

William & Mary Environmental Law and Policy Review

Volume 23 (1998-1999)

Issue 3 Symposium 1999: *Land Use for the 21st Century: The Next Frontier for Environmental Law*

Article 3

October 1999

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Mark Fina and Leonard Shabman, *Some Unconventional Thoughts on Sprawl*, 23 Wm. & Mary Env'tl. L. & Pol'y Rev. 739 (1999), <https://scholarship.law.wm.edu/wmelpr/vol23/iss3/3>

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SOME UNCONVENTIONAL THOUGHTS ON SPRAWL

MARK FINA AND LEONARD SHABMAN*

I. INTRODUCTION: DEFINING THE PROBLEM OF SPRAWL

For reasons good or ill, owning land is the most effective way in which people keep their distance from others. Land is the ultimate means of exclusion.

—Boyd Gibbons¹

Vice President Gore recently announced initiatives to help us build and enhance communities so we are “not just better off but better.”² For many social critics, our communities are not livable because something has gone awry in the way we use land to support the built environment.³ What is wrong is pejoratively called “sprawl.”⁴ Sprawl development is said to

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¹ BOYD GIBBONS, *WYE ISLAND* 90 (1973).

² Pamela Najor, *Gore Unveils Federal Sprawl Plan as Part of FY00 Budget Proposal*, THE REINVENTION REP., Jan. 13, 1999, at 3.

³ The built environment includes buildings with impervious surfaces such as rooftops and roads, the turf associated with development, and the vacant spaces interspersed with developed areas.

⁴ See, e.g., Karl Blankenship, *Chewing Up the Landscape*, BAY J., Dec. 1995, at 1 (citing the purported negative effects of sprawl, such as wetlands depletion, air and water pollution and wildlife displacement); Sierra Club, *Stopping Sprawl*, PLANET, Apr. 1997 <<http://tamalpais.sierraclub.org/planet/199704/sprawl.html>> (“That’s sprawl—low-density, automobile-dependent development spread out over the landscape at the urban fringe and in rural areas. . . . [N]othing threatens our air, water and wild places more than sprawl”). A simple dictionary definition of sprawl supports the negative connotation. One definition is “to spread the limbs in a relaxed, awkward or unnatural position.” WEBSTER’S NEW COLLEGIATE DICTIONARY 1141 (8th ed. 1980). Another definition of sprawl is “to spread awkwardly or without a regular pattern; to take up more space than is necessary, as handwriting, a line of men, etc.” *Id.* To describe a spatial arrangement of our built environment as “sprawl” is to suggest that sprawl uses more land than is needed to support human activities.

destroy our sense of community;⁵ sprawl is said to be unaesthetic;⁶ sprawl is said to cause environmental degradation, including habitat fragmentation,⁷ creation of impervious surfaces with adverse stream quality consequences,⁸ and increased air pollution as vehicle miles traveled increase;⁹ sprawl is said to increase infrastructure costs and so is a source of rising taxes;¹⁰ finally, sprawl is associated with loss of farmland.¹¹ Newspaper articles, citing public surveys and referenda results from recent elections, have named sprawl development as the foremost environmental issue for the next century.¹²

Those who condemn sprawl represent remarkably diverse political ideologies. The Sierra Club has initiated a nationwide "Challenge to Sprawl Campaign" to counteract sprawl development.¹³ The Bank of America, in a 1995 report, stated that "this acceleration of sprawl has surfaced enormous

⁵ See Karl Zinsmeister, *A Conservative Case Against Suburbs*, AM. ENTERPRISE, Nov./Dec. 1996, at 40 (asserting that adults in suburbs feel socially isolated). See also JAMES H. KUNSTLER, *HOME FROM NOWHERE: REMAKING OUR EVERYDAY WORLD FOR THE TWENTY-FIRST CENTURY* (Simon and Schuster eds., 1996) (discussing the post-WWII housing boom as a reaction to a sense of social malaise and a desire to return to a natural setting).

⁶ See *Neighborhoods Reborn*, CONSUMER REP., May 1996, at 24; Andres Duany & Elizabeth Plater-Zyberk, *The Second Coming of the American Small Town*, WILSON Q., Winter 1992, at 15.

⁷ See Denis A. Saunders et al., *Biological Consequences of Ecosystem Fragmentation: A Review*, CONSERVATION BIOLOGY, Mar. 1991, at 18; ANTHONY DOWNS, *NEW VISIONS FOR METROPOLITAN AMERICA* 14 (1994).

⁸ See generally Chester L. Arnold, Jr. & C. James Gibbons, *Impervious Surface Coverage: The Emergence of a Key Environmental Indicator*, 62 J. AM. PLAN. ASS'N 243 (1996) (highlighting the emergence of attention to nonpoint source pollution resulting from the growing infrastructure).

⁹ See Sierra Club, *supra* note 4.

¹⁰ See Bank of America, *Beyond Sprawl: New Patterns of Growth to Fit the New California* (visited Jan. 11, 1999) <http://www.bankofamerica.com/environment/comm_env_urban1.html>.

¹¹ See Sierra Club, *supra* note 4.

¹² In Maryland, 84% of respondents to a recent survey "expressed concern about sprawl development." Parris N. Glendening, *Getting Smart About Sprawl*, WASH. POST, Mar. 30, 1997, at C9. See also Peter S. Goodman & Dan Eggen, *A Vote to Keep Sprawl at Bay*, WASH. POST, Nov. 5, 1998, at B1, B7 (noting local government candidates' increasing use of sprawl as a campaign issue); Bill Matuszeski, *Issue of Urban Sprawl Spreading Across the Electoral Landscape*, BAY J., Dec. 1998, at 21 (examining the influence of the issue of sprawl on local, state and federal elections); *Voters Embrace Ballot Initiatives on Urban Sprawl, Growth*, REINVENTION REPORT, Nov. 20, 1998, at 21 (discussing community resistance to sprawl).

¹³ See Sierra Club, *supra* note 4.

social, environmental and economic costs, which until now have been hidden, ignored, or quietly borne by society.”¹⁴ The politically conservative magazine *The American Enterprise* devoted an entire issue to a discourse on suburban development and the erosion of communities.¹⁵ These critics of sprawl advocate change in residential housing density and patterns of development within settled areas; we will describe the built environment they advocate as “compact and contiguous.” Compactness is achieved when residential housing density significantly exceeds the two units per acre typical of present development.¹⁶ Compact development would be contiguous and intermixed with commercial and public spaces to encourage walking and transit use and decreasing reliance on automobiles.¹⁷

We are left with this question: if sprawl is so harmful,¹⁸ why does it persist? An answer often given is that public policies (for example, road construction programs and inexpensive gasoline) are the root cause of sprawl.¹⁹ This answer is unsatisfying for at least two reasons. First, it suggests that individual preferences have little influence on peoples’ choices of where to live. Instead, the answer suggests that people are trapped into making choices among equally undesirable living options. Second, the answer suggests that our political system is implementing policies that are

¹⁴ Bank of America, *supra* note 10.

¹⁵ See generally AM. ENTERPRISE, Nov./Dec. 1996.

¹⁶ See KUNSTLER *supra* note 5, at 115-21; DOWNS, *supra* note 7, at 125-32. See also CHESAPEAKE BAY FOUNDATION, A BETTER WAY TO GROW 3 (1996) (discussing growth management techniques that would assist in the preservation of the Chesapeake Bay).

¹⁷ See *Neighborhoods Reborn*, *supra* note 6, at 28-30.

¹⁸ There are those who reject the arguments against sprawl. In a point by point response to the Bank of America study, Steven Hayward countered arguments that suburban development encroaches on agricultural land, curtails job growth, contributes to increased commute times, and imposes excessive costs on the public. See generally STEVEN HAYWARD, PACIFIC RESEARCH INST. FOR PUBLIC POLICY, PRESERVING THE AMERICAN DREAM: THE FACTS ABOUT SUBURBAN COMMUNITIES AND HOUSING CHOICE (1996). See also Peter Gordon & Harry W. Richardson, *Are Compact Cities a Desirable Planning Goal?*, 63 J. AM. PLAN. ASS’N 95, 102-03 (1997) (discussing key issues to understanding whether the encouragement of compact cities is a satisfactory planning goal); George F. Will, *Al Gore Has a New Worry*, NEWSWEEK, Feb. 15, 1999, at 76 (rejecting the notion of government growth as a cure for suburban sprawl). One must also question whether many of the ills ascribed to sprawl are based on credible logic, analysis or data. See Leonard Shabman, *Sustainable Development For the Chesapeake: Land Settlement Connection*, in TOWARD A SUSTAINABLE COASTAL WATERSHED: THE CHESAPEAKE EXPERIMENT 3, 3-4 (1994).

¹⁹ See Leonard Shabman, *Land Settlement, Public Policy, and the Environmental Future of the Southeast Coast*, in SUSTAINABLE DEVELOPMENT IN THE SOUTHEASTERN COASTAL ZONE 7, 7-8 (John F. Varnberg et al. eds., 1996).

contradictory to the desires of a remarkably wide spectrum of political interests.

Meanwhile, the emerging public debate over sprawl has spawned much confusion about what the term actually means. When does land settlement become sprawl? Sprawl is not regional population growth, although growth may occur as sprawl.²⁰ Population growth in an area may be compact and contiguous and leave much land in the same state that existed prior to growth. On the other hand, the same population growth may spread out over the landscape and consume land for buildings, residences, and roads with much open land in between. The term "sprawl" should be reserved for a particular spatial arrangement of the built environment and not be confused with population and economic growth. We suggest that sprawl is development that separates commercial, industrial and residential areas, separates residences from each other on large lots, and separates towns and cities in a metropolitan area from each other. In our description of sprawl, there has been a migration of commercial and residential activity from a region's traditional urban centers.²¹ Accompanying this spatial arrangement is a heavy reliance on the automobile for even the most modest household or business errands.²² Sprawl, as we use the term, is *not* intended to be a negative description of a landscape condition, but it does describe development that dedicates much of the landscape to the built environment.

Focusing on the use of land for separation directs analytical attention to the possibility that the separation by physical distance (i.e. sprawl development) offers benefits to communities and to individuals. In fact, migration from the city to "suburbs" began in the late eighteen hundreds as more well-to-do families determined that physical distance would protect them from crime, noxious odors and noise often associated with life in high density settings.²³ Fredrick Law Olmsted and Calvert Vaux published their

²⁰ Some authors argue that the term sprawl defies definition and that there is no need for a common definition. See generally JANET PELLEY & GLEN BESA, SIERRA CLUB, *SPRAWL COSTS US ALL!: A GUIDE TO THE COSTS OF SUBURBAN SPRAWL AND HOW TO CREATE LIVABLE COMMUNITIES IN VIRGINIA* (1997). However, as we will argue, the failure to distinguish sprawl from general population and economic growth can lead to policies that cause sprawl.

²¹ See generally JOEL GARREAU, *EDGE CITY: LIFE ON THE NEW FRONTIER* (1991) (arguing that businesses cluster in "edge cities"); Peter Gordon & Harry W. Richardson, *Beyond Polycentricity: The Dispersed Metropolis, Los Angeles, 1970-1990*, 62 J. AM. PLAN. ASS'N 289 (1996) (suggesting the trend of uniform dispersal of businesses as growth occurs).

²² See Bank of America, *supra* note 10. See also *Some Specific Principles of New Traditionalist Community Design*, AM. ENTERPRISE, Nov./Dec. 1996, at 49 (advocating traditional neighborhood design patterns).

²³ See KENNETH T. JACKSON, *CRABGRASS FRONTIER: THE SUBURBANIZATION OF THE*

plan for Riverside, Chicago's first suburban development, in 1868.²⁴ They acknowledged the drawing power of the city, but they also anticipated a counter-tide of migration, especially affecting "the more intelligent and more fortunate classes."²⁵ It seemed to Olmsted and Vaux that "the most attractive, the most refined, and the most soundly wholesome forms of domestic life" were to be found in residential suburbs.²⁶

Many of the areas that were early suburbs are today viewed as parts of a city. For example, the Yonkers area near New York City and the Chevy Chase area north of Washington, D.C. were developed as suburbs, but used little land in their creation.²⁷ While the preferences for living away from the density of the city may be rooted in our nation's culture and history, low residential density settlement with separation of land uses—sprawl—is a phenomenon of the last half of this century.²⁸ Dedication of land to separation occurs within a settlement tract and across settlements. We will use two descriptions of separation—tract and pattern—for painting a word picture of different settlement forms.

