

Land Hungry

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“I love urban sprawl, and so do most of my best friends”

--Official from the Federal Highway Administration¹

Americans love “big” things: supersized burgers, SUVs that can transport practically an entire soccer team and spacious single houses on grassy lots. While the eating and transportation habits of my fellow citizens are beyond the scope of this comment, their housing preferences are not. This paper examines the intersection of psychology (the “prairie” mentality that pushes us to lay stake to open spaces), law (zoning and jurisdictional boundary setting that sets the stage) and land economics (how the value of land and concomitant property rights are determined) that combine into urbanized geography (what has come to be known as suburban sprawl).

Sprawl, as used herein, encompasses a broader notion than population shifts toward the American suburbs. When you consider that between 1982 and 1997 urbanized (i.e. developed) land in the US increased by 47% and population only grew by 17% this is more than a story of population growth.² Rather, it is a story of why and how Americans increasingly consume land.

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¹ Jerry L. Mashaw, *The Legal Structure of Frustration: Alternative Strategies for Public Choice Concerning Federally Aided Highway Construction*, 122 U. Pa. L. Rev. 1, 66 (1973)

² William Fulton, Rolf Pendall, Mai Nguyen & Alicia Harrison, *Who Sprawls Most? How Growth Patterns Differ Across the U.S. (Ctr. On Urban & Metro. Policy, Brookings Inst., Survey Series, July 2001)* available at <<http://www.brookings.edu/es/urban/fulton-pendall.htm>> (last visited August 30, 2005).

² Kenneth T. Jackson, *Crabgrass Frontier, the Suburbanization of the United States* (1985).

Specifically the issue explored will be how to answer, address, possibly solve the problems attendant with this consumption while at the same time acknowledging that such land use habits can be traced to iconic roots (both cultural and historical) that cannot simply be dismissed.

When the first “Levittown” sprung up in 1947 some 25 miles east of Manhattan on Long Island new suburbanites were treated to one of the first mass produced (hence affordable) tastes of the American Dream. The 17,400 single family houses had approximately 750 square feet comprised of two bedrooms, a bath, living room and a kitchen. As *New York Times'* architecture critic Paul Goldberger has noted, "Levittown houses were social creations more than architectural ones-they turned the detached, single-family house from a distant dream to a real possibility for thousands of middle-class American families."³

According to the National Association of Home Builders the size of the average new house has more than tripled in the intervening 55 years to approximately 2,320 square feet by 2002. Far from a simple two bedroom bungalow, the “hot” items for middle income priced houses were 9 foot ceilings, family rooms connecting to the kitchen, upgraded bathroom fixtures and a “bonus” room that can be an extra bedroom, home office or even a home gym.⁴ This insatiable appetite for real estate has laid claim to undeveloped acreage in the suburbs in rates that cannot be explained simply by increases in population. We, Americans, are land hungry.

However, feeding this appetite spawns the unwelcome effects of gluttony. As suburban and exurban acres are devoured, infrastructure becomes overburdened⁵, environmental problems appear⁶ and the central city takes on a greater burden⁷ for caring for those without the economic

⁴ NAHB website available at <http://www.nahb.org/news_details.aspx?newsID=682> (last visited August 30, 2005).

⁵ Richard Briffault, *Home Rule For the Twenty-First Century*, 36 Urb. Law. 253, 271 (2004).

⁶ Michael Lewyn, *Suburban Sprawl: Not Just an Environmental Issue*, 84 Marq. L. Rev. 301, 303 (2000)

⁷ See, e.g. Sheryll D. Cashin, *Localism, Self Interest, and the Tyranny of the Favored Quarter: Addressing the Barriers to New Regionalism*, 88 Geo. L. J. 1985, 1995 (2000); Jerry Frug, *The Geography of Community*, 48 Stan. L. Rev. 1047, 1070-71 (1996); Audrey G. MacFarlane, *Race, Space and Place: The Geography of Economic*

means to feast on the buffet of suburbanization. The resultant growth pattern, commonly referred to as sprawl, has occupied the thinking of planners, local government officials, urban economists and lawyers with increasing fervor for the last 50 years. Indeed, one scholar pronounced sprawl to be “America’s most lethal disease.”⁸

Analysis of the origins of sprawl can emanate from two perspectives: external and internal. The external branch of scholarship examines the societal stimuli of growth patterns. Another, internal, branch tackles the individualistic push that produces such growth patterns. In the external sector, ~~generally speaking~~ their proposals have generally fallen into several broad categories: restrictive, redistributive and relational. Restrictive proposals focus on the environmental harms of sprawl and have a preservationist bend. Redistributive proposals take aim at the economic disparities and disjunctions produced by sprawl and call for a more even distribution of the burden. Relational proposals concentrate on bringing together fragmented local governmental jurisdictions for regionally cohesive planning.

While not ignoring the external perspective on the socio-political aspects of sprawl, the analysis undertaken herein reflects the importance of understanding the internal perspective of why homeowners choose to live in what may be termed sprawl. However, this analysis is less sociological and more legal in that the important issue to be determined here is how to legally describe a potential property interest a homeowners may (or may not) possess in land they do not own. Only after defining that interest can we value and manipulate the land use outcome such interests may produce.

Development, 36 San Diego L. Rev. 295,333-335 (1999); Sheryll D. Cashin, *Drifting Apart: How Wealth and Race Segregation are Reshaping the American Dream*, 47 Vill. L. Rev. 595, 600-601 (2002);

⁸ Robert H. Freilich, *From Sprawl to Smart Growth* (1999 ABA Press) p. xvii

Within legal and planning scholarship this discussion is often couched as revealed choice of the homeowners without internalization of the negative externalities of that choice.⁹ I propose decoupling the choice discussion from the externality discussion in order to fully understand (and begin to solve) the issue of sprawl. While not minimizing the effect of the negative externalities, they cannot be adequately addressed if the underlying motivation that produces them is dismissed as “bad” or “wrong.” Honestly speaking, this “bad” behavior of massive suburbanization is desired by most Americans. The scholarly roots of this paper can be traced to a previous analysis undertaken by the author entitled *Idolatry of Land*. The premise of that work was that land has an almost religious attachment for many Americans. As such the drive to protect open suburban space is more rooted in preservation of the status quo of an individual’s homestead as it is in any environmental aspirations. The issue left unresolved was how to value open space that while not used for a true public purpose (for example a park) confers value to surrounding land. In others words—is there such a thing as communal private property? And if so, since its value will most likely be reflected in an endowment effect on existing development, how can the law adequately compensate for loss in value?¹⁰

To set the stage for this discussion, statistical information will illustrate show how growth, development and suburbanization are not simply a function of population trends. It is well documented that the central city share of urbanized areas has shrunken enormously since the

⁹ See, e.g. Nicole Stelle Garnett, *Trouble Preserving Paradise?* 87 Cornell L. Rev. 158 (2001)

¹⁰ As I set forth in *Idolatry of Land* (and will revisit and refine here), attempts to capture value of loss of open space through, for example a conversion tax, “...are imperfect because they impose a cost on the wrong side of the ledger. The flaw exists because we have not found a way to place a value on what is being lost through the imperative of neighborliness. The value of sharing is not embodied in the land subject to regulation, i.e. in the increased value when a piece of land is converted from farmland to residential. Nor is it the value of truly public goods. Rather, it is the value embedded in the property of the existing landowners who bought land in reliance upon maintenance of the status quo. Georgette C. Poindexter, *Idolatry of Land*, in **Law and Geography**, 5 **Current Legal Issues** 2002, at 206 (Jane Holder & Carolyn Harrison eds., 2003).

1970s.¹¹ What is interesting is how the suburbs grew in terms of per capita land consumption. In other words, what part of sprawl is due to population growth and what part is due to increased land consumption?

Patterns of land consumption do not just create themselves on their own. Rather they rely on zoning and land use provisions. In that context the next step of this examination is how US zoning ordinances might encourage sprawl. Although the interplay between zoning and sprawl is widely understood and discussed¹² the notion bears repeating in this context. Rather than reiterating the whole zoning debate, this paper will focus only on the origins of zoning that reflect the social under-girding of the importance of local land use law to homeowner's attachment to their property. It is not simply that the government in some far off place is deciding how or when to save or eliminate open space. It is a homeowner's neighbors making those decisions.

After framing the issue with the what (growth patterns) and the how (regulatory climate) it is time to turn attention to the why. Quite naturally, most scholarship has focused on why we should care about sprawl. An examination of the external aspects of the impact of sprawl will be introduced to more clearly define the central goal of this paper. Namely, I would propose that we ask why Americans, despite hollow rhetoric based largely on NIMBYism, love sprawl. Why do Americans, understanding the external costs, continue to reveal consumer preference and consume more land each year? Without fully understanding this question we will never come to a satisfactory answer to make people care enough to curb sprawl. The next step would then be to

¹¹ Frank Hobbs and Nicole Stoops, US Census Bureau, Census 2000 Special Reports, Series CENSR-4, *Demographic Trends in the 20th Century*, U.S. Government Printing Office, Washington, D.C., 2002, p. 33; see also Michael E. Lewyn, *The Urban Crisis: Made in Washington*, 4 JL Poly 513, 513-516 (1996)

¹² Lewyn,, *supra note 6*, at 329-34 .

fashion a viable response to the external costs of sprawl that reflects the internal desires of consumer choice.

