 billion in new sewer capacity, for instance, were financed by debt service fees that were uniform



Source: Department of Jobs and Training, Metropolitan Council

across the region, even though the bulk of the new capacity was concentrated in the southwestern suburbs. Studies showed that inner-city residents were subsidizing the new system at a rate of \$10-\$19 per household while residents of the southwestern suburbs were the beneficiaries of a subsidy of \$10-\$136 per household.<sup>29</sup>

Concentration of affluence and infrastructure in a single portion of the region led naturally to concentration of economic growth. During the decade the region as a whole gained approximately 300,000 new jobs, more than half of them concentrated in the southwestern quadrant.<sup>30</sup>



Source: Minnesota House of Representatives ■ House Research

This concentration of economic activity was reflected in a striking disparity of tax bases. It left communities in the metropolitan core with an average tax capacity of \$1,762 per household, compared with an average of \$2,749 per household in communities in the southwestern quadrant. Moreover, the tax-base gap was widening. The average property value in the region increased 105 percent during the decade. However, metropolitan core communities grew less than 70 percent, while the favored quadrant experienced average growth of 157 percent.<sup>31</sup>



In response to this increasing regional polarization, members of the Minnesota state legislature have succeeded in building a coalition to enact regional reforms in tax-base sharing, land use planning, regional governance and fair housing. The core of the coalition comprises representatives of the central cities and inner suburbs, which together number more than half of the region's legislators. Another vital element consists of representatives from the low-tax-capacity suburbs at the edge of the region—those suburbs that are not benefiting from the economic boom. These “middle tier” suburbs frequently tip the balance toward passage or non-passage of regional reform legislation.

In an effort to make property tax base growth more equal across the region, 40 percent of the growth of commercial/industrial property tax base region-wide is pooled and redistributed among communities according to their inverse net tax capacity. Not surprisingly, the expanding suburbs that make the largest contribution to the program have challenged it in the courts on numerous occasions and launched several legislative efforts to repeal it. These assaults have been unsuccessful thus far, and an expansion of the program is now under consideration.

Another initiative has succeeded in reorganizing the Metropolitan Council so that all waste control, transit and land use functions are consolidated in a single regional agency. A new housing regulation prioritizes regional infrastructure construction on the basis of individual communities' commitment to the provision of affordable housing. The use of tax-increment financing to lure development (and tax base) from inner-city areas to outlying suburbs has been curtailed, and new land use bills have been adopted to protect farmers and residents in agricultural areas from storm sewer and public road assessment.

This coalition strategy has suffered some failures. For example, legislation that requires communities to reduce their non-market-oriented barriers to affordable housing has been vetoed twice by the governor. Yet some remarkable successes can be attributed to the growing strength and cohesiveness of the legislative coalition supportive of regional reform.



## Traditional Town Planning

Many great American cities have been founded, built and improved upon over the past two hundred years, but lately we have been dismantling them.

According to Andres Duany, the decline can be traced to the inexpensive loans offered after World War II—the VA and FHA loans—that were available only for housing. This housing was built separately and alone for the first time in history, as subdivisions outside the cities. A decade later retailers followed their clients to the suburbs, creating an unprecedented new form—the shopping center. Over the next few decades, workplaces also moved out to join their employees in the suburbs, where they built huge office and industrial parks.

Thus, Duany states, we have the key elements of suburban sprawl: housing subdivisions, shopping centers and office parks, and the arterial roads that connect them. These same elements used to create neighborhoods and villages—the traditional pattern of growth in America from the first settlements until the 1940s.

### Focusing on the Neighborhood

The primary increment of growth, across time and culture, has always been the neighborhood. But now our cities are growing one housing subdivision, one shopping center, one office park at a time. Each developer who wants to build one of these elements can prove there is a market for it. But this is not planning; it is only a sequence of permits that consumes the landscape and does not add up to a city.

When every activity—dwelling, shopping, working—is separated from everything else, the only way to move among them is by car. We all suffer as a result. Children lose their freedom of movement, and parents become chauffeurs. Old people gradually become isolated as they lose their ability to drive and must leave their homes for specialized retirement communities. And families reduce their ability to pay a mortgage as their incomes are consumed by multiple automobile loans.