Conventional low-density suburban development, commonly equated with sprawl, is characterized by two forms of separation. Residential lot sizes are large²⁹ so there is low density on the development tract. The significant land requirements for low residential density encourages the location of conventional suburban housing distant from other developments and uses where large tracts of land are available for development and land prices are lower. Also, conventional developments use land to separate residences from recreational, retail, and commercial facilities, making these accessible only by auto. Support for extensive

UNITED STATES 68-72 (1985).

²⁴ See *id.* at 79-81.

²⁵ *Id.* at 81.

²⁶ *Id.*

²⁷ See Marc Fisher, *Chevy Chase, 1916: For Everyman, a New Lot in Life*, WASH. POST, Feb. 15, 1999, at A1, A17 (describing the development of Chevy Chase, Maryland, a Washington, D.C. suburb).

²⁸ See DOWNS, *supra* note 7, at 5.

²⁹ What is defined as "large" might vary by area. For example, in a rural area adjoining a small town, a large lot might be five acres. In a metropolitan area, a large lot might be .5 acres. A 1991 survey found that the average lot size exceeds one-half of an acre. See Susan Bady, *What 1992 Buyers Want in Housing*, PROF. BUILDER, Dec. 1, 1992, at 87. A study by the State of Maryland similarly found that developments in the state were built to an average lot size of more than one half acre per dwelling unit between 1985 and 1993. See MARYLAND OFFICE OF PLANNING, NEWS RELEASE: PARCEL DATA REPORT DOCUMENTS LARGE-LOT RESIDENTIAL SPRAWL (1994). This study also found that the average lot size of all housing in the state in 1985 averaged slightly less than one half acre per dwelling unit, suggesting the trend is toward larger lot sizes. See *id.*

automobile use is clearly contemplated by the design of this settlement form. Streets are wide and may or may not be bordered by sidewalks. Each house has a driveway and garage providing off street parking. Nonetheless, layouts are intended to provide maximum individual isolation from traffic and neighbors, so streets are serpentine with cul-de-sacs and rarely work in a connective grid. Conventional suburbs, which can also be described as "low density"³⁰ development, might have fewer than one person per acre. In our categorization of land settlement, conventional suburbs are not compact in form, and if the land area permits, may not be contiguous to other development.

Cityscapes are, in our system, high-density developments and separation of uses is at a minimum. Cityscapes fully mix all uses—residential, commercial, retail and industrial—and all socioeconomic classes. High rise buildings may be present and used for both business and residential purposes. Smaller buildings and row houses of three to five stories may make up entire areas or may be interspersed with high rises. Cityscapes are the most compact development form. Minimum residential density in such an area is ten dwelling units (thirty persons) per acre, yet this minimum is often greatly exceeded. Green space is limited to small city parks and squares. Parking is accommodated in the street, underground lots, garages or small lots between buildings. Public transportation and walking are the principal modes of transportation of residents within a city.³¹

Recently *compact development* has been promoted in both the academic literature and in the popular press. Compact development, as we use the term, includes both townscapes and residential clusters. Townscapes are also called "new urbanism," "neotraditional," or the "second coming of the American Small Town," and residential clusters.³²

The townscape design, much like that of the city, has a concentrated commercial and retail district, puts neighbors in close proximity to one

³⁰ DOWNS, *supra* note 7, at 5-7; *Neighborhoods Reborn*, *supra* note 6, at 24 ("for a half-century, developers have maintained that tract houses with big front lawns in auto-oriented subdivisions are what Americans want").

³¹ See DOWNS, *supra* note 7, at 130.

³² See generally Duany & Plater-Zyberk, *supra* note 6 (discussing Americans' desire to return to early 20th-century housing patterns); *Neighborhoods Reborn*, *supra* note 6 (discussing neotraditional neighborhoods and comparing them to the typical suburban neighborhoods that we are all used to seeing); KUNSTLER, *supra* note 5 (advocating a fundamental change in attitudes toward growth). See also Philip Langdon, *The New, Neighborly Architecture*, AM. ENTERPRISE, Nov./Dec. 1996, at 42 (discussing the "neotraditional" philosophy); Robert Cervero & Roger Gorham, *Commuting in Transit Versus Automobile Neighborhoods*, 61 J. AM. PLAN. ASS'N 210, 210-11 (1995) (comparing commuting patterns of transit- and auto-oriented communities).

another, integrates socioeconomic classes, and encourages walking.³³ In such an arrangement, density might be about ten persons per acre.³⁴ In the idealized design a commercial district might be made up of two and three story buildings. Street fronts in this district are devoted to commercial and retail uses. Second and third floor space is used for both commercial purposes and apartments. Residential housing surrounds the commercial district at a density of five or more dwelling units per acre. A part of the townscape might include detached single family homes, as well as attached housing such as townhouses and apartments. Streets are patterned in a grid that allows residents to access commercial areas and local parks within five to ten minutes on foot. The center of the development may contain a transit stop to facilitate travel outside the area. Green space is limited to town or regional parks.³⁵

Residential clusters are another form of compact development in which single family detached homes are concentrated on small lots at a density of four to five dwelling units per acre.³⁶ Such developments are located and designed to preserve large areas of common open space. Unlike townscapes, commercial and retail uses are separated from the residential area so residents remain automobile dependent and any gain in residential density is lost at the tract scale to open space. As a consequence, the density of the total development (including the set-aside open space) may not differ significantly from conventional low-density suburbs.

Seeking to strike a balance between the city and the suburbs, townscapes and residential clusters are expected to create an expanded

³³ See generally Duany & Plater-Zyberk, *supra* note 6 (discussing the benefits of townscape design).

³⁴ The land requirements to settle a given population in a townscape form can be appreciated best by considering the example of Reston, a planned suburban community in Fairfax County, Virginia. Reston includes a mix of land uses and residential housing styles, laid out in such a manner that 40% of the land within the project boundaries is open space and over the whole area the average residential density equals ten persons per acre. See E. M. Risse, *The American Settlement Pattern of the 21st Century—Where are the "Sub"urbs Going?*, FUTURES RES. Q., Fall 1993, at 43.

³⁵ See KUNSTLER, *supra* note 5, at 115-18 (discussing seven principles for creation of high-density green space locations within livable neighborhoods or towns, including street layouts, park locations and building uses.) The townscape form, if not built contiguous to existing infrastructure and commercial and public space, may still yield an overall sprawling development pattern. As Kunstler points out, however, well-planned townscape-style neighborhoods can be linked together to form well-planned townscape-style cities. See *id.* at 115.

³⁶ See R. D. YARO ET AL., LINCOLN INST. OF LAND POLICY & ENVTL. LAW FOUND., DEALING WITH CHANGE IN THE CONNECTICUT RIVER VALLEY: A DESIGN MANUAL FOR CONSERVATION AND DEVELOPMENT (1990).

interest in more compact development.³⁷ However, in the remainder of this paper we will explain why interest in conventional suburban development remains strong. In organizing the paper we rely on Anthony Downs' attribution of the growth of conventional low-density suburbs to an American image of the ideal living arrangement.³⁸ This image includes a detached, single-family home on a spacious lot. From this home, residents would travel to work, shopping and public places consisting predominantly of low-rise office or industrial buildings or shopping centers, in attractively landscaped, park-like settings. This travel would be made possible and convenient by the ownership and use of a personal automobile. The communities where these homes were located would have small populations so that existing residents would be politically influential in local land use and public spending decisions. We will argue that dedicating land to separation has been the way we have achieved this ideal.

We argue that Downs' description of the ideal living arrangement remains dominant and much land will continue to be developed at low density.³⁹ In the next section, we discuss how preferences for automobile transportation influence land settlement. We also review how demographic determinants of preferences favor single family detached housing. Finally, we consider the incentives facing local government to make zoning decisions that perpetuate sprawl. We conclude the paper by hypothesizing that expected demographic changes may offer an opportunity to slow the rate of increase in sprawl development by modestly increasing the demand for compact and, at times, contiguous settlement forms. We identify public policies that will reduce barriers to more compact settlement forms and may enhance demand for those forms.

II. TRANSPORTATION AND LAND SETTLEMENT

Americans are in the habit of never walking if they can ride.

—Louis Philippe, Duc d'Orleans⁴⁰

³⁷ See Duany & Plater-Zyberk, *supra* note 6.

³⁸ See DOWNS, *supra* note 7, at 5-7.

³⁹ There are few supply limitations on lands at the edges of U.S. cities. The dispersal of businesses to the suburbs has led to savings on land expenditures for both businesses and households. See J. Thomas Black, *The Economics of Sprawl*, URB. LAND, Fall 1996, at 52.

⁴⁰ B. BRUCE-BRIGGS, *THE WAR AGAINST THE AUTOMOBILE* (E.P. Dutton ed., 1977) (quoting Louis Philippe, Duc d'Orleans).

Mobility is an underrated human right. You can never have enough of it.

—Martin Wachs⁴¹

[I]t is . . . clear from people's behaviour that for most of them a good place to live is one where they can drive the kids to school, carry on to work and then pick up a few groceries at the supermarket on the way home. If they run into a traffic jam along the way, it is a nuisance, but not enough of one to make them choose schools that the kids can walk to or a home convenient for the shops.

—The Economist⁴²

If households prefer to live in low density suburbs, and to use automobiles as their primary means of intra-urban transportation, the public sector should validate these preferences with the appropriate highway and infrastructure investments.

—Peter Mieszkowski and Edwin S. Mills⁴³

Downs argues that automobiles provide superior convenience, comfort, privacy, and speed⁴⁴ and so are the preferred form of transportation. We agree and will argue that conventional land settlement not only accommodates the automobile, but has also been configured to improve access and travel flexibility. Our argument contradicts those who argue that the conventional settlement form has trapped people into automobile dependency and who promoted settlement forms that foster walking and use of transit over the automobile.⁴⁵

⁴¹ W. Wayt Gibbs, *Transportation's Perennial Problems*, SCI. AM., Oct. 1997, at 55-57 (quoting Martin Wachs, Highway Planner, University of California Transportation Center).

⁴² *Experts Think of Congestion as a Symptom of Market Failure. Perhaps They Are Wrong: California Dreamin'*, ECONOMIST, Sept. 5, 1998, at 18 [hereinafter *California Dreamin'*].

⁴³ Peter Mieszkowski & Edwin S. Mills, *The Causes of Metropolitan Suburbanization*, 7 J. ECON. PERSP. 135, 144 (1993).

⁴⁴ See DOWNS, *supra* note 7, at 6.

⁴⁵ See, e.g., KUNSTLER, *supra* note 5, at 115-18, 125-26 (discussing seven principles for creating a high-density but livable town, including the idea that people should be able to do most errands within a 5-minute walk from home); EDWARD BEIMBORN ET AL., GUIDELINES FOR TRANSIT SENSITIVE SUBURBAN LAND USE DESIGN 1 (1991) (visited Nov. 23, 1999) <<http://www.uwm.edu/dept/cuts/research.htm>> ("Suburban buildings are difficult to access

Sprawling settlement forms and the dispersion of employment and commercial activity away from central business districts are accommodating a widespread preference for automobile travel.⁴⁶ The declining importance of central business districts and the dispersal of employment across space is well documented. In the last twenty-five years suburban development has accounted for over eighty percent of all new jobs and over eighty percent of all new office, industrial, and retail construction.⁴⁷ Commuters increasingly travel between suburbs avoiding the traditional central business district altogether.⁴⁸ In some cases businesses move to suburban concentrations, but more often economic activity is widely dispersed throughout the suburbs.⁴⁹ This dispersion has now bypassed even suburban centers.⁵⁰ Studies of job location repeatedly find that most jobs are located not only outside the central business district, but also outside of any suburban job centers.⁵¹ In the Washington D.C. metropolitan area, less than fifty percent of all jobs are located in the central business district and suburban job centers.⁵² The

by transit or by foot in a (sic) auto-dominated world. . . . [T]ransit was not considered in land development, planning and implementation decisions and is difficult to retrofit transit into a suburban environment."

⁴⁶ See *California Dreamin'*, *supra* note 42, at 18. See also Gordon & Richardson, *supra* note 18, at 98-99 (discussing the transition of Orange County, California from a bedroom community to an employment center and positing that this is as an example of a common trend nationwide). We acknowledge that the complementary nature of the automobile use and disperse settlement complicates determining whether people drive cars because they prefer (or are "trapped in") a disperse settlement form or whether they seek a disperse settlement form to accommodate a preference for automobile travel. In fact, a number of households likely fall into both groups.