As a preview, the central core of the argument presented here is that the answer lays in defining property rights to include not only individually owned rights but also in what could be considered a community right. One way to conceptualize the issue is to recharacterize regulations such as zoning and open space requirements as a “giving”¹³ of rights to surrounding landowners (instead of a “taking” from the servient property). However, in doing so we threaten to violate the public trust doctrine which prohibits the state from ceding control of public goods to private interest.¹⁴ The key is to capture the endowment effect subsumed in an existing landowner’s value and implement a system of compensation borne by the new owner of previously open space that would not go to the community as a whole but rather to those who are directly impacted.

I. Sprawl—by the numbers

To frame this discussion we must define the word sprawl. It is a word loaded with negative nuance and assumptions. Care must be taken to avoid definition by causes and/or effects of sprawl.¹⁵ Rather, examination will center on the geographic definition because the elements of spatial and social geography will form the basis of subsequent discussion.¹⁶

¹³ See, Abraham Bell, Gideon Parchomovsky, *Givings*, 111 Yale L. J. 547 (2001). However, I am not ready to concede that sprawl containment regulation necessarily will always result in a “giving.”

¹⁴ See, generally, Harry R. Bader, *Antaeus and the Public Trust Doctrine: A New Approach to Substantive Environmental Protection in the Common Law*, 19 B. C. Env’t Aff. L. Rev. 749 (1992)

¹⁵ Anthony Downs, *How America’s Cities Are Growing: The Big Picture*, *Brookings Rev.*, 16(4)8 (1998) (arguing that sprawl occurs as a consequence of the fragmentation of control over land use in metropolitan areas); Thomas J. Black, *The Economics of Sprawl* (1996) (same), Robert Burchell, Naveed Shad, et al. *The Cost of Sprawl Revisited* (1998); H. Moskowitz and C. Lindbloom *The New Illustrated Book of Development Definitions* (1993)(same), and Myron. Orfield *Metropolitics: A Regional Agenda for Community and Stability* (revised edition) (1997)(same).

¹⁶ See, e.g., Alan Altshuler and Jose A. Gomez-Ibanez, *Regulation for Revenue: The Political Economy of Land Use Exactions* (1993) (defining sprawl by development types, including continuous, ribbon and leapfrog development); See also, Reid Ewing, *Is Los Angeles-Style Sprawl Desirable?* *JAMA* 63(1):107-26 (1997)(arguing that sprawl represents a stage in the development process immediately preceding the thickening and diversification of a given

We can begin our examination by positing that sprawl is a description of urban growth pattern characterized by lower density (less intensive) and more fragmented (less contiguous) development. As these are comparative terms it is more instructive to analyze sprawl by contrasting metropolitan areas rather than struggling with an absolute definition. Accordingly, scholars have developed a host of methods to compare and contrast the degrees of sprawl amongst localities.

For example, in *Wrestling Sprawl to the Ground, Defining and Measuring an Elusive Concept*,¹⁷ the authors identified 8 land-use-pattern dimensions to rank cities in terms of their sprawl in their effort to distinguish the condition of sprawl from its causes and effects:

- (1) Density-- the ratio of the total population of a metropolitan area to its total land area. The most widely-used sprawl measure, density measures sprawl as a physical condition of land use.¹⁸
- (2) Continuity-- which measures the degree to which developable land has been built upon at urban densities in an unbroken fashion. Continuity dimension analysis measures the extent of leapfrog development: it is a means to determine whether a developable land

area), Robert O. Harvey and William A.V. Clark, *The Nature and Economics of Sprawl*, *Land Economics* 41(1):1-9 (1965)(same). For analyses of specific development patterns, see Charles Lockwood, *Sprawl*, *Hemispheres*, September, 82-91 (1999)(low density); U.S. General Accounting Office, *Community Development: Extent of Federal Influence on "Urban Sprawl" is Unclear*. Letter Report, April 30, 1999. GAO/RCED 99-87 (random); David Popenoe, *Urban Sprawl: Some Neglected Sociology*, *Sociology and Social Research* 31(2):181-88 (1979)(large lot single-family residential); David E. Mills, *Growth, Speculation and Sprawl in a Monocentric City*. *Journal of Urban Economics* 10-201-26 (1980) (radical discontinuity); Robert Burchell, Naveed Shad, et al. *The Cost of Sprawl Revisited* (1998) (single land use or physical separation of land uses); Thomas J. Black, *The Economics of Sprawl*, *Urban Sprawl* 55(3):6-52 (1996) (same) or Peter Gordon & Harry W. Richardson, *Are Compact Cities a Desirable Planning Goal?*, 63 *J. Am. Plan. Ass'n* 95 (1997). (noncompact).

¹⁷ George Galster et al, *Wrestling Sprawl to the Ground: Defining and Measuring an Elusive Concept*, 12 *Housing Policy Debate* 4, (2001).

¹⁸ The authors argue that residential units, as opposed to population and developable land—that is, land without physical barriers to development—as opposed to total land area, are more appropriate density measures. Residential density is more useful because nonresidential uses tend to be lumpy due to agglomeration of economies and regulations that limit development. Developable land is a more useful measure because it takes into account physical features and other constraints that interrupt or preclude development.

contains enough housing units or employment to consider it part of a continuous development pattern.¹⁹

- (3) Concentration-- which measures development within a given area. Unlike the density dimension, the concentration dimension measures whether development is located disproportionately in relatively few square miles of an urban area or spread evenly throughout;
- (4) Clustering-- which observes how tightly the development is bundled. This measure observes how tightly bunched development is in each square mile of a developable land area. Whereas density and concentration concern development patterns across grids in a developable land area, clustering examines development patterns within the grid.
- (5) Centrality-- which examines the diffusion or concentration of development proportionate to the Center Business District. Centrality increases as the radius from the center business district shortens. Sprawl increases as the distance to the locust of development increases.
- (6) Nuclearity-- which identifies polynuclear development patterns within an urban area, and thus determines the utility of centrality analyses. When economic and housing activities cluster intensely around several loci within an urban area, development is polynuclear.
- (7) Mixed uses--which identifies the diversification of industry and development within an area.
- (8) Proximity-- which measures mixed land use proximity. Within a given are, the proximity of different but complementary uses, such as housing and consumer products, is a more significant measure than the agglomeration of related activities.

¹⁹ In other words, this analysis distinguishes between broken and unbroken spread of development across a given landscape. When density is measured solely by the ratio of population to land area, this distinction is not captured.

Galster's results, in order of least to most sprawling cities, were as follows: New York, Philadelphia, Chicago, Boston, Los Angeles, San Francisco, Houston, Washington DC, Dallas and Denver. The *Galster* study, however, study has certain weaknesses. Housing units are the land use in the analysis, thus, the authors only measure residential sprawl. Further, the authors did not test the operationalizations for inter-use measures, continuity and diversity. Finally, they failed to distinguish developable from nondevelopable land; as a consequence, all land is considered developable.²⁰

In *Measuring Sprawl*, Rybczynski describes various methods of assessing development, and, as the results vary with the method, further demonstrates the elusive nature of sprawl.²¹ Population density is the simplest method of measurement. It is determined by the number of inhabitants per square mile [(1) gross density, which is based on the total population of the Consolidated Metropolitan Statistical Area (CMSA), or Metropolitan Statistical Area (MSA), divided by its area and (2) net density, which is the density of the CMSA (or MSA) exclusive of cities with populations greater than 100,000.] This method determines the most sprawling metropolitan areas to be: Phoenix, Los Angeles, Minneapolis and Seattle, whereas the least sprawling are New York, Chicago, Miami and Philadelphia.²²

Population density, however, presents an inaccurate picture of sprawl, since it does not take into account unbuildable land, or commercial and retail uses.²³ A clearer picture is painted when only land that is actually urbanized is measured (residential, industrial, commercial and institutional, together with airports, railroad yards, golf courses and sanitary landfill sites.)

Measuring urbanized density can lead to counter-intuitive results: for example, Phoenix and Los

²⁰ George Galster et al. *Wrestling Sprawl to the Ground: Defining and Measuring an Elusive Concept*, 12 Housing Policy Debate 4, (2001).

²¹ Witold Rybczynski, *Measuring Sprawl*, 6 WRER 94 (2002)

²² *Id* at 96

²³ *Id* at 97

Angeles are among the least sprawling areas; while “old” Philadelphia and Detroit sprawl more than “new” Seattle and Phoenix.²⁴ It does find, as one would expect, that Atlanta, Dallas and Houston have very low densities (i.e. sprawl the most.)