*Andres Duany delivered the keynote address at the “Alternatives to Sprawl” conference. This text includes excerpts from his presentation and additional material.*

The movement to reintroduce traditional town planning is not about any single issue. It is not about mass transit alone, or ecology or atmospheric pollution or safeguarding endangered species. It is about all of them, but it is principally about the human habitat.

An emphasis on transit, for example, requires an increase in density. However, Americans like living in their detached, single-family houses, and American developers do a good job of building them. The problem is not the house but the public realm—the street system—that is among the most degraded in the world. It is stressful to use, ugly to look at, and expensive to maintain.

Town planning proposes to keep the houses but reassemble them onto a public realm that is beautiful, functional and seamlessly connected to places of work and shopping.

Developers may resist making higher-density housing because they say it does not sell. They say that consumers want quantity of land, which is the spacious lot, and quantity of view, which is the golf course or waterfront. But developers are discovering a third factor that sells housing: the community. Many glorious older neighborhoods in America do have some disadvantages, but they also offer the advantage of an authentic community life.

Some people feel that the current suburban development system is a result of laissez-faire, that it is out of control, that developers are getting their way. That is not so. However, current practice is composed of so many simplified zoning categories to intentionally segregate activities into enclaves that the system actually encodes suburban sprawl.

Duany's practice of town planning, on the other hand, incorporates four complex zoning categories—neighborhoods, districts, countryside and corridors—into a more integrated whole. Neighborhoods are urbanized areas having a balanced range of human activity. A single neighborhood isolated in the landscape is a village. Multiple neighborhoods aggregated together form cities and towns. Districts are urbanized areas organized around a single or predominant activity that must be segregated. The countryside is the area that remains permanently without urbanization. Corridors are linear systems of transportation or open space which connect the countryside, neighborhoods and districts.

## Preparing a Town Plan

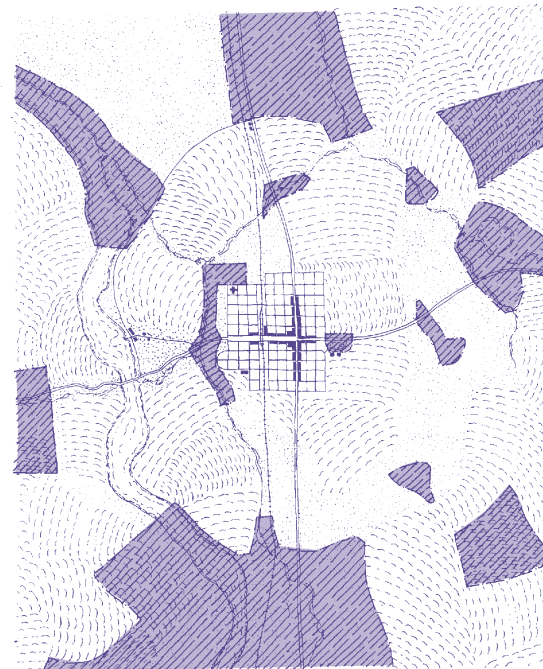
### The Countryside

The first step in Duany's town planning process is to determine certain areas of permanent countryside, irrespective of property lines, being careful to use authentic criteria. This countryside will remain forever as open space. Unlike the conventional urban growth boundary, which designates the area permitted for urbanization and requires political (impermanent) decisions, the permanent countryside holds out-of-bounds those areas that are resistant to legal challenge:

*areas technically justified as open space such as waterways; larger wetlands and recharge zones; habitat for endangered species; and steep slopes;*

*areas of aesthetic merit to be assigned to density transfer banks, including forests, groves and wood lots; historic farmsteads; specialized agriculture; and scenic highways and vistas;*

