

What's wrong with sprawl?

**The urgent need for cost benefit analyses of modern
urban growth patterns.**

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Urban is hip. Bikes, messenger bags, and apartment-sized dogs are in. Increasingly, young, educated professionals are disavowing the suburban dreams of their parents' generation and moving to city centers.¹ This trend embodies a long-held academic suspicion that urban sprawl is both economically wasteful and socially disadvantageous.² However, despite emerging consensus about the existence and causes of sprawl, its consequences are much less clear and economists have so far failed to fully articulate the reasons why what so many people think they know is true- that sprawl is bad.

A debate over urban sprawl has raged across the country since Earle Draper first coined the term in 1937, fueled by the deeply-held free market and social justice values that it implicates. Despite its longevity, the debate over sprawl is characterized by uncertainty over both the impacts of new growth patterns on people's lives and the appropriate policy responses. Much of this uncertainty results from challenges in defining and measuring the process of sprawl. It has proven difficult to isolate useful proxies for modeling the effects of such a dynamic and inclusive concept. And, when economists have succeeded in doing so, the results have been less than conclusively supportive of anti-sprawl rhetoric.

Yet, some cities are already acting to limit sprawl without a clear idea of why or how they should do so - hundreds of ballot measures have been introduced to combat urban sprawl, and a large percentage of them have passed.³ Accurate information about sprawl is all the more important given the huge ethical implications of many anti-sprawl policy measures; i.e., is it fair to create open space rings around a city because they look and feel good if they drive up real estate prices in the city for

1 See The Brookings Institute, *The State of Metropolitan America*, <http://www.brookings.edu/metro/StateOfMetroAmerica.aspx>.

2 Thomas Nechyba and Randall Walsh, *Urban Economics*, *Journal of Economic Perspectives*, Vol. 18, 177–200, at 177 (2004) (hereinafter *Nechyba*).

3 *Nechyba*, at 177; Sierra Club, *Sprawl: The Dark Side of the American Dream*, 1998, <http://www.sierraclub.org/sprawl/report98/report.asp>.

everyone, even the poor? This paper will briefly explore the limitations of traditional urban growth models for analyzing sprawl, consider the direction taken by new models, and identify important areas of future study to inform critical policy choices.

First, to understand how it should be addressed, one must understand what sprawl is. Sprawl is generally defined as faster growth of low density areas as compared to high density ones.⁴ Such growth patterns are not new- they have been recorded in the U.S. since at least the 1940's- and can be explained in part by traditional growth models. In monocentric city models, dramatic drops in transportation costs, like the ones associated with cars and highways, make it more efficient for people to live further and further away from where they work.⁵ Equally, increasing incomes cause demand for bigger pieces of land, driving people further from the city center.⁶ Lastly, rising crime and pollution rates increase the costs of city living, and make suburban choices comparatively more attractive. Tiebout's local public goods model also explains sprawl through the sorting effect of public finance and local goods – people tend to group with other people who are financially similarly situated on the basis of maximum public good return, such as schools, parks and hospitals.⁷

However, merely accounting for new facts in old models does not satisfactorily explain the phenomenon of sprawl, which results not just from a change in the trade-offs between commuting and land rents, but from a fundamental reorganization of the way we live.⁸ In “A Simple Theory of Smart Growth and Sprawl,” Matthew Turner explores this idea through a model born of the simple

4 See Nechyba, Richard Peiser, *Decomposing Urban Sprawl*, [The Town Planning Review](#), Vol. 72, No. 3 (July 2001), at 275 (hereinafter *Prieser*).

5 Edward Glaeser and Mathew Kahn, *Sprawl and Urban Growth*, [Harvard Institute of Economic Research Discussion Paper No. 2004](#), May 2003.

6 Nechyba, at 178.

7 See Charles Tiebout, *A Pure Theory of Local Expenditures*, *The Journal of Political Economy*, Vol. 64, No. 5, 416-424 (Oct 1956).

8 See Nechyba.

recognition that most driving today is done for shopping, not for commuting to work.⁹ Thus, he surmises that where people choose to live will be influenced by where they shop as much as by where they work. In his model, retail location and decisions about residential location are simultaneously determined, and Turner finds the resulting development density is always equal to or less than optimal density.¹⁰ He attributes this low-density bias to externalities and coordination problems, and recommends policy measures to reduce sprawl such as taxing larger residential lots or facilitating market entry for retailers in medium density neighborhoods.

New models like Turner's are important for thinking about sprawl outside the confines of commuter-based monocentric models and Turner draws appealing conclusions for advocates of smart growth. But, given the very serious ethical implications of policies limiting sprawl, the assumptions of these models need to be more closely examined - particularly, the actual costs and benefits of the consequences of sprawl.

Jan Rouwendal and Willemijn van der Straaten's paper, "The Costs and Benefits of Open Space," is an example of one such work.¹¹ The authors use a Samuelson-condition for the optimal provision of a public good in a monocentric model to show the optimal level of open space in three different Dutch cities.¹² The model highlights that although people are willing to pay for open space, they are also willing to pay for larger residential square footage and the two goods are mutually exclusive.¹³ Furthermore, the willingness to pay for open space increases with income, but not as fast as the willingness to pay for private residential space.¹⁴ Ultimately, Rouwendal and van der Straaten find that

9 Matthew Turner, "A Simple Theory of Smart Growth and Sprawl," *Journal of Urban Economics* 61, 21–44, at 22 (2007) (hereinafter *Turner*).

10 *See Turner*.

11 Jan Rouwendal and Willemijn van der Straaten, *The Costs and Benefits of Providing Open Space in Cities*, Tinbergen Institute, 2008. (Hereinafter *Rouwendal*)

12 *See generally Rouwendal*.

13 *Rouwendal*, at 22.

14 *Rouwendal*, at 17.

the optimal provision of open space depends on the tightness of the housing market and the quality and proximity of the open space.¹⁵ This hard look at the trade-offs associated with open-space suggests that some of the public goods linked with sprawl control, like open space, clean air and traffic flow may not be as "good," or as highly valued by the public, as assumed.

Similar analyses are needed to examine the actual costs and benefits of other consequences of sprawl to inform the growing anti-sprawl movement in the US. Such analyses should take account of a number of factors identified in urban sprawl literature. First, because the characterization of growth as "sprawl" may depend on the *types* rather than quantity of development, researchers must choose measurable characteristics such as density, separation of residential and employment centers, presence of farmland, etc, as proxies for examining sprawl. In doing so, Richard Peiser points out the importance of separating processes of development from results of development. He identifies a number of alleged negative results from sprawl, such as leap frog development and land speculation, that are natural in the development process and only become undesirable when present after a neighborhood has finished developing.¹⁶ Similarly, there is a need to accommodate for differences in the historical strengths of city centers – which have been shown to impact both the processes and effects of sprawl.¹⁷ Lastly, Peiser also illustrates that the costs of sprawl may be felt over the long term, while the benefits may be more immediate and both should be taken into account.

Because urban population growth is inevitable in the foreseeable future, policy makers should concentrate on how to best manage such growth. Current economic study of sprawl presents intriguing questions about the desirability of limiting sprawl, but also reveals the need for further

15 *Rouwendal*, at 24.

16 *Prieser*, at 285.

17 Robert Wassmer, *An Economic Perspective on Urban Sprawl: With an Application to the American West and a Test of the Efficacy of Urban Growth Boundaries*, 1 - 21, at 9. (2002).

research that takes a critical look at the assumptions of both pro and anti-sprawl advocates. Turner and Rouwendal and van der Straaten provide models of such scholarship.