Yet another method of measuring sprawl is the centralization of employment. This method correlates sprawl with employment located beyond a 10-mile inner ring around a metropolitan area’s central business district.²⁵ Measuring centralization of employment produces results similar to those found by urbanized density: New York, Miami, San Francisco and Phoenix are highly centralized, while Detroit, Atlanta, Philadelphia Dallas and Houston have low centralization.²⁶

In the absence of agreement about how to measure sprawl in metropolitan areas, an overview of the national landscape is informative. Looking at the U.S. as a whole during the twentieth century, the number of people living in metropolitan areas increased nearly three-fold, while those living in nonmetropolitan areas shrank almost ten percent.²⁷ In 1910, metropolitan areas contained 26.1 million people and 65.9 million lived in non-metropolitan areas. In 1950, there were 84.5 million people living in metropolitan areas while 66.2 million lived in non-metropolitan areas. In 2000, there were 226 million people living in metropolitan areas while 55.4 million lived in non-metropolitan areas.²⁸ The dramatic population growth in metropolitan areas dovetails with the conversion of rural areas into suburbs, although increasing per capita land consumption accounts for much of this conversion as well.

Perhaps a more compelling picture of sprawl is not a static snapshot but rather a time lapsed view. One particular set of studies, which measure rural acres lost as urban areas spread

²⁴ *Id* at 98

²⁵ *Id* at 100

²⁶ *Id* at 100-101

²⁷ Hobbs and Stoops, *supra* note 11 at 32.

²⁸ *Id.*

outward over a period of time,²⁹ produced such an analysis.³⁰ These studies implement a two-fold process to distinguish between sprawl caused by population growth and sprawl caused by an increase in per capita land consumption. First, one measures the amount of land used per person; and second, one determines whether increase in the sprawl area relates to ~~that~~ increase in per capita land consumption based upon a simple ratio approach.³¹ Under this approach, one calculates the ratio of the two figures by adding them together to obtain a sum, which can then be divided into each figure to yield two percentages, which will add up to 100 percent.³²

²⁹ An urbanized area consists of a central city and contiguously developed suburbs, available at <http://www.census.gov/population/www/estimates/metroareas.html> (last visited August 30, 2005).

³⁰ In *Measuring Sprawl*, the Center for Immigration studies utilized this method to measure land consumption between 1982 and 1997 at the state level. In *Weighing Sprawl Factors in Large U.S. Cities*, Leon Kolankiewicz and Roy Beck used this method, along with the Holdren and regression analyses discussed *supra*, available at <http://www.spawlcity.org/studyUSA/USAsprawlz.pdf> (last visited August 30, 2005), to measure land consumption between 1970 and 1990 of the 100 largest urbanized areas.

³¹ Other methods for quantifying the respective contributions of population growth and changes in consumption per capita of any type of resource consumption include the Holdren method and regression analysis. The Holdren method is a system developed in a land mark 1991 paper by Harvard physicist Prof. John Holdren. Although Dr. Holdren's paper dealt specifically with the role of population growth in rising energy consumption, the method applies to many population/resource consumption analyses. In the case of sprawl, the resource under consideration is rural land, namely the expansion over time of the total acres of development in a state. While the "simple ratio" and "Holdren" formulas above are useful to apportion the total amount of sprawl attributable to changes in per capita land use or population growth, they do not provide an estimate of how much land is actually lost to development, holding other factors constant. Such estimates can, however, be calculated by performance of regression analysis.

³² A weakness of these studies is that it is theoretically possible for all population growth to occur within an existing boundary and, thus, no sprawl should be attributed to population growth. For example, migrants would not be responsible for any sprawl if all were placed into existing structures by subdividing houses, or tearing down houses and building apartment buildings. Another weakness is that the baseline year utilized may skew the numbers. Specifically, the Kolankiewicz/Beck study (discussed *infra*) utilizes a 1970 baseline year, a year by which many American cities were already quite dispersed. As John Holtzclaw points out:

[I]t is interesting to go all the way back to the Census Bureau's urbanized area data for 1950, before both the post-war suburban boom and baby boom had fully detonated together. At that time, neither the population growth nor the affluence-driven, suburban expansion factors in sprawl had yet ignited in their explosive interaction. In fact, the Census-designated Phoenix urbanized area in 1950 was just 55 square miles, compared to 741 square miles by 1990. Thus, Phoenix's built-up area grew by more than 13 times in the 40 years from 1950- 90. Yet its population also grew from just 216,000 to over two million, more than a nine-fold increase. Again, there is a striking correlation between the land area increase or sprawl and the population growth. Applying the same apportioning method used in "Weighing Sprawl Factors in Large U.S. Cities" shows that 86% of this increase in land area is related to population growth and just 14% to rising per capita land consumption. This is not much different from the 1970-90 results for Phoenix (92%).

(John Holtzclaw).

In the urban area of Atlanta, for example, the population increased from 1,172,778 to 2,157,806, or 84% from 1970 to 1990. The total land area of the urban area increased from 435 to 1,136.7 square miles from 1970 to 1990. These population and area figures can be used to determine per capita land use in 1970 (.00037 square miles per person) and 1990 (.00053 square miles per person). Thus, the growth in per capita land consumption equals 43%. Per capita consumption growth 43% plus the population growth percentage of 84% equals 127 percent. One then divides 127 into each growth figure. The result: per capita land consumption growth equals 34% of the combined power of the two growth factors in Atlanta and population growth is 66% of the combined power of the two growth factors in Atlanta.

Let's turn to another example. In the Los Angeles urban area, the population increased from 8,351,266 to 11,402,946 or 36.5% from 1970 to 1990. The total land area of the city increased from 1571.9 to 1965.7 square miles from 1970 to 1990. Per capita land use was thus .00019 square miles per person in 1970 and .00017 square miles per person in 1990. In this case, the urban area halted all per capita per capita land consumption decreased, all sprawl should be attributed to population growth and none to per capita land use.

During the 1990's, the United States added approximately 2.2 million acres per year to its urban areas.³³ One expects that cities undergoing population growth will accommodate new residents by adding to housing stock. Cities with high population growth, such as Atlanta, Georgia and Houston, Texas also exhibit increased consumption of land.³⁴ Yet there is more to

³³ Leon Kolankiewicz and Roy Beck, *Weighing Sprawl Factors in Large U.S. Cities*, at 14. Of the 77 cities with current (1990) population in excess of half a million, 51 actually grew by an average of 539 percent between 1950 and 1990. The nine largest of these (Los Angeles, Houston, San Diego, Dallas, Phoenix, San Antonio, San Jose, Jacksonville, and Columbus) grew during 1950-70, and continued to grow during 1970-90. See Rybczynski & Linneman *Shrinking Cities*, 1 WRER Fall 1997).

³⁴ Between 1970 and 1990, the population of Atlanta grew by 84%, while its urban area expanded by 701.7 miles; the population of Houston grew by 73%, while its urban area expanded by 638.7 miles. See, Kolankiewicz and

sprawl than residential development. Typically, population growth creates a need not only for housing but also for supporting real estate facilities for commercial, governmental and other public use and thus propagates sprawl.³⁵ This may partially explain why the rate of sprawl has consistently exceeded the rate at which population has increased throughout the nation.

Between 1982 and 1997 urbanized land in the U.S. increased 47 %, or another 25 million acres, while population grew by only 17%.³⁶ In other words, the United States continues to consume more land on a per capita basis. Expanding on data contained in *Weighing Sprawl Factors in Large U.S. Cities*, the sources of sprawl in 10 urbanized areas are calculated as follows:

URBANIZED AREA	% of Sprawl related to GROWTH IN PER CAPITA LAND CONSUMPTION:	% of Sprawl related to POPULATION GROWTH
1. Atlanta, GA	34%	66%
2. Houston, TX	30%	70%
3. New York City, NY-NJ	100%	0%
4. Washington, DC- MD-VA	53%	47%
5. Philadelphia, PA-NJ	89%	11%
6. Los Angeles, CA	0%	100%
7. Dallas-Fort Worth, TX	0%	100%
8. Tampa-Saint Petersburg-Clearwater, FL	15%	85%
9. Phoenix, AZ	0%	100%*
10. Minneapolis-St.Paul, MN	49%	51%

Beck, *supra* note 33 at 10, 15. Population increase in certain growing cities has been the result of the aggressive annexation of surrounding cities and towns. Since 1950, the fastest growing seven major cities (Phoenix, San Jose, San Diego, Jacksonville, Houston, Dallas, and San Antonio) have each at least doubled their areas through annexation. Rybczynski & Linneman, *supra* note 33.

³⁵ See, e.g., L. Goodkin., *When Real Estate and Home Building Become Big Business: Mergers, Acquisitions and Joint Ventures 14.*(Boston: Cahners Books 1974)

³⁶*Fulton et al. , supra* note 2 at 4.

*All sprawl attributable to population growth because negative per capita land consumption.