*areas to be acquired by condemnation for parks and schools.*

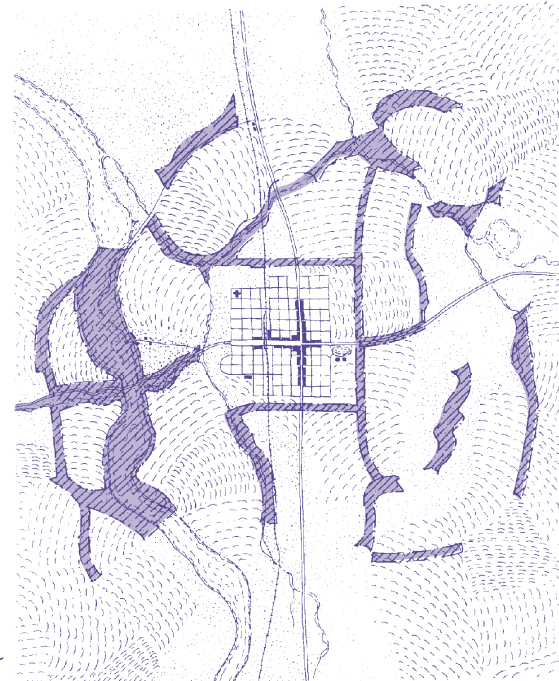


## The Corridors

The second step is to connect the areas of permanent countryside by a network of corridors, leaving the specific trajectories somewhat flexible but with minimum standards for each type. The corridors both connect countryside areas and separate neighborhoods and districts. These corridors are not the residual green spaces that separate the zones of suburbia; rather, they are a figural element characterized by visible continuity. Corridors can be green or transportation-based, ranging from wildlife trails to rail lines.

Green corridors can be formed by the concentration of natural, agricultural and recreational open spaces, such as parks, schoolyards and golf courses. These continuous spaces form part of a larger network that includes the countryside.

Transportation corridors vary in intensity. Heavy rail corridors should remain tangent to most urban areas, entering only certain districts. Light rail and trolley corridors may occur as boulevards at the edges of neighborhoods. Bus corridors may pass into the neighborhood center on conventional streets. Transportation corridors may also be greenways, providing long-distance walking and bicycle trails.



## The Neighborhoods

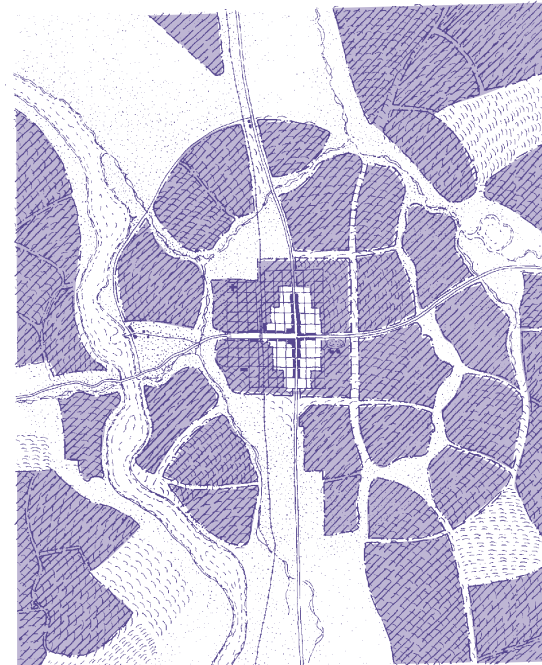
All areas remaining after mapping the permanent countryside and the corridors are to be vested (pre-permitted) for planned neighborhood development. Certain locations should have a proactive (much faster) process to encourage early development at sites of urban infill, urban extension, suburban retrofit, major intersections and transit-oriented development.

The planned neighborhood is an urbanized area accommodating a full and balanced range of human activity with the following attributes:

*The neighborhood is limited in size so that most people live within a five-minute walking distance of its center, which has the potential for a transit stop.*

*The buildings are controlled in size but complex in use. There is always a mixture of small and large dwellings, outbuildings, shops and offices, all of which are compatible in size, massing and disposition on their sites.*

*The streets are laid out on a network providing alternate routes to every destination. The individual streets are small, complex entities containing traffic, parking, trees, sidewalks and buildings.*