⁴⁷ See HAYWARD, *supra* note 18, at 5. Nationwide, the percentage of office space located outside central cities rose from 24% to 50% from 1970 to 1984. See ROBERT CERVERO, CENTER FOR URBAN POLICY RESEARCH, THE STATE UNIV. OF N.J. AT RUTGERS, SUBURBAN GRIDLOCK 29 (1986).

⁴⁸ See HAYWARD, *supra* note 18, at 5. A 1980 estimate claims that over 40% of all commutes were suburb to suburb, with only 20% of commuters traveling to the central business district from the suburbs, likely understates the amount of between suburb commuting today. See CERVERO *supra* note 47, at 1.

⁴⁹ See CERVERO, *supra* note 47, at 1-12.

⁵⁰ See *California Dreamin'*, *supra* note 42 at 18; Robert Burke, *Reinventing Suburbia*, VA. BUS., Sept. 1998, at 85 (discussing anecdotally the move of businesses to distant suburbs of the Washington, D.C. metropolitan area). For an historical discussion of this trend, see generally Jackson, *supra* note 23.

⁵¹ See generally Alex Anas et al., *Urban Spatial Structure*, 36 J. ECON. LITERATURE 1426, 1442-43 (1998).

⁵² Employment centers were identified as contiguous transportation zones each with an employment density over ten persons per acre that collectively had employment of over 10,000. See generally BUREAU OF TRANSP. STATISTICS, U.S. DEP'T OF TRANSP., CENSUS

widespread dispersion of jobs is also indicated by the fact that eighty-three percent of the nearly 4000 transportation analysis zones⁵³ in the Washington, D.C. metropolitan area now have over five jobs.⁵⁴

The dispersal of housing, business, commercial, and cultural locations facilitates auto travel⁵⁵ and reduces (or at worst maintains) commuting times.⁵⁶ The travel flexibility offered by the auto in a landscape of separated uses is also valued when people use their cars for purposes other than commuting. A 1994 study in the Washington D.C. metropolitan area found that three-fourths of all car trips are personal trips, such as running errands.⁵⁷ These trips require the scheduling flexibility best provided by drive-alone auto travel.⁵⁸ However, of note is that this need for flexibility reinforces the use of automobiles in commuting, because people run errands during their commute to and from work. In a travel study of Boston area residents, Ben-Akiva and Bowman found that less than forty percent of people travel directly to and from work.⁵⁹ They instead run errands on the way to and from work or during the course of the day.⁶⁰ As a consequence, people choose to drive alone instead of using public transportation or car-pooling.⁶¹

TRANSPORTATION PLANNING PACKAGE: URBAN ELEMENT (1990) (visited Nov. 23, 1999). <<http://www.bts.gov/tmip/abstracts/Surveys-and-Data/00623059.html>>. These criteria were more relaxed than are sometimes applied in identifying employment centers. See, e.g., R. CERVERO & K. L. WU., POLYCENTRISM, COMMUTING AND RESIDENTIAL LOCATION IN THE SAN FRANCISCO BAY AREA 7, Inst. of Urban and Reg'l Dev., Univ. of Cal. At Berkeley Working Paper No. 640 (1997) (using more relaxed criteria for identifying employment subcenters, but describing a more stringent classification used in another study: employment density of at least 15 workers per acre, and total employment over 35,000).

⁵³ The average transportation analysis zone in the Washington D.C. metropolitan area is approximately 1.2 square miles (or slightly less than 800 acres). See BUREAU OF TRANSPORTATION STATISTICS, U.S. DEPT. OF TRANSP., *supra* note 52. The variation in size, however, is very large. The largest has an area greater than 62 square miles (or over 270,000 acres). The smallest zones are less than one acre. See *id.*

⁵⁴ See *id.*

⁵⁵ See CERVERO, *supra* note 47, at 13. See also Alice Reid, *Area's Changing Economy Takes Toll on Car-Pooling*, WASH. POST, May 18, 1998, at B1, B5 (discussing how the dispersal of jobs in suburban areas is a barrier to car-pooling).

⁵⁶ See HAYWARD, *supra* note 18, at 5.

⁵⁷ See METRO. WASH. COUNCIL OF GOV'TS, 1994 COG/TPB HOUSEHOLD TRAVEL SURVEY FOR THE METROPOLITAN WASHINGTON REGION, SUMMARY OF MAJOR FINDINGS (1998). This report can be purchased online at <<http://www.mwcog.org/ic/98601.html>>.

⁵⁸ See Reid, *supra* note 55, at 58.

⁵⁹ See Moshe Ben-Akiva & John L. Bowman, *Integration of an Activity-based Model System and a Residential Location Model*, 35 URB. STUD. 1131, 1136 (1998).

⁶⁰ See *id.*

⁶¹ See Alan Sipress, *Women Taking the Long Way Home*, WASH. POST, Mar. 3, 1999, at A1,

There are those who reject the argument that there is a preference for automobile travel. Instead, they attribute the choice to drive to the limited availability and poor design of public transportation (commonly referred to as "transit") alternatives.⁶² However, most transit systems in the U.S. have had difficulty attracting a substantial number of riders. A 1989 study of ten transit systems by the Department of Transportation found none of those systems had riderships that met their forecast and all but one had riderships of less than one-half of their forecast.⁶³ Because transit use is lowest where land uses are separated⁶⁴ a common recommendation is to increase

A8. See also Reid, *supra* note 55, at B5 (discussing the inflexibility of carpools and describing a trend of decreasing carpool use); Scott Bowles, *Sharing a Ride a Luxury to Some*, USA TODAY, Jan. 29, 1998, at 1A, 2A (discussing a trend of decreasing use of carpools in the U.S. and blaming the trend on low gasoline prices and Americans' desire for convenience).

⁶² See generally BEIMBORN ET AL., *supra* note 45 (providing comprehensive guidelines for land use patterns that are amenable to public transit use).

⁶³ See generally TRANSPORT SYSTEMS CENTER, U.S. DEP'T OF TRANSP., URBAN RAIL TRANSIT PROJECTS: FORECAST V. ACTUAL RIDERSHIP AND COSTS (1989). See also Gordon & Richardson, *supra* note 18, at 97-98 (describing the decline of the U.S. transit industry). An alternative measure of the appeal of transit is the effect of its availability on housing prices. There is anecdotal evidence that housing markets respond with development in areas surrounding new rail stations. See E.J. Dionne, Jr. 'Government Planning' that Kept Portland Green, WASH. POST, Mar. 21, 1997, at A27; David Salvesson, *Promoting Transit-Oriented Development*, URB. LAND, July 1996, at 31-35. Yet, in Washington, D.C. some transit served areas have been noted to have experienced little growth. See Glenn Frankel & Stephen C. Fehr, *Suburban Growth Drains Quality of Life Inside the Beltway*, WASH. POST, Mar. 25, 1997, at A11. Statistical evidence is also conflicting. Two studies of the Washington D.C. metro rail system have concluded that residential and retail property values rose as a result of the opening of Metro stations in the area. See David Damm et al., *Response of Urban Real Estate Values in Anticipation of the Washington Metro*, 14 J. TRANSP. ECON. & POL'Y 315, 387 (1980); Gail R. Grass, *The Estimation of Residential Property Values Around Transit Station Sites in Washington, D.C.*, 6 J. ECON. & FIN. 139, 145 (1992). A statistical study of housing values in Miami, however, showed that the introduction of metro rail into areas had little effect on the growth patterns or housing values. See Dean H. Gatzlaff & Marc T. Smith, *The Impact of the Miami Metrorail on the Value of Residences near Station Locations*, 69 LAND ECON. 54, 55 (1993). An absence of demand for public transportation is also suggested by the fact that almost all transit neighborhoods have lower median incomes suggesting transit oriented neighborhood design may be in lower demand. See Cervero & Gorham *supra* note 32, at 217.

⁶⁴ At least one observer has concluded, "there is no cost-effective way to build a transit system that serves beltway locations." Gibbs, *supra* note 41, at 56 (quoting Clay McShane, Professor, Northeastern University). See also John Pucher, *Urban Passenger Transport in the United States and Europe: A Comparative Analysis of Public Policies, Part 2*, 15 TRANSPORT REVIEWS 211, 214-15 (1995) (discussing the decline of mass transit ridership and the increase in subsidies since the 1940's).

residential densities and concentrate commercial development near transit stops.⁶⁵ The assumption is that if communities are compactly developed near transit people would leave their cars.⁶⁶ The empirical support for this assumption is weak.⁶⁷ One study of commuting habits found that isolated developments centered around transit stations in areas dominated by freeway oriented transportation are unlikely to change commuting habits.⁶⁸ In this study, Los Angeles' transit oriented neighborhoods with access to highways were found to have the same amount of car use as neighborhoods not served by transit.⁶⁹

Given the available evidence on automobile and transit preferences, we expect the overall demand for automobile use, and the travel flexibility provided by it, to accelerate as a response to changing demographic conditions.⁷⁰ Two and three worker households have increased the need for the automobile to access different workplaces.⁷¹ Working women in particular have been noted to take advantage of the flexibility offered by the automobile to accomplish workweek household tasks on the trip to and from

⁶⁵ See DOWNS, *supra* note 7, at 159. See generally BEIMBORN ET AL., *supra* note 45 (providing comprehensive guidelines for creating higher-density land use patterns that can be better served by public transit). For an example of this work, see generally MIDDLESEX SOMERSET MERCER REGIONAL COUNCIL, THE IMPACT OF VARIOUS LAND USE STRATEGIES ON SUBURBAN MOBILITY (1992). This was a simulation study that concluded that automobile use can be significantly reduced by promotion of high density, mixed use development in transit served areas.

⁶⁶ See generally CHESAPEAKE BAY FOUNDATION & ENVIRONMENTAL DEFENSE FUND, A NETWORK OF LIVABLE COMMUNITIES (1996) (evaluating the effects of alternative transportation and community design in the Washington, D.C. area).

⁶⁷ See WILLIAM FULTON, THE NEW URBANISM: HOPE OR HYPE FOR AMERICAN COMMUNITIES? 17 (1996). Another author argues that some drivers are attracted to transit travel times by auto decrease and this may stimulate auto use. See Randall Crane, *Cars and Drivers in the New Suburbs: Linking Access to Travel in Neo-traditional Planning*, 62 J. AM. PLAN. ASS'N 51, 52-53 (1996).

⁶⁸ See Cervero & Gorham, *supra* note 32, at 217.

⁶⁹ See *id.* at 220-21.

⁷⁰ Rising automobile use is not just a phenomenon of the United States. Other developed and developing countries are close behind. See, e.g., *California Dreamin'*, *supra* note 42, at 17 (discussing increasing automobile use in England and a number of large Asian cities); see also Mieszkowski & Mills, *supra* note 43, at 141-42 (making a general comparison of suburbanization trends in the U.S. to those in other nations); *Driving Britain off the Road*, ECONOMIST, Jan. 24, 1998, at 55-56 (discussing increasing automobile use in England); Qing Shen, *Urban Transportation in Shanghai, China: Problems and Planning Implications*, 21 INT'L J. URB. & REGIONAL RES. 590, 595 (1997) (describing a growing transportation crisis in Shanghai, China).

⁷¹ See CERVERO, *supra* note 47, at 12; *California Dreamin'*, *supra* note 42, at 4.

work.⁷² This reliance on the automobile will reinforce the demand to separate land uses in order to accommodate auto travel.

Some will reject our interpretation of the automobile's future role in our society and in influencing land settlement with the argument that the search for greater travel flexibility through increased automobile use will be self defeating when everyone's increased use breeds congestion and raises time spent in travel. In fact, the evidence does not support this argument. Low-density suburban settlement has resulted in greater vehicle miles traveled as average work commuting distances have increased,⁷³ but commuting times are lower as a result of road improvements and congestion reductions from the less dense settlement found in most suburbs.⁷⁴ One examination of the Washington, D.C. suburban area from 1968 to 1988 found that commuters now cover greater distance with more congestion but that commuting travel times have fallen.⁷⁵ In a study of the San Francisco Bay area, Cervero and Wu found that travel times to remote employment centers were thirty percent shorter than those to the central business district.⁷⁶ The decentralization of jobs reduces commutes by bringing workplaces closer to residents and by allowing access by car, which is faster than alternative modes.⁷⁷ Congestion on main arteries to the city center is also reduced by employment reductions in the center.⁷⁸ The dispersion of job and residence locations is minimizing commuting time even as commuting distance increases.⁷⁹

⁷² See generally Sipress, *supra* note 61 (citing the disproportionate number of commuter stops by females over males in the U.S.).