An interesting phenomenon occurs when metropolitan areas continue to sprawl while the inner cities stagnate or decline. The decline of certain large cities over the past four decades has been significant and steady.³⁷ Increased *per capita* consumption is the key driver of sprawl in these metropolitan statistical areas. For example, from 1970 to 1990, Detroit lost about half a million people and Philadelphia lost more than 350,000.³⁸ Despite the loss in population, these metropolitan areas nonetheless continue to sprawl across the surrounding environs. In Philadelphia, which ranked 5th overall in terms of sprawl, per capita land use has expanded from .119 to .176 acres per person from 1970 to 1990.³⁹ Likewise, in Detroit despite a declining inner city population, its per capita land use increased from .272 acres per person to .348 acres per person. By way of further example, Indianapolis, Milwaukee, Memphis, Pittsburgh and St. Louis declined in city population between 1970 and 1990, yet their per capita land consumption increased by 10%, 15%, 40%, 44% and 53% respectively.⁴⁰

Unfortunately, extensive overhauls by the Census Bureau to the working definition of “urbanized area,” present difficulties in comparing changes in population growth and per capita land consumption through the 2000 census.⁴¹ Nonetheless these numbers are instructive to begin

³⁷ Rybczynski & Linneman, *supra* note 33 at 1.

³⁸ United States Census Bureau, Statistical Abstract of the United States: 2001, Table No. 34, Incorporated Places with 100,000 or More Inhabitants in 2000-Population, 1970-2000, and Land Area, 2000.

³⁹ See Kolankiewicz & Beck, *supra* note 33 at 26, Appendix B, p. 39.

⁴⁰ See Kolankiewicz & Beck, *supra* note 33, Appendix A at 34-37.

⁴¹ Definitional changes that impede the comparison of 2000 census data to prior decades include the following: The Census Bureau did not automatically recognize previously existing Urbanized Area (“UA”) territory as part of the Census 2000 UA delineation process. There was no “grandfathering” of areas that qualified based on the results of earlier censuses. For Census 2000, the Census Bureau used the territory designated as Urbanized Center (“UC”), rather than the entity of places that have a specified population, to determine the total urban population outside of UAs.

thinking about increases in land consumption that are more reflective of consumer choice than of population growth.

Growth of sprawl in urban centers such as Indianapolis and Philadelphia (stagnating core city population) and Detroit and Pittsburgh (stagnating metro area population) force the decoupling of physical growth from population growth. It raises the notion that sprawl is occurring not only because people **need** a place to live but also that occurs because where people **choose** to live. In high growth communities such as the Las Vegas, Nevada urban area physical growth is inevitable. Addressing growth fueled by population surges may ironically permit more control over the process due to the captive nature of the housing consumer. However in slow or

Formerly, place boundaries generally were used to determine the urban or rural classification of territory outside of UAs. With the creation of UCs, place boundaries became "invisible" when creating and classifying the cores of densely settled population agglomerations. Technological advances in the field of geographic information systems (GIS) during the last 10 years allowed the Census Bureau to automate the urban and rural delineation process for the first time in Census Bureau history.

An extensive modification of extended city criteria was implemented for Census 2000. Previously, extended city criteria included only sparsely settled territory within incorporated places and relied on density and area measurements to determine whether or not portions of an incorporated place were excluded from the UA. The new urban area criteria, based solely on the population density of census Block Groups (BGs) and census blocks, provide a continuum of urban areas for Census 2000. The 2000 Census also increases the allowable jump distance from 1.5 to 2.5 miles. The increase in the jump distance was proposed as a means to recognize improvements in the transportation network, and the associated changes in development patterns that reflect these improvements, coupled with governmental influence to provide additional "green space" between developments.

Additionally, the Census Bureau developed the "hops" concept, which extends the urban definition across small nonqualifying census blocks, and thus avoid the need to designate the break in qualifying blocks as a jump. Hops between qualifying areas are less than or equal to 0.5 mile.

Moreover, for Census 2000, the area of an indentation in qualifying territory had to be four times the area of a circle with a diameter equal to the closure line of the indentation for the territory to be included in a UA or UC. Previously, an indentation only had to be two times longer than the distance across the mouth. The uninhabitable jump criteria were revised for Census 2000 to be more restrictive regarding the types of terrain over which an uninhabitable jump could be made. Finally, the UA central place and title criteria no longer follow standards predefined by other federal agencies. Previously, many UA central places and titles were based on metropolitan area (MA) central city definitions set forth by the Office of Management and Budget.

See http://www.census.gov/geo/www/ua/uac2k_90.html. Leon Kolankiewicz and Roy Beck **are currently attempting to update the information in** *Weighing Sprawl Factors in large U.S. Cities* to reflect Census 2000 data.

no growth communities the control over sprawl becomes intertwined with the reluctance to impose restrictions that may lead to further metropolitan population loss.⁴²

Consumption of new land is more than a population issue. It is a lifestyle issue. People are willing and choose to pay for housing that is increasingly further from the urban center because they seek open land and undeveloped surroundings. Of course the irony in this situation is that within each given community the value of undeveloped land may be worth more to the existing land owner than it is to the prospective consumer.

II. Sprawl—by choice

Perhaps it is somewhat disingenuous of me to cast the move to the suburbs as simply homeowner's revealed choice.⁴³ In fact, this choice is built upon entrenched governmental interventions that facilitate and even guide that choice.⁴⁴ However, even those who bolster their arguments about land use policy by condemning such governmental policies concede that “[e]ven with shifts in government policies and legal incentives to discourage sprawl, private preferences for suburban residential living and sprawling development may continue.”⁴⁵ In fact, US suburbanization occurred long before these policies ever were enacted.⁴⁶ The economists' view of this situation is that sprawl is not indiscriminate consumption; rather it is orderly market

⁴² An interesting underlying discussion here would be the necessary co-operation between suburb and city in determining how to prevent metropolitan decline. Otherwise it is the suburbs growing at the expense of urban population loss.

⁴³ As one scholar has noted, as long as citizens view current development patterns simply as a reflection of individual choice and market preference there will no incentive to change consumer behavior. *See*, Thomas Benton Bare, *Recharacterizing the Debate*, 21 Va. Envtl. L. J. 455, 456 (2003).

⁴⁴ *E.g.* federal highway subsidies, tax policies, etc. *See*, William W. Buzbee, *Urban Sprawl, Federalism and the Problem of Institutional Complexity*, 68 Fordham L. Rev. 57, 64 (1999)

⁴⁵ *Id* at 67

⁴⁶ American suburbs can be traced to the mid 19th century. F. Herbert Bormann, Diana Balmori, Gordon Geballe, *Redesigning the American Lawn*, 22 Yale Univ. Press (1993). This is not to minimize the effect of governmental intervention but rather to recast such programs as exaggerating an already present consumer preference.

equilibrium where “competing claims to the land are appropriately balanced.”⁴⁷ In essence the growing urbanized area of a region reflects an increasing function of population and income and a decreasing function of agricultural rent.⁴⁸

A more passionate assessment contends that the aspiration to the isolated house as the “American middle class ideal,”⁴⁹ combined with the “prairie psychology”⁵⁰ that comes with the confidence that land supply is unbounded, has produced a sense of entitlement to move onto open land. Some have commented that suburbanization has begun to be perceived as a birthright for Americans.⁵¹ One sure way to doom land regulation is to appeal to Americans’ “psychological fixation on home ownership.”⁵²

After a homeowner arrives in the suburbs, though, there is the tendency to roll up the welcome mat and close the door to new residents. In other words: I’ve got mine—you can’t get yours. While we might like living in what used to be open land we don’t like the adverse effect associated with others doing the same thing: congestion, school crowding, loss of open space. Once the open space and farmland has been eradicated homeowners look around, see themselves surrounded by houses just like theirs and ask if they have too much of a good thing.⁵³

⁴⁷ Jan K. Bureckner and David A. Fansler, *The Economics of Urban Sprawl: Theory and Evidence on the Spatial Sizes of Cities*, Review of Economics and Statistics 479-482 at 479.

⁴⁸ *Id.* at 481.

⁴⁹ Jackson, *supra* note 3 at 52.

⁵⁰ John Delafons, *Land Use Controls in the United States* 4, MIT Press (1969) . This prairie mentality has been derided by some as producing “cappuccino cowboys.” These are residents who desire the rural lifestyle and setting but with urban amenities and an urban level of living. See, Robert Freilich and Bruce Peshoff, *The Social Costs of Urban Sprawl*, 29 Urb. Law. 183,189 (1997).

⁵¹ Note, *Locating the Suburb*, 117 Harv. L. Rev. 2003, 2017 (2004)

⁵² Garnett, *supra* note 9 at 177.

⁵³ Bare, *supra* note 43 at 481

Two phenomena work together to produce a valuation disjunction between developed and undeveloped land: first mover advantage⁵⁴ and the endowment effect⁵⁵. The first homeowner to break ground in what was previously farmland sets the baseline for the perceived status quo for the density of development. The expectation of these first owners is that they are moving to an open space. When new residents fill in and congest the previously undeveloped land they are seen as upsetting this expectation and thus are often forced to justify why the baseline of development should be adjusted to allow their entry. The first mover advantage here is the setting of the expectation.

The endowment effect capitalizes the first mover advantage into value of the land. The endowment effect pegs the value to a pre-existing status quo.⁵⁶ This produces an asymmetrical valuation problem. The existing homeowner will demand much more to give up the open land than a new homeowner will pay to acquire it.⁵⁷ When increased density threatens the existing open space homeowners will work to preserve the value in their own property that is attributable to maintaining the status quo so as to not lose the value they originally placed on moving to previously undeveloped land.