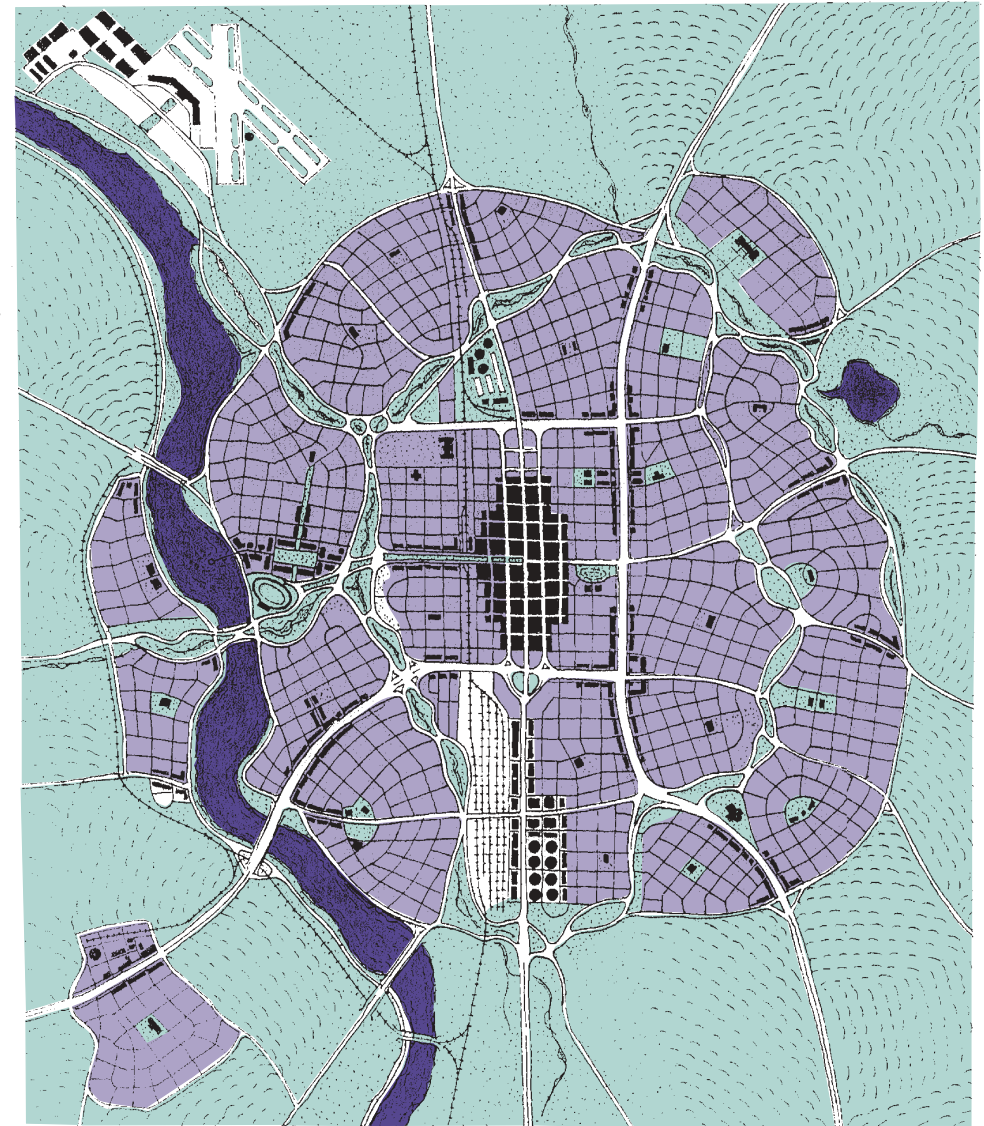
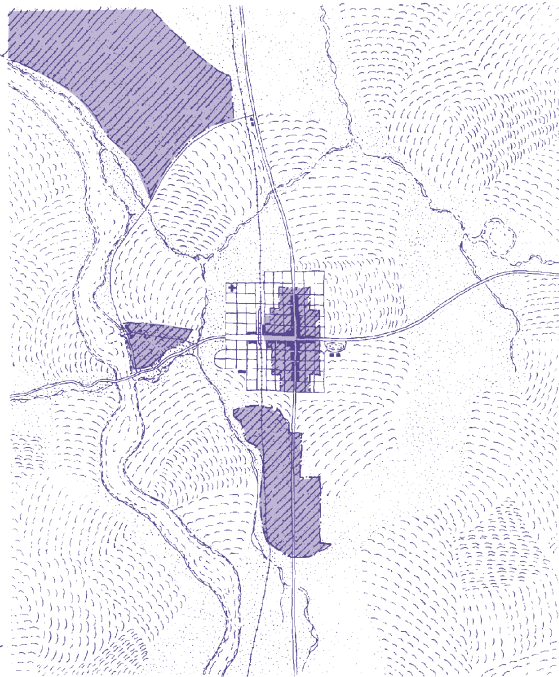