⁷³ See Lloyd W. Bookout, *Neotraditional Town Planning: Cars Pedestrians and Transit*, URB. LAND, Feb. 1992, at 10. See generally, e.g., Bank of America, *supra* note 10 (discussing growth in commuting time and distance in California). According to Bookout, vehicle miles traveled increased by 41%, and average commuting distance rose 25%, between 1983 and 1990. See Bookout, *supra*, at 10.

⁷⁴ See Gordon & Richardson, *supra* note 18, at 98. A future change from the car to slower modes, such as transit and walking, also runs counter to the historical trend that mobility rises with income. On average, across all cultures, the time allotted to travel is constant. As incomes rise, however, more is invested in transport increasing both speeds and distances traveled. See Gibbs, *supra* note 41.

⁷⁵ See David M. Levinson & Ajay Kumar, *The Rational Locator: Why Travel Times Have Remained Stable*, 60 J. AM. PLAN. ASS'N 319, 323-24, 328 (1994).

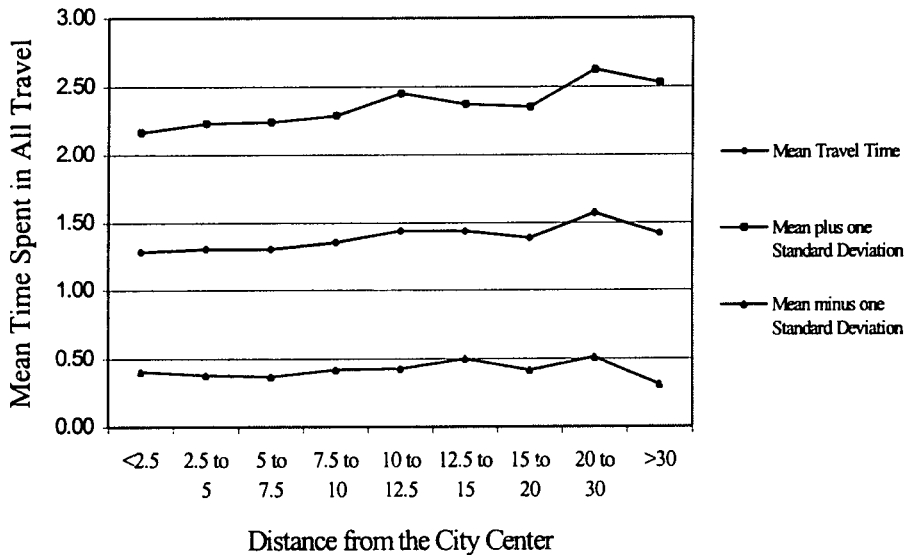
⁷⁶ See Cervero & Wu, *supra* note 52, at 25.

⁷⁷ See *id.* at 25-26.

⁷⁸ See Gordon & Richardson, *supra* note 18, at 98.

⁷⁹ See Levinson & Kumar, *supra* note 75, at 329-30. See generally Peter Gordon et al., *The Commuting Paradox: Evidence from the Top Twenty*, 57 J. AM. PLAN. ASS'N 416 (1991) (discussing decreasing commuting times in the top twenty Metropolitan Statistical Areas between 1980 and 1985).

Figure 1. Mean Time Spent in All Travel per person by Distance of the Household From the City Center (Washington, D.C.)



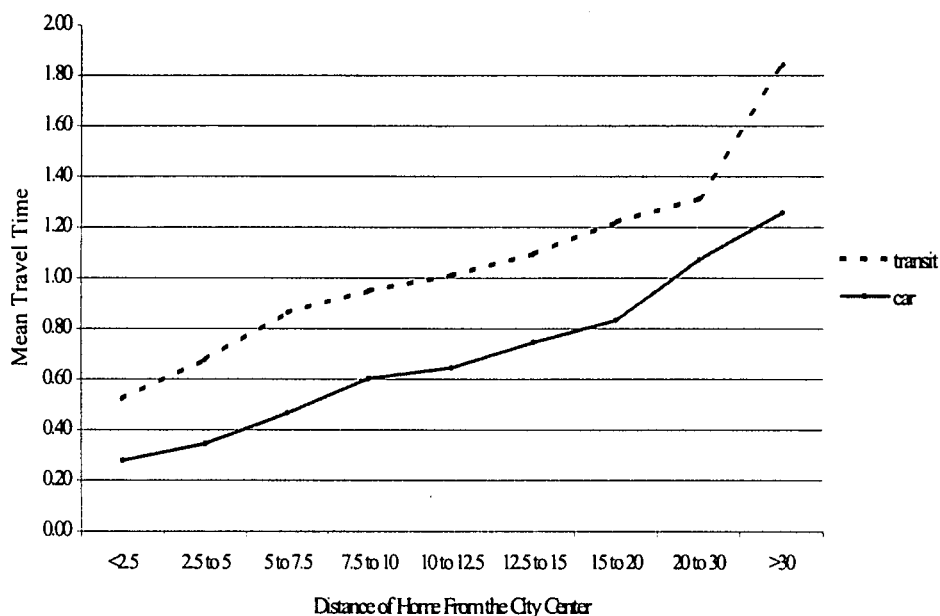
Beyond commuting, critics contend that the total time spent in transportation for all purposes rises as settlement disperses from a center.⁸⁰ However, our analysis of data from a recent Washington, D.C. metropolitan area transportation survey suggests that a household's distance from a traditional central business district has little effect on the time members of a household spend in travel (see Figure 1).⁸¹ We conclude that this provides strong evidence that automobile congestion is reduced by having employment and retail services follow residential housing into formerly remote areas.

⁸⁰ Gordon & Wong, *The Costs of Urban Sprawl: Some New Evidence*, 17 ENV'T & PLAN. ASS'N 661, 661-66 (1985) (available at Virginia Polytechnic Institute Library).

⁸¹ Figure 1 was generated using data from the 1994 COG/TPB Household Travel Survey. See generally METRO. WASH. COUNCIL OF GOV'TS, 1994 COG/TPB HOUSEHOLD TRAVEL SURVEY (1994) (visited Nov. 24, 1999) <<http://www.mwcoq.org/ic/98601.html>>. The survey solicited travel diaries from over 4000 households. See *id.* All household members over the age of five were asked to complete a single day travel diary. See *id.* Geocoding of household locations allowed households to be categorized by their distance from the Washington CBD. See *id.* The mean travel time per household and standard deviations from that mean were calculated for each household in each category distance where household travel was the sum of travel of all household members over the age of seventeen. See *id.*

A related argument made by critics of sprawl is that automobile travel is more time-inefficient than the use of public transit.⁸² However, as we noted above, even for those living in areas served by public transportation choosing the automobile as the primary means of travel is time-saving.⁸³ Our analysis found that in the Washington D.C. metropolitan area trips to destinations in the central business district from all locations are shorter by car than by public transportation (see Figure 2).⁸⁴

Figure 2. Mean Travel Times between Home and Central Business District Locations by Distance of Home from the City Center (Washington, D.C.)



⁸² See generally CHESAPEAKE BAY FOUNDATION & ENVIRONMENTAL DEFENSE FUND, *supra* note 66.

⁸³ See DOWNS, *supra* note 7, at 159.

⁸⁴ Figure 2 was generated using data from the 1994 COG/TPB Household Travel Survey. See generally 1994 TRAVEL SURVEY, *supra* note 81. All trips between the home and CBD locations were identified for all households in the survey. See *id.* Trips were categorized based on the distance of the home from the CBD. See *id.* The mean trip time was computed for each distance category for both automobile trips and transit trips. See *id.*

Other critics are disturbed that public policies seem to subsidize auto travel over other forms of transportation.⁸⁵ They argue that highway funding, subsidies to the petroleum industry, and the failure of auto use to pay for its negative externalities, such as air pollution, accidents, and congestion, foster auto dependent, low-density land use.⁸⁶ Zoning that requires retailers to maintain extensive parking areas and large setbacks and street widths are also argued to favor automobiles.⁸⁷ The critics call for higher gas taxes, road pricing and parking charges, as means of charging automobile users for the externalities they generate driving.⁸⁸

Whether a high gas price would induce people to leave their cars for transit is debatable.⁸⁹ For 1980 we estimated that an average household's

⁸⁵ See ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, FIRST OECD WORKSHOP ON INDIVIDUAL TRAVEL BEHAVIOUR: "VALUES, WELFARE AND QUALITY OF LIFE"—FINAL REPORT 7 (1996) (noting that some argue that those policies themselves are the product of democratic processes and have been implemented to reflect peoples' values).

⁸⁶ See *id.*

⁸⁷ See Rick Cole et al., *Building Livable Communities: New Strategies for Promoting Urban Infill*, URB. LAND, Sept. 1996, at 37-40; KUNSTLER, *supra* note 5, at 109-11; Rolf Pendall, *More on Compact Development*, 57 J. AM. PLAN. ASS'N 228, *passim* (1991). Cf. Richard W. Wilson, *Suburban Parking Requirements: A Tacit Policy for Automobile Use and Sprawl*, 61 J. AM. PLAN. ASS'N 29, 40 (1995) (describing suburban parking requirements and their effects on travel behavior, development density, development cost and urban design.)

⁸⁸ See Gordon & Richardson, *supra* note 18, at 96 (noting that some analysts believe that the subsidies to transit exceed those to auto use). See also Black, *supra* note 39, at 52 (questioning whether continuing suburban expansion should be limited in order to encourage revitalization of declining urban centers). As Downs has pointed out, "almost all public transit systems fail to cover either their capital or operating costs from the fares they charge." DOWNS, *supra*, note 7, at 130. See also John Pucher, *Urban Public Transport Subsidies in Western Europe and North America*, 42 TRANSP. Q. 377, 383-84 (1988) (finding that, since the 1970s, U.S. transit subsidies have exceeded those in most Western European nations both in terms of subsidy per passenger mile and as a percent of operating costs). Pucher found that the subsidy per passenger mile in the U.S. exceeded that of all Western European countries. See *id.* The subsidy as a percent of operating costs was found to exceed most Western European countries. See Gordon & Richardson, *supra* note 18, at 98 (noting that transit subsidies also appear to have had a minimal effect on the number of cars on the road as any increase in transit riders has merely come as a shift from other forms of public transportation).

⁸⁹ See Mark E. Hanson, *Automobile Subsidies and Land Use: Estimates and Policy Responses*, 58 J. AM. PLAN. ASS'N 60, 67 (1992). See also Kirstin Pauly, *Highways, Sprawl, and . . . How about a New Approach*, BAY J., Dec. 1992, at 13 (discussing alternatives to automobile transportation). Road user fees, gasoline taxes, and auto sales taxes are far lower in the U.S. than in Europe, but there is evidence that auto use is rapidly increasing in other nations even in the face of these costs. See Pucher, *supra* note 50, at 100.

total fuel expenditures, at gas prices of \$1.22 per gallon and for average vehicle miles traveled (VMT), were about eleven percent of personal disposable income. After adjusting for improved fuel efficiency since 1980 and for the increase in VMT, we calculate that at a gas price of \$5.72 per gallon, the average household's fuel cost burden would be no greater than in 1980, although such an increase is unlikely.⁹⁰ However, in 1980 vehicles miles traveled were increasing.⁹¹ From this we conclude that even a gas tax increase of around \$5.00 per gallon might have limited long term effect on travel choices.⁹²

In summary, our land settlement is continually adjusting to the demand for the automobile's promise of independence and flexibility. As First Lady Hillary Clinton said of a recent driving experience on a trip home to Arkansas, "I needed to run some errands. So, on a quiet Friday afternoon I jumped behind the wheel of a car and . . . drove around town. For several hours, I enjoyed a marvelous sensation of personal freedom."⁹³ We believe that because of this desire for travel independence and freedom, the challenge facing those concerned with sprawl is *not* how to get people out of their cars, because that will not happen. *Instead, the challenge will be how to accommodate automobile reliance while achieving more compact settlement*

⁹⁰ The amount of gas consumed was computed for both 1980 and 1996 by multiplying the average car fuel efficiency by the average vehicle miles traveled per person. The amount spent on gasoline per person for 1981 was calculated by multiplying the amount of gasoline consumed that year by the 1981 average gas price. This amount was divided by the average disposable personal income to obtain the percent of disposable income spent on gasoline (11%). Eleven percent of the 1996 average disposable income divided by the amount of gasoline consumed that year gives the price per gallon (\$5.72) that is necessary for gasoline to consume the same percent of personal disposable income as was consumed by gasoline in 1981.