Therefore, in fashioning a legal solution to limiting sprawl, the task will be to develop a method of valuing land in evolving neighborhoods in ways that are different than valuing land in areas already built up. Is there an intrinsic value to surrounding open space that must be reflected? Scholars have shown that permanent open space (land that is for purely public use

⁵⁴ First mover advantage is a concept often found in marketing literature where the first entrant into the market sets the hurdle over which new entrants must jump. See, William T. Robinson et al., *First Mover Advantages from Pioneering New Markets: A Survey of Empirical Evidence*, 9 REV. INDUS. ORG. 1 (Feb. 1994).

⁵⁵ The effect on valuation of an initial allocation of a good is the endowment effect. See, Cass R. Sunstein, *Social Norms and Social Values*, 96 Colum. L. Rev. 903, 942 (1996) (initial allocation affects social understanding about presumptive ownership rights).

⁵⁶ Amy Wax, *Bargaining in the Shadow of the Market*, 84 Va. L. Rev. 509, 585 (1998).

⁵⁷ See, Richard H. Thaler, *The Winner's Curse: Paradoxes and Anomalies of Economic Life* 63 (1992)

such as parks or land that is subject to a deed restriction such as ones used by the Nature Conservancy) adds a one time value shot that is capitalized into the purchase price of adjacent property.⁵⁸ The issue before us is about private open space whose status is not static and most likely will become developed. Land use regulation in general, and zoning specifically, are the mechanisms that makes such transformation possible (or in some cases impossible). Therefore a brief discussion of zoning is in order.

III. Zoning

If forced to select one word to describe the US system of zoning (the regulation of the use and the intensity of use of land), the choice is clear: fragmented. The fragmentation of the metropolitan area is distinctly American with deep historical roots.⁵⁹ Each state grants local governments the right to enact zoning regulations. As a result, the nation's more than 36,000 local governments each has its own set of zoning laws.⁶⁰

This system of local planning evolved from the early years of American independence. Distrust of central government (coupled with a desire to bring government closer to the people after the Revolution) led such leaders as Thomas Jefferson to advocate fragmented, decentralized local governments.⁶¹ The hope was that the local landowners would control these decentralized

⁵⁸ Abraham Bell and Gideon Parchomovsky, *Of Property and Anti Property*, 102 Mich. L. Rev. 1 (2003); Charles J. Fausold and Robert J. Lillieholm, *The Economic Value of Open Space: A Review and Synthesis*, Environmental Management, Volume 23, Number 3, 309-310 (1999)

⁵⁹For a discussion of the uniqueness of the US system see, Gregory R. Weiher, *The Fractured Metropolis: Political Fragmentation and Metropolitan Segregation* (1991) at 165.

⁶⁰ In 1997 there were 19,372 municipal governments and 16,629 towns/townships. 1997 Census of Governments. Volume 1, Government Organization. U.S. Census Bureau. Issued August 1999. Table 3 - Local Governments and Public School Systems by Type and State: 1997.

⁶¹ Alexis de Tocqueville traced this preference for a decentralized government to pre-Revolutionary times. In a society where revolution is preceded by a relatively egalitarian state, there is a desire for a more decentralized government. See, Alexis de Tocqueville, *Democracy in America*, (Richard D. Heffner, ed. 1956) at 297. For a more in depth analysis of this point see, Georgette C. Poindexter, *Collective Individualism: Deconstructing the Legal City*, 145 University of Pennsylvania L. Rev. 607, 624 (1997).

governments more intimately than central government.⁶² This shift replaced the English feudal system of tenure (the right to occupy) as the central premise of land law. Land ownership became the principle from which US real property law evolves.⁶³

Decentralized local government concentrates zoning decisions in the hands of locally elected officials. Fragmentation of local government hands the reins of control to land owners, not to a far off (politically and geographically) central government.⁶⁴ Since zoning control is so intensely local, it encourages dominance of self interest rather than the interest of the wider (not local) community. Nowhere is this practice more evident than in the NIMBY (Not In My Back Yard) syndrome. For example many municipalities “zone out” or do not permit undesirable land uses (heavy industrial, waste facilities, low income housing). The suburban municipalities engage in a conscious parallelism⁶⁵ to exclude and promote disjunctive land use decisions that serve only the needs of the local residents and discourage coordinated regional planning.⁶⁶

⁶² Richard Matthews, *The Radical Politics of Thomas Jefferson* 82 (Lawrence, KS: University of Kansas Press, 1984) ..

⁶³ See, David Thomas, *Anglo American Land Law*, Part III, 34 *Real Prop. Probate & Trust J.* 443, 449 (1999) for analysis of tenure versus ownership. In his comparison of US and UK land use law, John Delafons notes that as the great leasehold estates were broken up after the Revolution, “freehold land ownership became the accepted right of the citizen.” John Delafons, *Land Use Controls in the United States*, 16 (MIT Press, 1969).

⁶⁴ Note that this is in contrast with the British system land use planning and zoning where central government controls the process. The Town and Country Planning Act of 1990 creates the structure of the planning system. The Secretary of State is charged with the duty of assuring consistency and continuity in the framing and execution of a national planning and land use policy. Even regional zoning is elusive in the US. I stress the differentiation between zoning regionally and planning regionally. Regional planning occurs often in coastal zone acts and other environmental overlays. Regional zoning is rare. The Model Municipal Planning Code has a section on Regional Planning which would permit, but certainly not require, cooperative zoning between municipalities. See, e.g. Chapter 30 of the Pennsylvania Municipalities Planning Code. Even regional planning, however, is not accepted as a universal truth. There is not consensus that state legislatures should mandate regional planning. See, Brian W. Ohm, *Reforming Land Planning Legislation at the Dawn of the 21st Century*, 32 *Urban Lawyer* 181, 183 (Spring 2000)

⁶⁵ The term conscious parallelism comes from anti-trust doctrine. It refers to the uncoordinated, but identical, pricing decisions of competitors through tacit agreements. See, Rob Frieden, DOES A HIERARCHICAL INTERNET NECESSITATE MULTILATERAL INTERVENTION? 26 *North Carolina Journal of International Law and Commercial Regulation* 361, 387(2001); Ronald A. Cass and Keith N. Hylton ANTITRUST INTENT 74 *Southern California Law Review* 657, 669 (2001). Of course the [flip side] of this situation occurs when several

Fragmented local government encourages identification of self with place, integrating the value of place with self-value. The “right” address, the “right” town, identifies an individual’s place in society.⁶⁷ Using an olive tree as a metaphor for spatial identification, author Thomas Friedman comments:

Olive trees are important. They represent everything that roots us, anchors us, identifies us and locates us in the world. ... Olive trees are what give us the warmth of family the joy of individuality. ... We fight so intensely at times over olive trees because, at their best, they provide the feelings of self esteem and belonging that are as essential for human survival as food in the belly.⁶⁸

However attractive local control and olive trees may be, though, when land use decisions are so extraordinarily fragmented and isolated, they close off the power to participate in change to those outside of the delineated local boundaries.⁶⁹ The threat occurs when self-interested control over the land works to the detriment of those without power or control.⁷⁰ Local control permits citizens broad latitude to be both protectionist and isolationist but fails to require internalization of the negative externalities of their zoning decisions.⁷¹ Forcing those without power to bear the negative burdens of local zoning decisions permits individual control to dominate the wider regional good.

local municipalities are vying to be chosen for the site of a desirable use. Because local taxes support local government, local governments are forced to offer similar packages to woo a prospective business.

⁶⁶ Furthermore, some commentators contend that this lack of coordinated planning encourages sprawl, a topic taken up later in this paper. For a discussion of the linkage between fragmentation and sprawl, see Eran Razin and Mark Rosentraub, *Are Fragmentation and Sprawl Interlinked?*, 35 *Urban Affairs Review* 821 (July 2000)

⁶⁷ See, Georgette C. Poindexter, *Deconstructing the Legal City* at 626 (“Local governments...serve as proxies for socioeconomic status, race, lifestyle.”)

⁶⁸ Thomas L. Friedman, *The Lexus and the Olive Tree* 31 (Anchor Books, 2000).

⁶⁹ Tom Friedman notes the same danger: “But while olive trees are essential to our very being, an attachment to one’s olive trees, when taken to excess, can lead us into forging identities, bonds and communities based on the exclusion of others.” *Id* at 32.

⁷⁰ See, Walter Bruggemann, *The Land* 65 (Fortress Press, 1977). (The task is for the landed is care for the brother and sister who have no standing ground in the community. They are without land and so without power.)

⁷¹ This argument is prevalent in the discussion of municipal fair share for regional low income housing begun in the Mount Laurel decisions, see, *Hills Dev. Co. v. Township of Bernard*, 510 A. 2d 621 (N.J. 1986) (“Mount Laurel III”). The fair share concept was codified in New Jersey in the Fair Housing Act NJ Stat. Ann. 52:27D-301-329.