*Street space is designed so that both vehicles and pedestrians are comfortable. Most streets are spatially defined by buildings aligned in a disciplined manner and uninterrupted by parking lots.*

*Civic buildings for education, community meetings, religion and culture serve as landmarks by being located at public squares and at the termination of street vistas.*

### **The Districts**

The last step in the planning process is to designate all other types of development as special districts. These areas are permitted only through a rigorous process of justification and are specialized around a predominant activity. Examples are cultural districts, medical centers and college campuses. Other types accommodate large-scale transportation or manufacturing uses, such as factories, airports, terminals and depots. Districts specifically forbid single-use suburban patterns such as residential subdivisions, shopping centers and office parks.



*The City of Neighborhoods, Districts, Corridors, and Countryside.*

*Delineations by Tom Low*

*Andres Duany and Elizabeth Plater-Zyberk,  
Architects & Town Planners*



## Conclusion

The possibility that sprawl will eventually reach its own limits or even ultimately collapse of its own weight is small consolation to those whose daily lives are shaped by the stress, expense, time-consuming auto trips and general *anomie* which sprawl imposes on them.

Opponents of sprawl may find useful inspiration in Burwell's characterization of the group that successfully engineered the 1990 reauthorization of the Surface Transportation Act as "a coalition of losers." Among this diverse group were public-transit advocates, bicycle and pedestrian interests, community organizations, historic preservationists, clean air advocates, global-warming coalitions, planners, growth-management advocates and ordinary consumers. They shared a belief that the transportation bureaucracy was unaccountable and interested only in highways, and that power to act was concentrated almost exclusively in state highway departments. Most important, they believed that their own interests were being ignored. By joining forces, these "losers" were able to engineer a substantive change in public policy.

Their success holds an important lesson for those concerned about the proliferation of sprawl and its harmful impact on American life. As Richmond puts it, "... many different kinds of interests are negatively affected by the development patterns that we have in this country. . . What [that] really means is that there are the makings of a coalition out there."

*"The Achilles' heel of sprawl is that it is not sustainable."*

David Burwell

The call to action for this nascent coalition is sounded by Richard Moe: "Communities should be shaped by choice, not by chance. We can keep on accepting the kind of communities we get, or we can learn how to get the kind of communities we want."





Complete citations for these sources are included in the Bibliography on the following pages.