Data sources for these calculations included U.S. CENSUS BUREAU, STATISTICAL ABSTRACT OF THE U.S.: 1998, tbls.2, 722, 772 (1998), available at <<http://www.census.gov/prod/3/98pubs/98statab/cc98stab.htm>> (population, income, and price data, respectively); FED. HIGHWAY ADMIN., U.S. DEPT OF TRANSP., HIGHWAY STATISTICS, SUMMARY TO 1995, tbl.MV-2 (1996), available at <<http://www.fhwa.dot.gov/ohim/1995/section2.htm>> (state motor-vehicle and motor-carrier tax receipts); FED. HIGHWAY ADMIN., U.S. DEPT. OF TRANSP., HIGHWAY STATISTICS 1996, tbl.NPTS-5 (1996), available at <<http://www.fha.dot.gov/ohim/1996/section8.htm>> [hereinafter FHA, 1996 STATISTICS] (vehicle miles traveled); and POLICY ANALYSIS AND STRATEGIC PLANNING DEP'T, AMERICAN PETROLEUM INSTITUTE, HOW MUCH WE PAY FOR GASOLINE: THE 1997 ANNUAL REVIEW (1998) (fuel cost per gallon and per mile driven).

⁹¹ See FHA, 1996 STATISTICS, *supra* note 90, at tbl.NPTS-5.

⁹² Also, escalating gas prices would accelerate research and development and then commercialization of vehicles using alternative fuels.

⁹³ JAMES D. JOHNSTON, DRIVING AMERICA 5 (1997) (quoting First Lady Hillary Clinton).

forms.

III. HOUSING PREFERENCES AND SETTLEMENT FORMS

Parents are concerned with the safety and security of their children. And most buyers perceive that a well-planned conventional subdivision with its cul-de-sacs and lightly traveled local streets is the preferred option for their children.

—Lloyd W. Bookout⁹⁴

[P]eople [who] work downtown . . . enjoy the arts, the restaurants, the downtown culture. As their kids grow up and move out, there's no reason for them to stay out in the suburbs.

—Susan Bradford⁹⁵

Downs argues that Americans consider the single family detached home on a spacious lot as the ideal residence.⁹⁶ He also argues that these ideal homes are separated from other land uses and can only be reached by the auto.⁹⁷ However, as a generality the conventional suburb appeals primarily to families with children.⁹⁸ These families believe that large lots,⁹⁹

⁹⁴ Lloyd W. Bookout, *The Future of High Density Housing*, URB. LAND, Sept. 1992, at 14, 18.

⁹⁵ Susan Bradford, *Neighborhood Renewal*, BUILDER, Mar. 1997, at 138.

⁹⁶ See DOWNS, *supra* note 7, at 6.

⁹⁷ See *id.* at 7. A central feature of the conventional suburban form is that all dwellings are detached. The strong preference for detached single family housing has contributed to the preference for the conventional over the cityscape and other attached housing. Three recent surveys all found that over 70% of home buyers prefer single family detached homes to townhouses, condominiums and apartments. See Bady, *supra* note 29, at 82; FANNIE MAE, 1996 NATIONAL HOUSING SURVEY 3 (1996). One of these surveys found that less than two percent of those choosing to live in attached housing reported that they were attracted to the housing type because of a preference for the "cluster lifestyle." See Bady, *supra* note 29, at 81. See also Ivonne Audirac et al., *Ideal Urban Form and Visions of the Good Life: Florida's Growth Management Dilemma* 56 J. AM. PLAN. ASS'N 470, 473 (1990) (critiquing Florida's urban development policy). The preference for such development has also been demonstrated statistically in a study which shows that land values on a per acre basis increase with parcel size, all other determinants being equal. See Gerrit J. Knaap, *The Price Effects of Urban Growth Boundaries in Metropolitan Portland, Oregon*, 61 LAND ECON. 26, 31 (1985). This study attempted to adjust for other factors such as neighborhood and house quality in reaching this conclusion.

⁹⁸ See Susan Bradford, *Detached Clusters*, BUILDER, Sept. 1994, at 136. See also Lloyd W. Bookout, *Neotraditional Town Planning: Toward a Blending of Design Approaches*, URB.

traffic reducing layouts¹⁰⁰ and socially homogeneous neighborhoods are a buffer against the perceived disamenities of higher density.¹⁰¹ Households also seek separation from undesirable commercial uses.¹⁰²

The search for affordability also will increase the movement toward conventional suburbs. Areas more distant from current development typically have the most affordable housing.¹⁰³ Meanwhile the supply of suburban residential land has been greatly expanded, and land prices controlled, by the move of businesses and employers to suburbs.¹⁰⁴ Lower land prices make it possible to lay out subdivisions in more land consuming ways that include cul-de-sacs to limit through traffic—a desired feature for households with children.¹⁰⁵

LAND, Aug. 1992, at 14 (polling critics and supporters of neotraditional town planning techniques and noting the lack of new vision in the techniques). Econometric support for the conclusion that families are the primary market for large lot development can be found in the Li and Brown study, which concluded that while housing prices are increasing in lot size, the rate of increase is higher with respect to increasing house size. *See generally* Mingche M. Li & H. James Brown, *Micro-Neighborhood Externalities and Hedonic Housing Prices*, 56 LAND ECON. 125 (1980).

⁹⁹ Surveys find that lot size is among the most important factors to families looking to purchase a house. *See, e.g.*, Bady, *supra* note 29, at 79.

¹⁰⁰ High traffic has been repeatedly demonstrated to lower housing values. *See* Darla Hatton MacDonald & Michele M. Veeman, *Valuing Housing Characteristics: A Case Study of Single Family Houses in Edmonton, Alberta*, 29 CANADIAN J. OF ECON. 510, 513-15 & tbl.1 (1996). *See also* William T Hughes, Jr. & C.F. Sirmans, *Traffic Externalities and Single Family House Prices*, 32 J. OF REGIONAL SCI. 487, 499 (1992) (noting the effects of traffic on new housing). Cul-de-sacs have been shown to generate a 20% price premium over a standard grid pattern. *See* Paul K. Asabere, *The Value of a Neighborhood Street with Reference to the Cul-de-Sac*, 3 J. REAL EST. FIN. & ECON. 185, 185-93 (1990).

¹⁰¹ *See* Mieszkowski & Mills, *supra* note 43, at 137-38; Bookout, *supra* note 98, at 17; Frankel & Fehr, *supra* note 63, at A1; David A. Varady, *Influences on the City-Suburban Choice: A Study of Cincinnati Homebuyers*, 56 J. AM. PLAN. ASS'N 32 *passim* (1990); Karl Zinsmeister, *Are Today's Suburbs Really Family-Friendly?*, *supra* note 5, at 36; Allan Carlson, *Two Cheers for the Suburbs*, AM. ENTERPRISE, Nov./Dec. 1996, at 34-35.

¹⁰² *See* Audirac et al., *supra* note 97 at 473. In a 1991 survey, less than ten percent of those interviewed reported proximity to shopping as a factor in their choice of housing. *See* Bady, *supra* note 30, at 79.

¹⁰³ *See* Bank of America, *supra* note 10; FANNIE MAE, *supra* note 97, at 8; Terry M. Neal & Todd Shields, *Maryland Looks to Regulate the Promised Land*, WASH. POST, Feb. 23, 1997, at A1.

¹⁰⁴ *See* HAYWARD, *supra* note 18, at 5-6.

¹⁰⁵ In a recent survey of factors important in home buying decisions, of those surveyed, 90% stated that low traffic, and 77% stated that cul-de-sacs, circles, and courts, were extremely or very important to their decision. *See* Brooke Warrick & Toni Alexander, *Looking For Hometown America*, URB. LAND, Feb. 1997, at 27. Thus, attempts to design simpler interlocking street layouts to increase pedestrian traffic may ultimately lower demand for

The demand for separation is increased as families with children also seek quality schools.¹⁰⁶ Studies have found, and analysts believe, that families with children elect housing in conventional low-density suburbs because of desire to move away from inadequate schools they often associate with high-density settings.¹⁰⁷ The importance of schools to house values has also been established statistically.¹⁰⁸

Suburbs with large lots, separated from higher density settlements and cities and isolated from traffic are viewed as havens of safety.¹⁰⁹ However, we have concluded that it is not high density alone that creates the sense of insecurity. Instead we argue that insecurity is associated with integration of socioeconomic classes—often associated with high density living arrangements. Therefore, a defining feature of conventional suburban communities—social homogeneity¹¹⁰—explains the attractiveness of such locations.¹¹¹ For security reasons, households with children will seek out the socially and culturally homogeneous neighborhoods found in remotely located conventional suburbs.¹¹²

However, what of the market segment of households without children and older homebuyers who have a preference for smaller homes on

housing in these developments if the designs are perceived to stimulate auto traffic. This raises the question of whether the creation of a sense of community through altering street layouts can effectively overcome the preference for separation from automobile traffic. See Stephen C. Fehr, *Cul-de-Sac Design Beginning to Hit a Dead End*, WASH. POST, Dec. 29, 1998, at A1, A8.

¹⁰⁶ See Warrick & Alexander, *supra* note 105, at 28 (discussing the factors considered in housing choices of today's homebuyers).

¹⁰⁷ See Varady, *supra* note 101, at 33. See generally Carlson, *supra* note 101, at 34 (discussing the growth of the suburbs in the U.S.).

¹⁰⁸ See Than Van Cao & Dennis C. Cory, *Mixed Land Uses, Land-Use Externalities and Residential Property Values: A Reevaluation*, 16 ANNALS REGIONAL SCI. 1, 6 (1981). See generally Frankel & Fehr, *supra* note 63 (describing the changes experienced in Hyattsville, Md.).

¹⁰⁹ See Bookout, *supra* note 98, at 17. See generally Varady, *supra* note 101 (analyzing the characteristics deemed most important in choosing between the city and the suburbs); Zinsmeister, *supra* note 5 (discussing whether the suburbs are the best choice for families).

¹¹⁰ See Audirac et al., *supra* note 97, at 473-74; Mieszkowski & Mills, *supra* note 43, at 137.

¹¹¹ This homogeneity can be achieved in higher density developments as well. For example, Chevy Chase, Maryland is a high-density area, but is a culturally and socially homogeneous area characterized by high residential housing prices.

¹¹² See Mieszkowski & Mills, *supra* note 43, at 137. One alternative to the security of low-density developments is to provide separation by gating communities. With the increased mobility that came with advancements in automobile travel, people were able to substitute distance for fencing. In recent years, gated communities have regained some of their appeal as homeowners' concern for their security has grown. See Warrick & Alexander, *supra* note 105, at 51.

smaller lots?¹¹³ Jeffrey Slavin, a California developer whose company specializes in dense, detached "clusters" notes that childless buyers account for sixty-five to eighty percent of sales of dense-detached housing.¹¹⁴ The loss of the buffer of large lots is said to be made up for by the sense of community created by the more compact development.¹¹⁵ A sense of security is fostered by creating a cohesive community.¹¹⁶ Some observers believe this practice has achieved its purpose as residents of townscape developments have expressed satisfaction with their development's community orientation.¹¹⁷

In fact, households without children are a market segment that may seek out more compact and contiguous settlements.¹¹⁸ Varady found that those living in the city tend to be college educated, without children and want easy access to work.¹¹⁹ The absence of families with children in the city has led one commentator to describe the more affluent inner city areas as "child free zones."¹²⁰ There is some evidence to suggest that these same

¹¹³ See John R. Gosling, *Addison Circle: New Urbanism*, URB. LAND, Mar. 1996, at 20; Dan McLeister, *Colors, Clusters: Soften Dense Detached Houses*, PROF. BUILDER, Mar. 1997, at 56; Susan Bady, *A Tale of Two Cities*, PROF. BUILDER, Mar. 1997, at 66; Anne O'Reilly, *Neotraditional Infill Attracts Singles and Young Families to Washington Neighborhoods*, PROF. BUILDER, Feb. 1997, at 70.

¹¹⁴ See Bradford, *supra* note 98, at 136.

¹¹⁵ Additional public spaces and green spaces are purported to make up for the loss of recreational opportunities on smaller lots.