When zoning laws construct an “insider” vs. “outsider” dichotomy they grant control over entry to existing land owners. It fixes the status quo. As Prof. Fischel points out new entrants must “satisfy existing homeowners that their proposed use will not make them worse off.”⁷² The difficulty this creates is that such exclusion is not an explicitly recognized property right.⁷³ The issue to be addressed is now is if such a right can be fashioned and if so, how to assess its value.

IV. Solving Sprawl from the Outside

Discussions of urban sprawl are a relatively recent addition to legal literature on land use. A search of electronic data bases of legal scholarship only turned up eight articles⁷⁴ published before 1970. Even the decade of the 1970s produced less than a dozen sprawl related law review articles.⁷⁵ Comparatively speaking there was an explosion (almost 50) of sprawl related law review articles in the 1980s⁷⁶. The cause of this proliferation can be summed up in one word: suburbanization. Within the metropolitan (urbanized) areas of the US the percentage of the population residing in the suburbs rose from 43% in 1950, to 63% in 2000.⁷⁷ As the exodus to the suburbs intensified so did scholarly research as to the effects of such a migration. Generally speaking in the legal literature there are three broad band of scholarship dealing with sprawl—a) those who concentrate on how to restrict or constrain growth because of environmental implications; b) those who focus on the social inequalities produced by suburban flight from the urban core and suggest redistributive solutions and c) those who analyze the political

⁷² William A. Fischel, *Public Goods and Property Rights: Of Coase, Tiebout, and Just Compensation*, Dartmouth College Working Paper 00-19 August 2000 at 10, available at < <http://www.dartmouth.edu/~wfischel/Papers/00-19.pdf>> (last visited August 31, 2005)

⁷³ Contrast with the explicit right to exclude others from your own land. The exclusionary right referenced here is the right to exclude others from land NOT owned by existing homeowners.

⁷⁴ Westlaw, database “JLR”, terms- sprawl & DA <1970

⁷⁵ Westlaw, database “JLR”, terms -sprawl & DA (>1969 & <1980)

⁷⁶ Westlaw, database “JLR”, terms -sprawl & DA (>1979 & <1990)

⁷⁷. Hobbs and Stoops, *supra* note 11 at 33. For 2000:US Census Bureau, GCT-P1. Urban/Rural and Metropolitan/Nonmetropolitan Population: 2000

inefficiencies of fractionalized local governments and seek a more regional planning approach fostering intergovernmental relationships. What ties these streams of scholarship together is the analysis of the external pathologies of sprawl. While it is the goal of this paper to focus on the internal reasons sprawl may exist, the external implications certainly cannot be dismissed. Rather we should view these external arguments as highlighting the crucial need for altering the internal motivations of individual homeowners.

a) Restrictive

When previously vacant land is developed for residential or commercial use it impacts on the ecological biodiversity of the surrounding area. Air pollution and noise pollution are obvious externalities. Adding to this are flooding from rain run off (due to more impervious covering), strain on infrastructure (roads, sewers, etc.) and other environmental woes. The impact of uncontrolled development on the environment is not a new issue. Indeed for several decades legal scholarship has discussed why land use planning should be linked to environmental regulation.⁷⁸

More recent scholarship has focused explicitly on the conservation aspect of combating sprawl. For example, Francesca Ortiz focuses on the importance of biodiversity and how it is threatened by sprawl.⁷⁹ Bill Buzbee makes the case for green space initiatives.⁸⁰ Even scholars

⁷⁸ See, e.g. Lois G. Forer, *Water Supply: Suggested Federal Regulation*, 75 Harv. L. Rev. 332 (1961), Linda A. Malone, *The Necessary Interrelationship Between Land Use and Preservation of Groundwater Resources*, 9 UCLA J. Envtl. L. & Pol'y 1 (1990), c.f. Michael Allan Wolf, *Fruits of the "Impenetrable Jungle": Navigating the Boundary Between Land Use Planning and Environmental Law*, 50 Wash. U. J. Urb. & Contemp. L. 5 (1996)

⁷⁹ Francesca Ortiz, *Biodiversity, The City and Sprawl*, 82 B.U. Law Rev. 145 (2002)

⁸⁰ William Buzbee, *Sprawl's Political-Economy and the Case for a Metropolitan Green Space Initiative*, 32 Urb. Law. 367 (2000). Indeed this call for green belts in urban planning stretch back many centuries. The first "green belt" legislation was in 1580 when a three mile green belt was created around London to prevent urban sprawl. See, Donald W. Large, *The Supreme Court and the Takings Clause: the Search for a Better Rule*, 18 Envtl. L. 3 (1987).

from polar ends of the political spectrum agree that suburban sprawl negatively impacts the environment and governmental intervention of some sort is called for.⁸¹

b) Redistributive

The exodus from the city to the suburbs has not been evenly distributed across the socioeconomic strata. Residential decentralization was initially led by wealthy individuals with the financial means to develop infrastructure in the suburbs, and literally paved the way for the middle class to follow.⁸² Since the great wave of suburbanization in the 1950's, the population density of America's 522 central cities has declined by fifty percent.⁸³ Suburban residents needing easily accessible goods and services, spurred commercial development that culminated in mass development of malls in the suburbs in the 1960's and 1970's.⁸⁴ Residential and commercial decentralization led to economic decentralization; as skilled jobs associated with professions and businesses became increasingly located in the suburbs.⁸⁵ Indeed there has been a more pronounced movement to the far outskirts of metropolitan areas not only measured by population but also by the jobs and services to cater to that population."⁸⁶

⁸¹ Compare Michael P. Vandenberg, *From Smokestack to SUV: The Individual as Regulated Entity in the New Era of Environmental Law*, 57 Vand. L. Rev. 515 (2004) (advocates regulating individuals for the sake of the environment) with Michael Lewyn, *Suburban Sprawl: Not Just an Environmental Issue*, 84 Marq. L. Rev. 301 (2000) (goal of article is to make sprawl problem relevant to those that ignore it as an environmental concern).

⁸² George Gaspar, *The Economics of Flight: Why the Decentralization of Corporate America From Central Cities is Inevitable and What it Means to Older, Central Cities*, 10 Geo. J. on Poverty & Pol'y 247 (2003) citing Joel Garreau, *Edge City* 93 (1991).

⁸³ *Id.*, see also J. Peter Byrne, *Are Suburbs Constitutional?*, 85 Geo. L.J. 2265, 2268-69 (1997) ("After World War II, of course, the intensity of suburban development increased dizzyingly. The de facto policy of the United States government became the promotion of mass suburban development; it played an indispensable role in the creation of modern mortgage financing of houses—greatly preferring new single homes in developing areas—and built the interstate highway system that further decreased the costs of commuting from more distant locations. This activity increased both the opportunities for suburban communities and competition among them for development that would increase local tax bases without unduly increasing local expenditures.")

⁸⁴ Gaspar, *supra* at 248.

⁸⁵ Gaspar, *supra* at 248-249)

⁸⁶ Peter W. Salsich, Jr., *Saving Our Cities: What Role should the Federal Government Play?* 36 Urb. Law. 475 (2004) citing Mitchell-Weaver, Miller & Deal, Jr., *Multilevel Governance and Metropolitan Regionalism in the USA*, 37 Urb. Stud. 852, 863-64 (2000).

Decentralization of the metropolitan region has left inner cities with depressed economic and social conditions that are structural in nature.⁸⁷ “As urban sprawl relocates persons to the periphery of metropolitan areas, further and further away from the core, the core inevitably suffers from depleted financial, social and human resources that have relocated to the suburbs.”⁸⁸ Moreover, “fragmented local governments erect jurisdictional boundaries that insulate wealthier suburban areas from any responsibility for the communities and people within cities that are left behind.”⁸⁹ Further, “both historical and current policies further contribute to inner city marginalization by insulating and benefiting suburban communities.”⁹⁰

The advantages bestowed on suburban communities by regional decentralization have disproportionately benefited certain “high growth, developing suburbs that typically represent about a quarter of the entire regional population but that also capture the largest share of the region’s public infrastructure investments and job growth.”⁹¹ The favored quarter,

through retention of local powers, is able to avoid taking on any of the region’s social service burdens. Marginalized populations, particularly the minority poor who are relegated to poverty-ridden, central city neighborhoods are largely excluded from participating in the favored quarter’s economic prosperity. And the majority of metropolitan population—citizens who live in central cities and older suburbs—often subsidize and are negatively impacted by the growth of the favored quarter.⁹²

c) Relational

⁸⁷ Audrey G. MacFarlane, *Race, Space and Place: the Geography of Economic Development*, 36 San Diego L. Rev. 295, 352 (1999).

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.* “These policies include FHA policies limiting public housing to certain neighborhoods in the inner cities, exclusionary zoning, redlining by banks and insurance companies, and transportation policies that fund highway development into outlying areas.”

⁹¹ Sheryll D. Cashin, *Localism, Self Interest, and the Tyranny of the Favored Quarter: Addressing the Barriers to New Regionalism*, 88 Geo. L.J. 1985, 1987 (2000)

⁹² *Id.*

As noted above, zoning and land use regulation (other than environmental regulation) is a task left to local government. The fractionalized state of local government in the US leads to disjunctive, uncoordinated and ultimately inefficient regulation of land. This has lead many scholars to ponder how to craft a level of government to bring together the local municipalities.