1. Beaumont, *How Superstore Sprawl Can Harm Communities, and What Citizens Can Do About It*, 1994.
2. Burchell et al., *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report II: Research Findings*, February 1992, pp. xiv-xv.
3. Obmascik, "Poll: State Growing Too Fast," *The Denver Post*, January 25, 1995.
4. *Beyond Sprawl: New Patterns of Growth to Fit the New California*, January 1995.
5. Regional Plan Association, *The Region Tomorrow*, New York, 1990, p. 3.
6. Summers, *A New Strategy for America's Large Cities*, speech in Chicago, October 20, 1994.
7. Pucher, "Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part I. Travel Behavior, Urban Development and Automobile Use," *Transport Reviews*, 1995, vol. 15, no. 2, pp. 99-117.
8. *Statistical Abstract of the United States: 1994*. Table 703 (pp. 460-461) shows household expenditures averaged \$29,846 in 1992. Of that total, \$5,228, or 17 percent, was spent on all forms of transportation. Since the average share for public transportation was only \$399, the remaining 16.2 percent was spent on automotive vehicle transportation. That figure would include buying vehicles, paying for gas, insurance, maintenance, etc.
9. Calthorpe Associates, *TOD Impacts on Travel Behavior*, August 21, 1992.
10. Pucher, "Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part I. Travel Behavior, Urban Development and Automobile Use," *Transport Reviews*, 1995, vol. 15, no. 2, p. 108.
11. Pucher, "Budget Cutters Looking at Wrong Subsidies," *Passenger Transport*, March 13, 1995, p. 3.
12. Burchell et al., *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report II: Research Findings*, February 1992.
13. *Beyond Sprawl: New Patterns of Growth to Fit the New California*, January 1995.
14. Novaco et al. "Home Environmental Consequences of Commute Travel Impedance," *American Journal of Community Psychology*, 1991, vol. 6, pp. 881-909.
15. Ulrich et al. "Stress Recovery During Exposure to Natural and Urban Environments," *Journal of Environmental Psychology*, 1991, vol. 11, pp. 201-230.
16. Borgman, "Suburbia's Signs of Stressful Times," *The Washington Post*, June 18, 1995.
17. Edmondson, "Alone in the Car," *American Demographics*, June 1994, pp. 44-57.
18. Employee travel surveys done by Urban Mobility Corporation for transportation management associations in suburban Chicago, Kansas City and Los Angeles.
19. *Nationwide Personal Transportation Survey, 1990: Urban Travel Patterns*, pp. 3-7.
20. Burchell, et al. *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report II: Research Findings*, February 1992, p. 132.
21. 1000 Friends of Oregon and the Home Builders Association of Metropolitan Portland, *Managing Growth to Promote Affordable Housing: Revisiting Oregon's Goal 10*, September 1991.
22. 1000 Friends of Oregon. *The LUTRAQ Alternative/Analysis of Alternatives*, October 1992.
23. Iannone, "Redeveloping Urban Brownfields," *Land Lines*, November 1995
24. Oates and Schwab, "The Impact of Urban Land Taxation: The Pittsburgh Experience," 1995, and Tideman and Johnson, "A Statistical Analysis of Graded Property Taxes in Pennsylvania," 1995.
25. Minnesota Department of Education, unpublished data.
26. U.S. Department of Commerce, Bureau of the Census, Data User Services Division, *Census of Population and Housing*, 1980 and 1990.
27. Minnesota Department of Education, unpublished data.
28. Calculations by Ken Pekarek of the Land Management Information Center with data from the Minnesota Department of Transportation.
29. Luce, Lukermann and Mohring, "Regional Sewer System Rate Structure Study," December 7, 1992.
30. Minnesota Department of Jobs and Training, Research Statistics Office, documents from 1980 to 1992.
31. Minnesota Department of Revenue, unpublished data.



## Bibliography

1000 Friends of Oregon. *The LUTRAQ Alternative/Analysis of Alternatives: An Interim Report*. Portland, OR, October 1992.

1000 Friends of Oregon and the Home Builders Association of Metropolitan Portland. *Managing Growth to Promote Affordable Housing: Revisiting Oregon's Goal 10*. September 1991.

Adler, Jerry. "Bye-Bye Suburban Dream." *Newsweek*, May 15, 1995, vol. 25, no. 20, pp. 40-53.

Altshuler, Alan. "Review of the Costs of Sprawl." *Journal of the American Planning Association*, April 1977, vol. 43, pp. 207-209.

Altshuler, Alan, and José A. Gómez-Ibáñez with Arnold Howitt. *Regulation for Revenue: The Political Economy of Land Use Exactions*. Washington, DC: The Brookings Institution and Lincoln Institute of Land Policy, 1993.

Arendt, Randall. *Rural by Design: Maintaining A Small Town*. Chicago: APA Planners Press, 1994.

Barnett, Jonathan. *The Fractured Metropolis: Improving the New City, Restoring the Old City, Reshaping the Region*. New York: Harper Collins, 1995.

Beaumont, Constance. *How Superstore Sprawl Can Harm Communities and What Citizens Can Do About It*. Washington, DC: National Trust for Historic Preservation, 1994.

*Beyond Sprawl: New Patterns of Growth to Fit the New California*. San Francisco: Bank of America, California Resources Agency, Greenbelt Alliance and Low Income Housing Fund, January 1995.

Borgman, Anna. "Suburbia's Signs of Stressful Times." *The Washington Post*, June 18, 1995.

Burchell, Robert W., et al. *Impact Assessment of the New Jersey Interim State Development and Redevelopment Plan, Report II: Research Findings*. Trenton, NJ: Report prepared for New Jersey Office of State Planning, February 1992.

Burchell, Robert W., William Dolphin and Harvey S. Moskowitz. *Impact Assessment of DELEP CCMP versus STATUS QUO on Twelve Municipalities in the DELEP Region*. Philadelphia, PA: Report prepared for the Delaware Estuary Program, August 1995.