¹¹⁶ Still, the appeal has its limits among a significant segment of the population. One survey found that 48% of respondents like the image of townscape development but wanted larger lots. Another 30% expressed a preference for low-density suburbs due in large part to the preference for large lots. See Warrick & Alexander, *supra* note 105, at 28.

¹¹⁷ See generally Langdon, *supra* note 32 (discussing the revitalization of the previously forgotten notion of "community" that has come with some neotraditional development). In trying to assess the appeal of dense developments, care should be taken not to put too great emphasis on public opinion.

¹¹⁸ In a recent survey the number of Americans stating a preference for single family detached homes dropped from 80% to just over 70%; however, the same survey reported that the majority of those choosing attached housing are from low to moderate income families. See FANNIE MAE, *supra* note 97, at 8. This does suggest that some of the expressed preference for attached housing may be resignation that attached housing is all the respondent could afford.

¹¹⁹ See Varady, *supra* note 101, at 27, 31-32.

¹²⁰ Carlson, *supra* note 101, at 35. These conclusions are consistent with the findings of a study of Paris, France that found that people residing in city chose to sacrifice housing choice to be close to shops, services, jobs, and cultural amenities of the city. Residents of outlying areas were found to put greater emphasis on home ownership, family life and having greater space and privacy. See Jacques Brun & Jeanne Fagnani, *Lifestyles and Locational Choices—Trade-offs and Compromises: A Case Study of Middle-Class Couples*

households, as well as those with children, would be attracted to mixed use development that enables people to walk to and from some commercial and retail establishments,¹²¹ because reduced road widths and grid patterns shorten walks to public and commercial spaces.¹²² Statistical studies have shown that housing prices are unaffected or improved by the presence of minor commercial uses¹²³ and the preference for mixed use is demonstrated by the criticism that new townscape communities lack commercial amenities.¹²⁴ For example, the greatest dissatisfaction of residents of Laguna West is with the slow development of the planned retail center.¹²⁵ Residents of Seaside townscape developments in Florida have also been frustrated by the failure of developers to follow through on much of the planned commercial development.¹²⁶

However, another lesson from the studies of residential preference is that security is a consistent concern of all homebuyers¹²⁷ and may be the most important factor in a housing choice.¹²⁸ This may diminish the interest in compact development if compact settlements are located contiguous to some areas of existing density often associated with urban disamenities. In that case, compact forms may be developed and marketed, but they may be

Living in the Ile-de-France Region, 31 URB. STUD. 921, 930 (1994).

¹²¹ See Warrick & Alexander, *supra* note 105, at 28.

¹²² See generally KUNSTLER, *supra* note 5, at 115-30 (discussing the importance of the street in the social fabric of the city, and also emphasizing how important it is that urbanites be able to walk to most of the places they need to go).

¹²³ See generally, e.g., Cao & Cory, *supra* note 108, at 1 (finding that residential values in Tucson, Arizona were positively impacted by increases in the amount of non-residential use in a neighborhood); David M. Grether & Peter Mieszkowski, *The Effects of Nonresidential Land Uses on the Prices of Adjacent Housing: Some Estimates of Proximity Effects*, 8 J. OF URB. ECON. 2 (1980) (finding no systematic effects of non-residential land use on housing values, and asserting that "minor commercial centers" do not harm property values in low-density apartment developments); Li & Brown, *supra* note 98 (finding that proximity to non-residential uses has benefits and costs).

¹²⁴ See, e.g., Michael Southworth, *Walkable Suburbs?*, 63 J. AM. PLAN. ASS'N 28, 42 (1997) (mentioning this complaint with respect to two neotraditional communities: Kentwood in Gaithersburg, Maryland and Laguna West in Sacramento, California).

¹²⁵ See *id.* See also *Neighborhoods Reborn*, *supra* note 6, at 26 (describing the incompleteness of a number of neotraditional communities and their isolation in seas of conventional developments).

¹²⁶ See KUNSTLER, *supra* note 5, at 151.

¹²⁷ See, e.g., FANNIE MAE, *supra* note 97, at 5 (finding that 78% of respondents say that owning a home contributes to their safety and security). See also Warrick & Alexander, *supra* note 105, at 51 (discussing homebuyers' rising fears over security).

¹²⁸ See, e.g., Bady, *supra* note 29, at 79 (surveying a group of American consumers and finding that 51% of respondents valued security as an attribute impacting their decision to buy a home).

located so that they are separated from existing areas of development and if that does occur then sprawl development patterns will persist.

For all the reasons discussed above, we suggest that the challenge facing those concerned with sprawl is *not* how to uniformly and universally alter household preferences for conventional suburban living, because that will not happen. *Instead the challenge will be to take advantage of predictable shifts in the demographic profile of the population growth to marginally change settlement patterns.*

IV. PLANNING, ZONING AND RATIONAL POLITICS

I have come to know that if we sell one house to a Negro family, then 90 or 95 percent of our white customers will not buy into the community. We can solve a housing problem, or we can try to solve a racial problem but we cannot combine the two.

—William Levitt¹²⁹

[S]uburban exclusion of the poor is rooted in a larger social problem whose dimensions transcend the realm of land use control.

—William A. Fischel¹³⁰

My tomatoes don't go to school.

—David Miskell¹³¹

Downs describes the ideal American community as one where the preferences of local citizens control land settlement and budgeting decisions.¹³² This has been achieved in many areas. Henry Richmond believes that present housing patterns and densities are “the result of individuals and municipalities acting in their own self interest” to assure that the “tilt of existing public policy”¹³³ favors low density housing and

¹²⁹ TOM LEWIS, DIVIDED HIGHWAYS: BUILDING THE INTERSTATE HIGHWAYS, TRANSFORMING AMERICAN LIFE 78 (1997) (quoting William Levitt, Townscape Developer).

¹³⁰ WILLIAM A. FISCHEL, THE ECONOMICS OF ZONING LAWS: A PROPERTY RIGHTS APPROACH TO AMERICAN LAND USE CONTROLS 336 (1985).

¹³¹ Richard Lacayo, *The Brawl Over Sprawl*, TIME, March 22, 1999, at 47 (quoting David Miskell, a tomato farmer in Shelburne, Vermont).

¹³² See DOWNS, *supra*, note 7, at 6.

¹³³ Peter Calthorpe, in ALTERNATIVES TO SPRAWL 1, 4-5 (Dwight Young ed., 1995). See

separation of uses.¹³⁴

Local zoning decisions are often motivated by cultural divisions. The desire to assure social exclusion as a buffer against educational or crime control policy failures in cities and close-in suburbs has historically created the demand for separation from those places.¹³⁵ Indeed, "many places . . . ensure uniformity by deliberately excluding households with incomes substantially below the average there."¹³⁶ Social prejudices may be reinforced by the fact that most homebuyers consider their purchase an investment as well as a place to live.¹³⁷ Most also believe that low-density housing is a safer investment likely to give a greater return on resale than high-density housing.¹³⁸ However, density will inevitably mix rental properties and multifamily residences into areas that are primarily owner occupied single family, detached housing. While studies are inconclusive about the effect of this mixing and socioeconomic integration on property values,¹³⁹ many citizens believe that this mixing will lower property values¹⁴⁰ and so seek to have it zoned out.

A municipality cannot legally discriminate on income or social factors or mandate that houses exceed a minimum price.¹⁴¹ Instead, large lot zoning or minimum building size requirements are put in place.¹⁴² The

generally Bradford, *supra* note 95 (discussing new methods of housing design); Reid Ewing, *Is Los Angeles-Style Sprawl Desirable?*, 63 J. AM. PLAN. ASS'N 107 (1997) (reviewing existing literature on the characteristics, causes, and costs of alternative development patterns). While the most frequently made argument is that policy has caused an increase in low-density housing, policy decisions have also been cited as increasing denser housing patterns. Growth controls in particular may increase the amount of housing in dense developments. In Portland, Oregon the number of row houses has surged since the inception of a growth control law that prohibits development outside a designated city boundary. See Dionne, *supra* note 63, at A27.

¹³⁴ See Lloyd W. Bookout, *Neotraditional Town Planning: Bucking Conventional Codes and Standards*, URB. LAND, April 1992, at 21.

¹³⁵ See Mieszkowski & Mills, *supra* note 43, at 137. Many of the early suburbs were designed to intentionally exclude all but upper middle class residents. See JACKSON, *supra* note 23, at 78.

¹³⁶ DOWNS, *supra* note 7, at 22.

¹³⁷ See Calthorpe, *supra* note 133, at 15; FANNIE MAE, *supra* note 97, at 14.

¹³⁸ See Calthorpe, *supra* note 133, at 15.

¹³⁹ See generally, e.g., Ko Wang et al., *The Impact of Rental Properties on the Value of Single Family Residences*, 30 J. URB. ECON. 152 (1991) (testing the hypothesis that proximity to rental properties decreases the value of owned homes; finding that the presence of rental housing has a small negative effect on the value of housing).

¹⁴⁰ See, e.g., *id.* at 152-53 (discussing a class-action lawsuit filed by homeowners against a developer who had built rental units on his property nearby).

¹⁴¹ See *Shelley v. Kraemer*, 334 U.S. 1, 1-2 (1948).

¹⁴² See generally FISCHER, *supra* note 130.

justification often given is to protect the environment or to match service availability to the population,¹⁴³ but the root cause of these zoning rules may be more suspicious.¹⁴⁴ What is relevant here is that the tools available for exclusion are land consuming.

This exclusionary behavior is not just a suburban phenomenon. In the early 1970s the Rouse Corporation proposed a development on Wye Island, in Kent County, Maryland.¹⁴⁵ Wye Island was an area of several hundred acres of wetlands, farms, and forest. The Rouse Corporation proposed a project of clustered homes and businesses to protect open lands and wetlands, even as a great number of people would be housed. The developer's effort to put a compact development on Wye Island never was realized. In his book describing that land use decision, Gibbons reported how the development concept was opposed because of the fear that the density would bring social heterogeneity to the community.¹⁴⁶

Where legal and constitutional constraints have prevented exclusionary zoning, private homeowner associations and restrictive covenants have filled the void. Prior to the U.S. Supreme Court barring the enforcement of restrictive racial covenants in *Shelley v. Kraemer*, homeowners and developers, with the explicit support of the Federal Housing Administration, prevented blacks from moving into their neighborhoods.¹⁴⁷ Since that decision, these covenants and homeowner associations have been relied upon to maintain property values by establishing neighborhood standards that maintain exclusive communities isolated from the social externalities of urban life.¹⁴⁸ In 1990, 130,000 of

¹⁴³ See Lyndsey Layton, *Sewer Bans Become a Weapon in the War on Sprawl*, WASH. POST, Feb. 22, 1999, at A1, A8.

¹⁴⁴ The social concerns that motivate local zoning behaviors also affect national policies and can support the creation and protection of the low-density conventional suburb. In 1996, a program to provide the poor with housing vouchers for rent in a location of their choice received support from both Republican Senator Bob Dole and the Democratic Secretary of Housing and Urban Development, Henry Cisneros. See Nina Burleigh, *The Suburbs Won't Vouch for This*, TIME THIS WEEK . . . , May 13, 1996 (visited Nov. 22, 1999) <<http://www.cnn.com/allpolitics/1996/analysis/time/9605/13/burleigh.shtml>>. With support from such diverse interests, one might expect the proposal to be successfully adopted. The measure, however, met fierce opposition from those that believed that the program may lead poor, mostly black, public housing residents to find housing in the mostly white, middle class suburbs. See *id.*

¹⁴⁵ See generally GIBBONS, *supra* note 1 (discussing the proposed development of Wye Island).

¹⁴⁶ See *id.* at 144.

¹⁴⁷ See *id.* at 56-75.

¹⁴⁸ See *id.* at 79-105. Initially, homeowner associations were touted as tool for developing neotraditional towns; however, this movement was largely unsuccessful, instead resulting in

these associations governed 11.6 million, or eleven percent, of all housing units in the United States.¹⁴⁹

At times exclusionary zoning may be motivated by the reliance on the property tax as a primary revenue source for municipal government.¹⁵⁰ When there is overall growth in an area, *whether compact or conventional suburbs*, local communities are concerned that costs to service the new growth may exceed property tax receipts from that growth. In many areas the perception (whether correct or not) is that property tax revenues from commercial and high-priced residential property, which usually is felt to be large homes on large lots, exceed the local cost of providing schooling services to those properties.¹⁵¹ Conversely, property tax revenues are expected to be less than the local cost of services for most other residential property, usually higher density housing.¹⁵² In areas where this belief is strongly held, there is every reason to expect that the poor and higher density residential development will be zoned out of communities (for example, by large lot requirements). The fear of public costs (primarily the costs of schools and roads) exceeding public revenues has led to opposition of recent plans for two large-scale townscape developments in the Washington D.C. metropolitan area.¹⁵³ New housing units should not be expected to disappear from these areas, but will instead be scattered more widely over the regional landscape; in effect, by seeking to avoid the "costs of growth," local land use decisions foster sprawl.¹⁵⁴ Two decades ago, Gibbon reported the logic

exclusive communities for commuters.