Prof. Frug sets forth the issue succinctly: “the current fragmented system of governance is unacceptable and ... a regional government is not an alternative.”⁹³ Instead he suggests a new kind of metropolitan organization that is based on a structure similar to that of the European Union.⁹⁴ Professors Briffault and Barron concentrate more on the importance of localism and Home Rule in crafting a regional-type government.⁹⁵ What all these scholars have in common is identification of the economic and political inefficiency of individualized land use decision-making.

Despite differences in approach and proffered solutions the underlying supposition of these three strands of scholarship is that sprawl produces negative outcomes be they environmental, social or political. These analyses view the cure to sprawl externally by focusing on the by-products. What is proposed here (while certainly not denying the negative effects of sprawl) is that in crafting a solution we must take into account the internal propulsion that produces sprawl in the first place. By this I am not solely referring to impetuses such as federal highway funding, redlining and home mortgage deduction. Rather, I am referring to the individual revealed choice that leads Americans to their grassy lot in the suburbs. If we truly want to curb sprawl we must determine how to value suburban land that may be subject to such sprawl regulation.

⁹³ Gerald E. Frug, *Beyond Regional Government*, 115 Harv. L. Rev. 1763, 1764 (2002).

⁹⁴ *Id.* at 1766.

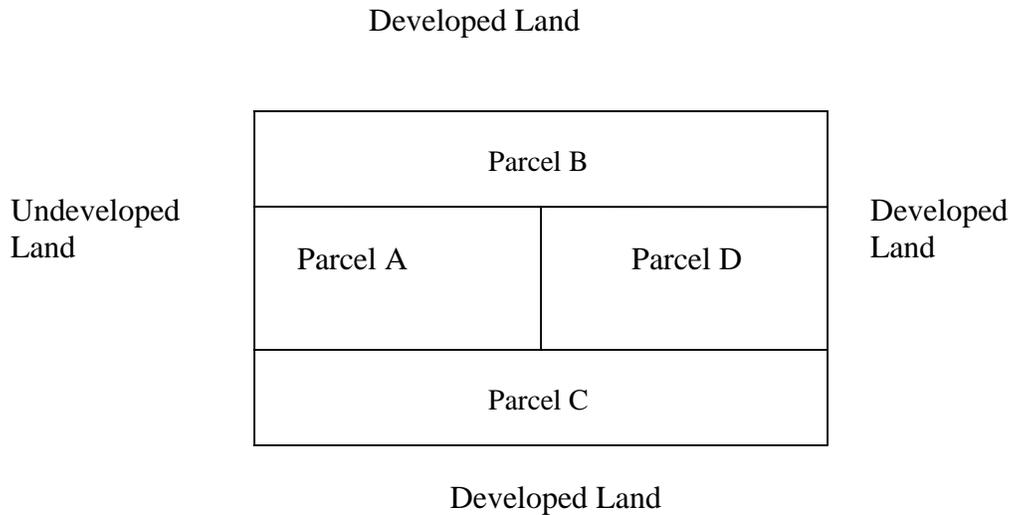
⁹⁵ Richard Briffault *Home Rule for the Twenty-First Century*, 36 Urb Law. 253 (2004), Briffault, *Localism and Regionalism*, 48 Buff. L. Rev. 1 (2000); David J. Barron, *Reclaiming Home Rule*, 116 Harv. L. Rev. 2255 (2003).

V. Solving Sprawl from the Inside--modeling property right valuation

Let's put the argument together. Suburban sprawl is not simply a product of population growth (though certainly in many cities that is a major contributor). There is something else going on: revealed preference on the part of homeowners for a lifestyle that includes open space. In classic Tiebout style the bundle of preference chosen includes open space, something which, increasingly, can only be found further and further out from the urban core. Sprawl feeds on zoning laws that direct and manipulate development in a way that affects the value of land to existing homeowners seeking to preserve this open space. The problem with zoning laws, however, is that they are fractionalized and disparate even in contiguous municipalities. Thus, we end up with a hodge-podge of potentially contradictory attempts to control development

This scenario produces disjunctive growth patterns that are exacerbated by the existing population flow to the suburbs. There is ample evidence from a socio-economic, governmental and environmental perspective that unfettered and unplanned growth is not a desirable outcome. Opposition to new development often comes from local homeowners mouthing this same litany of the evils of sprawl. However, I posit that, from the existing homeowners perspective, reliance on the more academic and "politically correct" arguments is but a smoke screen attempting to mask the true motivation of preservation of status quo to maintain lifestyle and property value.

Here is an example from the town of Happyville, a suburban enclave:



Let's assume there are four parcels of equal size: A, B, C and D. A fronts onto presently undeveloped land, but this land is not subject to any development restriction. Parcels B, C and D all front onto previously developed land. B and C have side yards to the undeveloped land. A's property fronting to undeveloped land is assumed to be more valuable.⁹⁶ A pays \$100, B and C pay \$75 and D pays \$50.

If the adjacent land is developed A loses \$50 in value, B and C lose \$25, D loses 0. The problem is that a new purchaser would only be willing to pay \$50 because there is no more open land to add value of open space.⁹⁷ Furthermore, A, B and C are not compensated for their loss. Perhaps the harshest reading of the problem would require A, B and C to absorb the loss entirely. After all they purchased their property with full knowledge that the contiguous property was not

⁹⁶ Bill Buzbee has noted the connection between proximity to substantial park space and property value. This is not purely a US phenomenon. A study undertaken in Scotland showed that flats closer to parks experience an increase in value. See, Carolyn Dehring and Neil Dunse, *Housing Density and the Effect of Proximity to Public Open Space*.

⁹⁷ In essence if you plot value as a function of density there is an initial increase of value as density increases. People are willing to pay more until density reaches a certain point. After that point value decreases as density increases.

subject to any conservation easement and, as such, was ripe for development. The price they paid for the value of living next to open space was purely speculative and they lost.⁹⁸

There is a way of “doubling down” on their investment, though. Private resolution of this problem is relatively straightforward. If A, B and C band together and purchase a conservancy easement on the adjacent property for \$50 then it is a Pareto optimal outcome. This approach is recognized in the land economics literature.⁹⁹ However, this solution depends on several factors. First of all A, B and C have to be able to come together to solve the problem. If one party fails to join then the process falls apart and there is no deed restriction. In the alternative if, say C, decides not to join then A and B can still purchase the easement. However, C is now a freerider on A and B’s action.

Another alternative is a Pigouvian tax based on development.¹⁰⁰ Let’s suppose there is incremental tax that must be paid if land is converted from farm to residential. The increase in value of the land is captured by the seller of undeveloped land. The tax paid by the seller (which will obviously be capitalized into the sale price) enriches Happyville as a whole but does not specifically address those landowners directly impacted. The decrease in value to Parcels A, B and C is not directly compensated.¹⁰¹

The third alternative is to inject governmental intervention in preserving the open space. The external analyses of the impact of sprawl point to the need for governmental regulation in order to effectively and systematically alter land use patterns. The internal analysis of sprawl

⁹⁸ Speculative because there was the possibility that through pure market forces (i.e. without governmental intervention) the land might have remained undeveloped. As land in other parts of Happyville were developed the value of this open space would increase.

⁹⁹See, e.g., Richard Thaler, *Toward a Positive Theory of Consumer Choice*, 1 J. Econ. Behav. & Org. 39, 44 (1980) This is an example of the endowment effect to be discussed, *infra*. Residents value remaining land as open space more than outsiders will value it as housing lots, *see* Fischel *supra* note 72 at 23

¹⁰⁰ Piguouvian taxes require the internalization of externalities through imposition of tax

¹⁰¹ An argument could be made that if the money collected from such taxes went toward constructing a public park there may be a slight offset in loss in value but this is a tenuous argument at best.

leads us to question the true motives of suburban landowners who may be less interested in the environmental impact and more interested in preserving their semi-pastoral way of life. Crucial to this governmental regulation, then, is finding a public purpose for this type of land use regulation that does not restrict use of land to a purely public use (like a park) but rather simply preserves the non-developed status quo. In other words, if Happyville wanted to purchase the vacant land and create a dedicated park, that would be a clear public use. However simply forbidding development of private land generates a different outcome.

Let's suppose that A, B and C get together and capture the political process to enact regulation to preserve undeveloped land (through say, a sewer moratorium, which, depending on its nature may, or may not be a taking¹⁰²). The legal issue at hand is not new; it was presented squarely as far back as 1922. In Pontiac Improvement Co. v. Bd. of Com'rs of Cleveland Metropolitan Park District,¹⁰³ the defendant (the Park Board) wished to impose easements on the parcel owned by the plaintiff which would have controlled planting, grading, drainage and prohibited buildings, fences, etc. on the plaintiff's property. The goal of the easements was to create a park-like appearance on this parcel which was adjacent to a parcel owned by the Park Board upon which they had newly created a park. The question presented is whether this easement (a "lesser interest" than fee) constitutes a public use thus permitting the police power of condemnation. The Ohio Supreme Court denied the Park Board the authority to impose such regulations stating that:

"The rights and privileges which are sought to be secured are not certain, and their exercise by the board would be entirely indefinite. The right to regulate and control, the right to prevent certain things such as the erection of fences, walls, structures, etc. when conferred on the park board is not of such a character as to inform the owner of the property as to what has been taken

¹⁰² See Tahoe Sierra Preservation Council v. Tahoe Regional Planning Agency, 122 S. Ct. 1465 (2002) (holding that temporary sewer moratorium is not necessarily a taking.)