Burchell, Robert W., and David Listokin. "Land, Infrastructure, Housing Costs and Fiscal Impacts Associated with Growth: The Literature on the Impacts of Sprawl versus Managed Growth." Working Paper, Lincoln Institute of Land Policy, 1995.

— *The Economic Effects of Trend Versus Vision Growth in the Lexington Metropolitan Area*. Lexington, KY: Report prepared for Bluegrass Tomorrow, November 1994.

Calthorpe Associates. *TOD Impacts on Travel Behavior*. San Francisco, August 21, 1992.

Calthorpe, Peter, with Shelley Poticha. *The Next American Metropolis: Ecology, Community and the American Dream*. New York: Princeton Architectural Press, 1993.

Calthorpe, Peter, with Sim Van de Ryn. *Sustainable Communities: A New Design Synthesis for Cities, Suburbs, and Towns*. San Francisco: Sierra Club Books, 1986.

Carlson, Daniel, with Lisa Wormser and Cy Ulberg. *At Road's End: Transportation and Land Use Choices for Communities*. Washington, DC: Island Press, 1995.

Cervero, Robert. *Suburban Gridlock*. New Brunswick, NJ: Center for Urban Policy Research, Rutgers University, 1986.

Cisneros, Henry G. *Defensible Space: Deterring Crime and Building Community*. Washington, DC: U.S. Department of Housing and Urban Development, 1995.

— *Regionalism: The New Geography of Opportunity*, Washington, DC: U.S. Department of Housing and Urban Development, March 1995.

Clark, Charles. "Revitalizing the Cities." *CQ Researcher*. October 13, 1995, vol. 5, no. 38, pp. 897-920.

Downs, Anthony. *New Visions for Metropolitan America*. Washington, DC: The Brookings Institution and Lincoln Institute of Land Policy, 1994.

— *Stuck In Traffic*. Washington, DC: The Brookings Institution and Lincoln Institute of Land Policy, 1992.

Duany, Andres, and Elizabeth Plater-Zyberk. *Towns and Town-making Principles*. New York: Rizzoli, 1991.

Dunphy, Robert T. "Transportation-Oriented Development: Making a Difference?" *Urban Land*, July 1995, vol. 54, no. 7, pp. 32-36, 48.

Edmondson, Brad. "Alone In the Car." *American Demographics*, June 1994, vol. 16, no. 6, pp. 44-57.

Frank, James E. *The Costs of Alternative Development Patterns: A Review of the Literature*. Washington, DC: Urban Land Institute, 1989.

Finkel, David. "Life on the Suburban Edge." *The Washington Post Magazine*, March 19, 1995.

Garreau, Joel. *Edge City: Life on the New Frontier*. New York: Doubleday, 1991.

Gurwitt, Rob. "Saving the Aging Suburb." *Governing Magazine*, May 1993, vol. 6, no. 8, pp. 36-42.

Gurwitt, Rob. "The Urban Village War." *Governing Magazine*, November 1994, vol. 8, no. 2, pp. 50-56.

Handy, Susan. "Highway Blues Access." University of California Transportation Center, No. 4, Autumn 1994.

Hare, Patrick. *Planning, Transportation, and the Home Economics of Reduced Car Ownership*. Washington, DC: Hare Planning, January 1995.

Hylton, Thomas. *Save Our Land, Save Our Towns*. Harrisburg, PA: RB Books, 1995.

Iannone, Donald T. "Redeveloping Urban Brownfields." *Land Lines*, November 1995, vol. 7, no. 6, pp. 1-3.

Ingerson, Alice E. "Sprawl or What. . . Conference to Debate Alternate Vision of Metropolitan Growth." *Land Lines*, March 1995, vol. 7, no. 2, pp. 1, 4-5.

Katz, Peter. *The New Urbanism: Toward an Architecture of Community*. New York: McGraw-Hill, 1994.

Knaap, Gerrit, and Arthur C. Nelson. *The Regulated Landscape: Lessons on State Land Use Planning from Oregon*. Cambridge, MA: Lincoln Institute of Land Policy, 1992.

Langdon, Philip. *A Better Place to Live*. Amherst, MA: University of Massachusetts Press, 1994.

Luce, Thomas, Jr., Barbara Lukermann and Herbert Mohring. "Regional Sewer System Rate Structure Study." December 7, 1992.