¹⁴⁹ The number of these organizations is expected to reach 225,000 by the year 2000. See EVAN MCKENZIE, *PRIVATOPIA* 11 (1994).

¹⁵⁰ See Mieszkowski & Mills, *supra* note 43, at 137.

¹⁵¹ The motivation of avoiding school costs is obvious given public officials' statements that the commercial development is welcome, just not the houses. See Justin Blum, *Spotsylvania Plan Stirs Concerns About Sprawl*, WASH. POST, Mar. 6, 1999, at B2. See also Jackie Spinner, *Pr. George's Rethinking Zoning Law*, WASH. POST, Apr. 25, 1999, at C1, C4 (discussing Prince George's County's reassessment of its zoning laws).

¹⁵² See Blum, *supra* note 151, at B2.

¹⁵³ See *id.*

¹⁵⁴ Another effect of the reliance on the property tax is that the search to increase the tax receipts from the land base encourages communities to zone more land for development than is likely to be developed in the foreseeable future. Once large areas are zoned for development housing and commercial development can spread over the landscape mitigating other programs that might seek to assure compact and contiguous development. Local policies other than zoning are influenced by fiscal concerns but also can foster sprawl. For example, adequate public facilities ordinances (APFOs) that limit growth to the "capacity" of service infrastructure are intended to match property tax receipts to fiscal costs, but serve to shift growth to other areas; APFOs can be a growth management tool that fosters sprawl.

of one opponent of the Rouse Wye Island project:

Blakely did not approve of one-acre lots and the canals because he felt that they would attract too many people and too many boats. But five-acre parcels he could accept: you get "the right kind of people"—and not too many—with five-acre lots, he said. That's good land planning. What Blakely disliked was cluster housing. Like Rouse's Wye Island village. To Carl Blakely, cluster housing meant younger people crowding into marinas and families with kids in school, and that implied more taxes for schools and fire protection and police and all that. "If a fellow has five acres, there is just so much land in the county, and the protection to us is that we can know absolutely how many people there will be," he said. Blakely has nothing against people with children, but he wants to see them on five acres and in single-family houses. Not in cluster dwellings.¹⁵⁵

These same arguments persist today. In the name of preventing sprawl, homeowners have banded together in Dunkirk, a municipality in Calvert County outside of Washington, D.C., to prevent the approval of new sewer lines.¹⁵⁶ Homeowners featured in a news article live in a new home on a 4.5-acre lot at the end of a cul-de-sac.¹⁵⁷ Limiting sewer line extensions will ensure that dense housing and commercial development cannot occur since all properties must be served by septic systems. Those opposing the sewer lines state their goals simply as good schools, low crime, and green space.¹⁵⁸ While residents of the area believe they are preventing sprawl, they are in fact promoting what we have defined as sprawl—land consuming development.

Earlier we argued that many households seek residences in the conventional suburbs to avoid the problems associated with the density and social heterogeneity of the cities. In this section we argued that once they establish themselves in suburban housing it is a rational political response to support public policies that preserve this exclusionary landscape. Therefore, *the challenge facing those concerned with sprawl is how to get*

¹⁵⁵ GIBBONS, *supra* note 1, at 140 (quoting Carl Blakely, homeowner).

¹⁵⁶ See generally Layton, *supra* note 143 (describing a political battle over whether to introduce sewage facilities into Dunkirk, Maryland, which would thereby invite development of that municipality).

¹⁵⁷ See *id.* at A1.

¹⁵⁸ See *id.*

municipalities to adjust their zoning and budgeting practices to create a hospitable environment for compact and contiguous settlement. The challenge will be to secure changes in public financing of services and public attitudes toward social heterogeneity to alter incentives for exclusionary zoning.

V. CONCLUSIONS AND IMPLICATIONS FOR PUBLIC POLICY

In the introduction we noted the assertions that environmental, fiscal and social consequences of sprawl call for a shift to compact and contiguous settlement forms. Throughout this paper we argued that even if many of the alleged evils of sprawl were documented, there are significant challenges facing those who wish to promote policies that will shift new growth toward compact and contiguous settlement. To meet these challenges will require thinking beyond the current clichés about sprawl—such as the need to shift people from their cars to transit—and developing policies that work with rather than against the major forces that are currently resulting in sprawl development.

The most acceptable land settlement forms will be automobile oriented. Therefore advocates for townscapes must rethink designs that include narrow streets and limited parking that will not adequately accommodate the car. While including a variety of amenities, such as shops, movie theatres, and small parks, that are accessible on foot may increase the preference for townscapes, the design will have greater appeal if these amenities are complemented with easier auto accessibility. Since most people will continue to drive to work locations and major shopping locations, compact development should provide convenient parking for residents and easy entrance to and exit from the development from major thoroughfares. For example, three major compact developments in the Washington, D.C. area—Kentlands and Columbia in Maryland and Reston in Virginia—all have been forced to review retail and community center designs for how well they accommodate automobiles.¹⁵⁹

Compact land settlements and residential designs for development tracts could accommodate the auto. However, traffic congestion will continue to arise in newly developed areas. We have argued that sprawl cures congestion by dispersing business, commercial, and cultural activity

¹⁵⁹ See Scott Wilson, *Utopia in the '90s Comes with More Parking*, WASH. POST, Nov. 16, 1997, at B5. Similar problems have occurred in the neotraditional development of Seaside where people's affinity for cars has already led to congestion problems that have compelled the local government to restrict automobile access to residents and their guests. See Frank Clayton, *Seaside Revisited*, URB. LAND, Oct. 1992, at 6.

across the landscape. Therefore, if local congestion is ignored as areas become congested, we will leapfrog activities into undeveloped areas. This cause of sprawl may be mitigated if congestion is anticipated and then addressed by a technically sound approach to road design and layout. Well-planned roads that minimize congestion within existing and newly developed areas may reduce the incentive to extend development outside those areas to reduce congestion. A recent proposal from Vice President Gore includes funding for a new hot line that provides road condition information and benefits to employers to provide employee parking.¹⁶⁰ We are not sure of the logic behind this proposal, but if implemented it would reduce the time costs of auto travel in developed areas and perhaps reduce the incentive to spread out on the landscape. To avoid the risk that improved auto mobility will encourage development of new areas, any new road extensions might be limited access so that nodes will develop only around a few points.

There also are non-road alternatives that accommodate the need for travel flexibility and reduce congestion. We believe that "flex time" work opportunities may make better use of road capacity and may reduce congestion; that on-demand van services as a "mass transit" alternative might offer travel flexibility, attract some use, and reduce congestion. More traditional transit options might also be included in the mix. However, if transit is developed it should be constructed after the compact development that will support ridership is in place. A more proactive approach to transit would be to establish a community development strategy that would invest in transit only in combination with zoning, tax, and public investment strategies that will lead to compact development near transit stops. Whatever transit investment approach is taken, planners should not expect that simply providing transit will encourage density at transit stops or reduce auto travel by every household that lives near a transit stop.

The demand for travel flexibility through use of the auto is only one of the causes of sprawling land settlement. In this paper, we also argued that the privacy offered by large lot and separated settlement, the search for quality schools and the need for a sense of community security have fostered the demand for conventional suburban development. Few families with children have given up single family detached housing in favor of multifamily design.¹⁶¹ Developers correctly believe that continuing to build

¹⁶⁰ See *Gore Unveils Initiatives to Ease Traffic*, WASH. POST, Mar. 9, 1999, at A8.

¹⁶¹ See Johannes Van Tilburg, *Living Above the Store, L.A.-Style*, URB. LAND, Oct. 1992, at 66-72. While some traditional families have shown an interest in this development form, see, e.g., Jennifer Lenhart, *Residents Say Eastern Loudoun's New Towns are Growing on Them*, WASH. POST, Nov. 16, 1997, at B1, B5 (discussing the success of compact

low residential density housing is a logical response to a significant segment of the residential housing market.¹⁶² For these reasons, proponents of alternative development forms will be disappointed if they believe that there will be a significant shift in social preferences toward compact and contiguous development. Nonetheless, reasonable and attainable goals for compact, contiguous development in each area might be established once there is a consideration of the different market segments that favor different housing forms.

The number of young, single people entering the housing market for the first time and the number of older homebuyers looking to move out of large homes they bought for their child rearing years are on the rise.¹⁶³ This segment of the population offers an opportunity to increase the households locating in compact development. Success in carefully designing and then encouraging such development might attract a limited number of households with children as well.¹⁶⁴ For example, some of those who seek privacy often associated with large lots might be satisfied by privacy enhancing design, such as fencing, landscaping, and layout modifications, for small lots, retention of open space, and by keeping clusters and developments small.¹⁶⁵ Fenced yards and street access parking in denser developments often instill a feeling of security in residences, making up for the perceived loss of security that comes from having "uncontrolled open space" in the inner city.¹⁶⁶ However, these site design techniques are at times limited by institutional biases.¹⁶⁷ Compact development is often hampered by lot size, setback and

developments in suburban Washington, D.C. in attracting homebuyers looking for a community in which to raise a family), we believe that much of its appeal will remain with other groups.

¹⁶² See Lloyd W. Bookout, *Neotraditional Town Planning: The Test of the Marketplace*, URB. LAND, June 1992, at 12; Neal R. Pierce, *If Homebuyers Had a Choice . . .*, ROANOKE TIMES, Apr. 3, 1996, at A11. For example, Thomas S. Bozzuto, a developer in suburban Washington, D.C. says of his company's large lot developments, "[w]e build where people want to live. We are not leaders; we are followers." Neal & Shields, *supra* note 103, at A1.

¹⁶³ See Lew Sichelman, *Demographics Favor Apartments . . . and Bigger Houses*, URB. LAND, Sept. 1997, at 18. Whether this generation will have the same preference for low-density settlements as their parents cannot be determined.

¹⁶⁴ One possibility is that as older homebuyers move to denser and perhaps more central settings they will release a supply of existing conventional suburban housing to the market. If these houses are maintained in sound condition and if they are in neighborhoods that remain attractive to households with children, then these older homes will be a substitute for new suburbs and may reduce the overall demand for conventional development.

¹⁶⁵ See Bradford, *supra* note 98.

¹⁶⁶ See Richard W. Huffman, *A New Look at Inner-City Housing*, URB. LAND, Jan. 1997, at 42.

¹⁶⁷ See generally William A. Winburn, IV, *The Development Realities of Traditional Town*

street width requirements, mandatory parking provisions, and the required separation of uses.¹⁶⁸ Some areas, like Loudon County, Virginia, have responded to pressure for zoning changes by amending their ordinances to favor compact development.¹⁶⁹ These changes are relatively recent, however, so it is premature to judge their effect.¹⁷⁰ The privacy of compact development might also be enhanced by the reservation of common open space.¹⁷¹ Both surveys,¹⁷² and econometric studies,¹⁷³ demonstrate a

Design, URB. LAND, Aug. 1992, at 20-21, 47 (blaming a lack of development of traditional neighborhoods on bureaucratic red tape). Some commentators believe that developers stand to gain by producing high-density developments. They believe that substantial gains may be realized though cost savings of developing at higher densities. Higher-density development is argued to save on excavation, landscaping, paving, and water and sewer service. These assertions, however, run counter to the experiences of some developers.

Jeffrey Slavin believes that to sustain appeal for dense design requires greater expense on design and detailing. Landscaping must also be more intense to "disguise the density." Bradford, *supra* note 95. This sentiment is echoed by architect Mark Humphreys, who believes that to sell clusters it is necessary to put "twice the landscaping on half the lot." *Id.*

Slavin also believes that more must be spent on paving materials, curbs, and gutters as the courtyards used to make dense housing attractive also form basins for rainwater. Drains must be larger in clusters as more water collects, and that water must be transported greater distances out of the cluster. *See id.* Thus, while concentrating housing in dense patterns may appear to save on development costs as less space is developed, to maintain appeal seems to require greater expenditures on design and construction. *See id.*

¹⁶⁸ *See generally* Bookout, *supra* note 134 (asserting that traditional regulatory devices have hampered neotraditionalist development and espousing a laissez-faire approach to land regulation, or at least an approach that accounts for neotraditionalist development through flexibility).