¹⁰³ 104 Ohio St. 477, 135 N.E. 635 (1922)

away from him or what uses it would be safe for him to make of his property in the future ...the uncertainty, confusion, and contention that would necessarily arise are very apparent.”¹⁰⁴

The major impediment to the Board’s actions was that the interest they sought to regulate was so indefinite that damages could not be ascertained and thus payment could not be compelled.¹⁰⁵ So, as in Pontiac, here is the situation facing Happyville: what property right is being acquired when it imposes a development moratorium?¹⁰⁶ Furthermore, even if a property right is defined, should compensation be awarded, and how would it be calculated?¹⁰⁷

A sharply divided Supreme Court recently decided that it is constitutional for a city to exercise the power of eminent domain and take property from a private party and transfer it to another private party in furtherance of an economic development plan.¹⁰⁸ The majority found that the “public use” criteria of the Fifth Amendment’s Takings clause was satisfied by the public purpose of the economic development plan, even though the condemned property will not be available to the general public after it is developed.¹⁰⁹ The decision cited a longstanding policy of judicial deference to legislative judgments as to what public needs justify the use of eminent domain powers¹¹⁰ and rejected a proposed bright-line rule that economic development does not qualify as a public use.¹¹¹ Here if the benefit of the open space does not accrue to the

¹⁰⁴ Id. at 463-464.

¹⁰⁵ Id. at 467

¹⁰⁶ As shown in *Pontiac* the condemnation petition cannot define the interest taken simply as “development rights.” See also, Jan Z. Krasnowiecki , James C. N. Paul, THE PRESERVATION OF OPEN SPACE IN METROPOLITAN AREAS 110 Univ. Penn. L. Rev. 179, 193 (1961)

¹⁰⁷ Think about compensation from a liability (versus property) perspective. Then compensation equals amount harmed by not allowing development—not **by** amount of value lost by surrounding homeowners.

¹⁰⁸ *Kelo v. City of New London*, 125 S.Ct.2655 (2005).

¹⁰⁹ Id.at 2661-4

¹¹⁰ Id. at 2664-5

¹¹¹ Id. at 2665-6

wider populace of Happyville the state has used its police powers to confer value (permanent open space) to private parties (A, B and C), which is not permissible.

Another way to conceptualize the open space is by proclaiming that it deserves protection by the state under the public trust doctrine. The public trust doctrine traces its roots to the Justinian notion that certain resources should not be owned privately.¹¹² Hence the government (as trustee) is charged with maintaining the res (the open space) for the beneficiaries of trust (the citizens). As other commentators have noted, the public trust doctrine is a “jarring” exception to the general rule of favoring private ownership of private resources.¹¹³ By fashioning a public trust argument the benefit of open space can be viewed as accruing to the public and thus beyond the reach of private interests.

Quite frankly, the troubling aspect of stretching the public trust/use/purpose requirement in regulatory action to fit sprawl legislation is the recognition of the reality that the most vocal advocates of such legislation are purely self interested actors. Reliance on the more politically palatable arguments of the environment and of social justice masks the true motivation of preservation of their own land value and way of life. If sprawl legislation successfully enacted either halts or slows development then the true winners are the existing Happyville residents. The cost of the legislation is borne either a) entirely by the owner of the vacant parcel--if not a compensable taking or b) by all the citizens of Happyville—if it is a compensable taking (whether their purchase price included an “open space” premium or not, as in the case of the owner of Parcel D).

¹¹² Originally these resources included fish, wild animals and rivers. See Reza Dibadj, REGULATORY GIVINGS AND THE ANTICOMMONS, 64 Ohio St. L.J. 1041,1107 (2003)

¹¹³ J. Kearney, T. Merrill, *The Origins of the American Public Trust Doctrine*, 71 U. Chi. L. Rev. 799, 800 (2004).

Borrowing some ideas from the recent literature, in essence the sprawl legislation is a “giving” to A, B and C.¹¹⁴ Taking the Bell/ Parchomovsky theory one step further, assuming a public trust/use/purpose could be crafted for the sprawl legislation this would be a “chargeable giving.”¹¹⁵ If such legislation goes uncharged, A, B and C have, under the guise of public choice, used the “public interest” to protect their private interests. On an even more menacing level, regulatory givings such as sprawl legislation are an appealing policy tool to reward political supporters because they produce politically attractive winners (open space, environmental preservation) and politically distasteful losers (those pesky real estate developers).¹¹⁶ As has happened previously, short sighted regulation would transfer an interest to a small (but vocal and influential) minority with no identifiable benefit to the public at large.¹¹⁷

In fact, the suburban voter is more likely to support narrow limitations such as open space initiatives over broader planning proposals.¹¹⁸ Analyzing recent voter behavior concerning growth proposals, one scholar asked: “Why would an electorate that expresses overwhelming concern about sprawl vote to raise taxes to conserve open space and to impose local growth controls but reject proposals designed to address suburban sprawl through comprehensive, regional growth management?”¹¹⁹ The response relates back directly to the self-interested motivations of the local electorate. Conservation of open space directly benefits their

¹¹⁴ See, Abraham Bell & Gideon Parchomovsky, *Givings*, 111 Yale L. J. 547, 553 (2001) (...a derivative giving is present whenever the state indirectly increases the value of property by engaging in a physical or regulatory giving or taking.)

¹¹⁵ “We call the granting of a benefit a “chargeable giving” when the giving must be accompanied by the assessment of a charge. This parallels the accepted terminology of a “compensable taking.” *Id* at 590.

¹¹⁶ This is a variation on an argument set forth in Reza Dibadj, *REGULATORY GIVINGS AND THE ANTICOMMONS*, 64 Ohio St. L.J. 1041, 1065 (2003)

¹¹⁷ See, Kearney & Merrill, *supra* note 113 at 803 (discussing the transfer of the lake bed of Lake Michigan in the case of *Illinois Central Railroad Company v. Illinois*).

¹¹⁸ Garnett *supra* note 9.

¹¹⁹ Garnett, *supra* note 9 at 176.)

investment. The value of comprehensive growth management is much more diffuse and harder to quantify.

One possible remedy would utilize a multi faceted approach. After all, there are several issues relevant to the resolution of the sprawl conundrum: recognition of the individual choice of the existing landowner, creation of a housing market for those potential high density homeowners (e.g. lower income housing) who would be closed out of the market absent new development, multi-jurisdictional coordination on planning (conceding that regional planning is a pipe dream) and environmental/ecological planning. First of all, preservation of open space should be recognized for what it does: maintains property value for existing home owners. To that end, preservation of that open space should be funded by a special tax on contiguous parcels A, B and C (instead of payment coming from the municipality).¹²⁰

This money could be used a number of ways. First of all, the tax burden on the servient parcel (now undevelopable) could be reduced. Some of the tax revenue would be targeted toward developing more compact (higher density) housing development to address the economic inequality problem. Additionally tax revenue could be used to help keep infrastructure in line with development.¹²¹ This program could be coordinated between municipalities so that revenue generated in one jurisdiction could be used to fund development in another jurisdiction that was willing to support higher density development (i.e. a form of revenue sharing between jurisdictions).

VI. Conclusion

¹²⁰ This tax would be priced into the land and hence transparent. If purchasers indicated they were unwilling to pay the increased cost (by demanding a lower price on the land) the market would find equilibrium at the point where the land price (including tax) equals the value of keeping the vacant land undeveloped.

¹²¹ This would answer the concerns of Owner D who, while he pays no tax gets because he gets no benefit from the open space nonetheless would suffer with any increase in population if there are strains on existing infrastructure.

A call for the “end of sprawl” finds many a sympathetic ear in most suburban communities. However, this sympathy is not purely altruistic. Support for open space preservation has far less to do with the stated environmental goals of the local homeowners than it does with a desire to preserve their way of life. Suburban landowners who are truly concerned about sprawl should be willing to pay the price of regulation. As the political process now works existing homeowners demand adherence to the status quo but do not internalize the externalities generated by that decision. Advocates of sprawl reducing regulation express puzzlement over why homeowners seem to embrace open space enforcement but fail to support more widely based planning tools.¹²² By simply enacting open space preservation limitations some homeowners are compelling the government to solidify the expectation value that the open space that existed when they bought their land remains undeveloped. There should be a price for the expiration on the option for development of open land. In turn land use regulation would reflect the importance of the suburban lifestyle and our hunger for our own piece of land while minimizing the harms such a gluttonous lifestyle creates.

¹²² Garnett, *supra* note 9 at 176