Mills, Edwin S., and John F. McDonald (eds.). *Sources of Metropolitan Growth*. New Brunswick, NJ: Center for Urban Policy Research, Rutgers University, 1992.

Nelson, Arthur C. "Preserving Prime Farmland in the Face of Urbanization: Lessons from Oregon." *Journal of the American Planning Association*, Autumn 1992, vol. 58, no. 4, pp. 467-489.

Nelessen, Anton. *Visions for a New American Dream: Process, Principles and an Ordinance to Plan and Design Small Communities*. Chicago: APA Planners Press, 1994.

Novaco, R.W., W. Kliever and A. Broquet. "Home Environmental Consequences of Commute Travel Impedance." *American Journal of Community Psychology*, 1991, vol. 6, pp. 881-909.

Oates, Wallace and Robert Schwab. *The Impact of Urban Land Taxation: The Pittsburgh Experience*. Working Paper, Lincoln Institute of Land Policy, 1995.

Obmascik, Mark. "Poll: State Growing Too Fast." *The Denver Post*, January 25, 1995.

Peirce, Neal. *Citistates: How Urban America Can Prosper in a Competitive World*. Washington, DC: Seven Locks, 1993.

Porter, Douglas R. "A 50-Year Plan for Metropolitan Portland." *Urban Land*, July 1995, vol. 54, no. 7, pp. 37-40.

Pucher, John. "Budget Cutters Looking at Wrong Subsidies." *Passenger Transport*, March 1995, p. 3.

—"Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part 1. Travel Behaviour, Urban Development and Automobile Use." *Transport Reviews*, 1995, vol. 15, no. 2, pp. 99-117.

—"Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part 2. Public Transport, Overall Comparisons and Recommendations." *Transport Reviews*, 1995, vol. 15, no. 3, pp. 211-227.

Real Estate Research Corporation. "The Costs of Sprawl: Environmental and Economic Costs of Alternative Residential Development Patterns at the Urban Fringe." Prepared for the Council on Environmental Quality, the Office of Policy Development and Research, Department of Housing and Urban Development, and the Office of Planning and Management, Environmental Protection Agency. Washington, DC: U.S. Government Printing Office, 1974.

Regional Plan Association. *Redesigning the Suburbs: Turning Sprawl Into Centers*. New York, August 1994.

Regional Plan Association. *The Region Tomorrow*. New York, 1990, p.3.

Rusk, David. *Cities Without Suburbs*. Washington, DC: Woodrow Wilson Center Press, 1993.

Rybczynski, Witold. *City Life: Urban Expectations in a New World*. New York: Scribner, 1995.

Simonds, John Ormsbee. *Garden Cities 21: Creating a Livable Urban Environment*. New York: McGraw-Hill, 1994.

Southworth, Michael. "Walkable Suburbs? An Evaluation of Neotraditional Communities at the Urban Edge." Berkeley, CA: Institute of Urban and Regional Development, University of California, Berkeley, 1995.

Stern, Robert A. M., Gregory Gilmartin, Thomas Mellins, David Fishman and Raymond W. Gastil. *New York 1930: Architecture and Urbanism Between the Two World Wars*. New York: Rizzoli, 1987.

Stern, Robert A. M., Thomas Mellins and David Fishman. *New York 1960: Architecture and Urbanism Between the Second World War and the Bicentennial*. New York: Monacelli Press, 1995.

Summers, Anita, A. "A New Strategy for America's Large Cities." Speech in Chicago, IL, October 20, 1994.

Tideman, Nicolaus, and Cathleen Johnson. "A Statistical Analysis of Graded Property Taxes in Pennsylvania." Working Paper, Lincoln Institute of Land Policy, 1995.

Ulrich, R.S., R.F. Simons, B.D. Losito, E. Fiorito, M.A. Miles and M. Zelson. "Stress Recovery During Exposure to Natural and Urban Environments." *Journal of Environmental Psychology*, 1991, vol. 11, pp. 201-230.

Wilson, Richard W. "Suburban Parking Requirements: A Tacit Policy for Automobile Use and Sprawl." *Journal of the American Planning Association*, Winter 1995, vol. 61, no. 1, pp. 29-43.

Windsor, Duane. "A Critique of 'The Costs of Sprawl'." *Journal of the American Planning Association*, March 1979, vol. 45, pp. 279-292.



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