¹⁶⁹ *See id.* at 20.

¹⁷⁰ Institutional biases against compact, contiguous development do not stop with government. Lenders are said to scrutinize mixed-use development more closely than developments that separate uses, as that market is still unproven. *See id.* at 24. *See also* Edward H. Starkie & Bonnie Gee Yosick, *Overcoming Obstacles to Smart Development*, LAND LINES, July 1996, at 1-2 (highlighting Oregon's legislatively mandated "Smart Development" program and discussing the problems that programs like this one have obtaining financing). Retailers have been reluctant to move into mixed-use commercial space, as much of that sector wants standard designs with greater exposure and parking. *See id.*

¹⁷¹ *See* Arthur C. Nelson, *A Unifying View of Greenbelt Influences on Regional Land Values and Implications for Regional Planning Policy*, GROWTH & CHANGE, April 1985, at 44. *See generally* Mark R. Correll et al., *The Effects of Greenbelts on Residential Property Values: Some Findings on the Political Economy of Open Space*, 54 LAND ECON. 207 (describing greenbelts as quasi-public goods and asserting that homeowners living in close proximity to such areas enjoy disproportionate benefits) (1978).

¹⁷² *See, e.g.,* Warrick & Alexander, *supra* note 105, at 28 (indicating that natural or open space is considered by 77% of homeowners to be "very" or "extremely" important).

¹⁷³ *See generally, e.g.,* Nelson, *supra* note 171, at 43-48 (finding higher real estate prices

preference for housing patterns that preserve common green space and open space.¹⁷⁴ However, developments preserving adjacent open space might work against the goal of *contiguous* development. If compact forms are dispersed so that open space can be retained the reduction of land consumption realized through compactness of the tract development may be lost at the regional scale.

Compact development must also be contiguous to existing development if sprawl is to diminish. Demographic shifts that suggest an increased interest in compact development may also cause a shift in the demand for infill housing in areas of urban revitalization. By infill we mean purchase of vacant lots, underused commercial space, or lots occupied by low-density declining residences. The area is cleared and the land redeveloped with compact housing intermixed with some commercial activity. Developers of infill believe that there is a new but underserved market for infill among singles and childless couples unlikely to be concerned about school quality when making a location choice.¹⁷⁵ These

near greenbelts); A. Quang Do & Gary Grudnitski, *Golf Courses and Residential Housing Prices: An Empirical Examination*, 10 J. REAL EST. FIN. AND ECON. 261 (1995) (examining the empirical effects on the selling price of single-family residences abutting golf courses and finding that golf courses are positive externalities); Notie H. Landsford & Lonnie L. Jones, *Recreational and Aesthetic Value of Water Using Hedonic Price Analysis*, 20 J. AGRIC. & RESOURCE ECON. 341 (1995) (demonstrating the positive impact on housing prices of nearby golf courses and water amenities, respectively).

¹⁷⁴ The preference for green space has been suggested to exceed the preference for low-density, as areas settled with dense clusters with preserved green space have experienced higher appreciation rates than those settled with less dense suburban lots. See, e.g., JEFF LACY, AN EXAMINATION OF MARKET APPRECIATION FOR CLUSTER HOUSING WITH PERMANENT OPEN SPACE (1990), available at <<http://www-unix.oit.umass.edu/~ruralma/lacymarket.html>> (finding that in two areas of Massachusetts—Concord and Amherst—there was greater real estate appreciation in clustered development with designated open space than in large-lot development).

¹⁷⁵ Sherm Harmer, a San Diego developer “‘believe[s] that in California, builders are going to have to aggressively look for infill opportunities. Because to continue to build in the suburbs is part of the answer, but not the whole answer.’” Bady, *supra* note 113 (quoting Sherm Harmer, Senior Vice President and San Diego Division Manager, Centre City Development Corp.). A Tucson developer concurs with this assessment, believing that half of all new development in that area will be infill. See McLeister, *supra* note 113. Chicago developer Dan McLean said, “infills typically sell faster at higher prices and greater profits, than projects out on the suburban fringe.” Bradford, *supra* note 95, at 130. Some developers also believe that infill overcomes a major obstacle to remote townscapes, the need to construct an entire community. As Minneapolis developer Robert E. Engstrom has pointed out, “[i]t’s just easier to infill or to add to an existing town than it is to start from scratch.” Bookout, *supra* note 98, at 18 (quoting Robert E. Engstrom, President, Robert E. Engstrom Companies).

childless households may choose to live closer to jobs, stores, and social and cultural centers.¹⁷⁶ However, infill development has confronted institutional obstacles, including local regulations that require more parking spaces than can be made available in urban areas, single use requirements as well as differences in residential and commercial codes.¹⁷⁷ Federal mortgage and lending policies favor new construction over rehabilitation of existing structures.¹⁷⁸ In fact, it might be argued that existing regulations are the greatest impediment to infill projects.¹⁷⁹

Even among this demographic group of childless households there may be cultural barriers to infill development. Infill in the urban areas is by definition going to mix socio-economic classes. As we noted earlier in the paper, this mixing runs counter to a primary catalyst for the historical development of suburbs. Market evidence from new town development suggests that mixing of socioeconomic groups is not widely desired.¹⁸⁰ In the extreme, Seaside, a townscape community in Florida, is often described as an exclusive tourist area for the upper class rather than a community that sustains a cross section of socioeconomic classes.¹⁸¹ Laguna West accommodates few low-income residents as it contains no apartments.¹⁸² The developer of a townscape community in Arkansas omitted low income housing from his development for fear that it would scare off buyers. He explains that his is "affordable housing, not cheap housing."¹⁸³ He believes

¹⁷⁶ Changes in the ethnic make up of our society may also change preferences for settlement forms. Yet, little study of the impact of ethnic groups on housing choices has been undertaken making that influence difficult to predict.

¹⁷⁷ See KUNSTLER, *supra* note 5, at 109-15. See generally Van Tilburg, *supra* note 161 (advocating vertical mixed use and discussing attempts in some parts of the Los Angeles area to reform traditional zoning ordinances so as to allow some vertical mixed use).

¹⁷⁸ See Richard Moe, *Drowning in Sprawl*, WASH. POST, Apr. 20, 1997, at C8.

¹⁷⁹ See KUNSTLER, *supra* note 5, at 109-10.

¹⁸⁰ See Benjamin Forgey, *A Breath of That Old Town Atmosphere*, WASH. POST, Mar. 13, 1999, at C5.

¹⁸¹ See KUNSTLER, *supra* note 5, at 150-52.

¹⁸² See *Neighborhoods Reborn*, *supra* note 6, at 26.

¹⁸³ Anne O'Reilly, *Vision, Teamwork Create Neotraditional Houses on Past Family Farm*, PROF. BUILDER, Mar. 1997, at 72 (quoting Victor Mirontschuk, President, EDI Architecture, Inc.). The market addressed by these communities is argued by some to be the norm for townscape developments. They believe that the townscape design has limited appeal and will serve mainly a "boutique" market. Experience to date is that people are willing to pay a premium to live in townscape developments and established traditional neighborhoods. See Layton, *supra* note 143. This view is supported by the experiences at Laguna West and Harbortown, the townscape development on an island in Memphis. Both developments are said to have drawn a premium over suburban housing in the area. Buyers are said to have willingly paid the premium and actually prefer living in the developments.

that it is important that "[r]ight at the core of the community, it has to feel like quality. If you are going to your \$500,000 house you have to drive by that."¹⁸⁴ For this reason, compact infill development may be a limited market. To avoid socioeconomic heterogeneity new communities may be located in areas remote from existing development. There are other reasons new compact development may not be contiguous to other development. If compact developments are located away from now developed areas the residences may be more affordable for single family housing and so may substitute for conventional suburban development, even for households with children. Also, more remote compact development will promise the possibility of better schools and greater security, even if there is high density at the site of the development.¹⁸⁵

Those who advocate compact, contiguous development and wish to limit the use of land for separation must make clear that growth need not be sprawl. We have explained why growth that is compact and contiguous, even if there is a market for such settlement, remains anathema to many local jurisdictions. We noted how growth that is proposed as high density causes local governments to respond with exclusionary regulations with the result being sprawl development. At the policy level, one action that might remove the incentive for such exclusionary actions would be to reduce the local reliance on real property taxes as a revenue source. Reducing municipal governments' reliance on the property tax (or changing the financial responsibility for provision of some local services) may mitigate the rational zoning behavior described earlier in the paper. In Michigan, a major tax reform has been put in place that will replace the local property tax and local funding for schools with a statewide sales and income tax alternative.¹⁸⁶ Much of the interest in this change has been about how it will affect educational opportunity for the children of Michigan.¹⁸⁷ The effects of this policy change on local zoning decisions may also bear watching.

Of course, even fiscal reforms will not address the long-standing American aversion to urban density and to the association of that density with degraded schools and public safety. Meanwhile, divisions of class, race, and culture will continue to cause us to rely on land and distance as the

¹⁸⁴ O'Reilly, *supra* note 183, at 72 (quoting Victor Mirontschuk, President, EDI Architecture, Inc.). House prices in this development start at close to \$100,000. *See id.* at 71.

¹⁸⁵ *See* Fogery, *supra* note 180, at C5.

¹⁸⁶ *See* D. Van Biema, *The Great Tax Switch*, TIME, Mar. 28, 1994, at 31. *See also* D. Green, *Engler's Angle*, REASON, Aug./Sept. 1994, at 28-34 (discussing new tax policy in Michigan).

¹⁸⁷ *See id.*

ultimate means of exclusion.¹⁸⁸ Our news media daily include stories about our national fears of social heterogeneity in high density areas, about the many competing ideas on ways to improve schools in the higher density neighborhoods, and the ongoing public debates over means to reduce crime in urban areas. The variety of arguments and the constant attention to these topics are evidence that there is no obvious path to follow. All we can suggest is that those who are concerned about sprawl development must address "the fear of density" because this is a powerful force leading to the sprawling land settlement pattern.¹⁸⁹

This leads us to our most general conclusion: households and communities are more concerned about growth with density than they are about sprawl, as we have defined sprawl. In fact, sprawl (use of land to separate) benefits an autocentric society, benefits households with children, reduces the cost burden of public services in communities and assures social homogeneity of communities. The challenge to sprawl's critics will be to build acceptance for compactness and contiguity. However, those critics often perpetuate the fear of density. For example, they use pictures and create word images that result in negative attitudes toward growth with density.¹⁹⁰ If it is low-density development they oppose, then why would they use photos of unaesthetic dense development as part of an anti-sprawl

¹⁸⁸ See GIBBONS, *supra* note 1.

¹⁸⁹ Of course the above thoughts on the future of settlement are no more than informed (we hope) speculation. Predicting future housing demand as a response to demographic change is an imprecise art at best. For example, the demographic shift toward the two-worker household is increasing the demand for access and flexibility in travel, favoring the automobile for personal transportation. The increasingly auto-centric transportation system is currently being accommodated by the expansion of conventional low-density development. Another factor likely to influence settlement patterns in unpredictable ways is the improvement in telecommunications. See Patricia Mokhtarian, *Now That Travel Can Be Virtual, Will Congestion Virtually Disappear?*, SCI. AM., Oct. 1997, at 93. By providing people the opportunity to work at home, telecommunications may facilitate greater separation. Those who telecommute part time on average live twice as far from the office as those commuting to work every day. See *id.* If people desiring separation take advantage of telecommunications, development may extend further from population and business centers, dispersing settlements across greater land areas. Whether this will actually occur is, however, only speculation. Yet another unknown is how changes in the ethnic make up of the country may direct settlement form. Continuing growth in Latin American and Asian American communities may lead to different settlement patterns if these groups have different preferences than white Americans. Little study of these groups has been undertaken, so little is known of their preference for housing in the different settlement forms.

¹⁹⁰ See, e.g., SIERRA CLUB, BETTER COMMUNITIES, LESS TRAFFIC: TAMING THE SPRAWL MONSTER (1998).

campaign? The use of negative images of density by opponents of sprawl may be perpetuating the use of land for separation. Instead, carefully defining sprawl and then contrasting it with dense growth will initiate the necessary public discussion about the motivations that cause households and communities to avoid density.