

Ten Things Wrong With Sprawl

James M. McElfish, Jr.
Environmental Law Institute
January 2007



Ten Things Wrong With Sprawl

James M. McElfish, Jr.
Environmental Law Institute
January 2007

About ELI Publications—

ELI publishes Research Reports and briefs that present the analysis and conclusions of the policy studies ELI undertakes to improve environmental law and policy. In addition, ELI publishes several journals and reporters—including the *Environmental Law Reporter*, *The Environmental Forum*, and the *National Wetlands Newsletter*—and books, that contribute to education of the profession and disseminate diverse points of view and opinions to stimulate a robust and creative exchange of ideas. Those publications, which express opinions of the authors and not necessarily those of the Institute, its Board of Directors, or funding organizations, exemplify ELI's commitment to dialogue with all sectors. ELI welcomes suggestions for article and book topics and encourages the submission of draft manuscripts and book proposals.

Ten Things Wrong With Sprawl

Copyright © 2007 Environmental Law Institute®, Washington, D.C. All rights reserved.
ISBN No. 978-1-58576-111-1, ELI Project Nos. 0621-01, 0621-02

An electronic retrievable copy (PDF file) of this report may be obtained for no cost from the Environmental Law Institute Website www.eli.org; click on “ELI Publications,” then search for this report.

[Note: ELI Terms of Use will apply and are available on site.]

(Environmental Law Institute®, The Environmental Forum®, and ELR® – The Environmental Law Reporter® are registered trademarks of the Environmental Law Institute.)

Ten Things Wrong With Sprawl

by James M. McElfish, Jr.
Director, Sustainable Use of Land Program
Environmental Law Institute

In just the next thirty-four years, the Census Bureau tells us, we 300 million Americans will be joined by another 92 million.¹ Where will all these people – mostly us and our direct descendants – live, work, play, worship, buy, sell, and serve? Where will 40 million additional households be located? What sort of built environment will we produce, and what will be the results for the nation's and the environment's well-being?

The prevailing form of land development is popularly known as sprawl or exurban sprawl.² Sprawl is characterized by low density development that rigorously separates residential uses from other land uses, and that relies entirely or almost entirely on automobile transportation to connect the separate uses. There are strong reasons to prefer that the nation's future development does not reproduce this pattern -- reasons that have nothing to do with the price or availability of gasoline.

Urban planning professor Jonathan Barnett, in his book *The Fractured Metropolis*, charges sprawl with over-consumption of resources, risks to the natural environment, and loss of community resulting from the time demands imposed by the physical separation of commercial, business, residential, and social land uses.³ Economic critics of sprawl emphasize the high costs of duplicated infrastructure, the cost of time devoted to delays in commuting, and the distortions resulting from the mismatch between initial economic benefits of construction in sprawl areas and the costs of meeting subsequent demands for services

(schools, roads, fire and police) by these same areas.⁴ On environmental grounds, opponents of sprawl decry the rising amount of land conversion per each unit of new development (more acres per person), the paving over of some of the nation's highest quality farmland, and losses of biological diversity and open space.⁵

Sprawl enthusiasts counter that people are getting what they want in low density housing and ubiquitous shopping, that a rising population will need more housing on cheap land, and that commute times, while rising, are not that bad for most people. They emphasize the number of construction jobs created and the higher assessed land value of developed lands over agricultural and forest lands.⁶ Sprawl enthusiasts downplay the agricultural land issue by suggesting that America still has large areas of land suitable or at least potentially suitable for agriculture (there is no "food shortage"), while further noting that the direct contribution of agriculture to the nation's gross domestic product is modest in comparison with other economic sectors.⁷

Many of these arguments talk past one another. For example, well-paying construction jobs need not depend upon future construction in sprawl patterns rather than in alternative forms of development. Ninety-two million more people will need somewhere to live and work and go to school, after all. Likewise, the arguments over agricultural lands are not really about whether food will run out, or even whether commercial retail buildings generate more net economic value than

crop lands (a hotly disputed topic, by the way), but rather whether the location of agriculture, forests, retail and housing matters. Arguments about traffic and travel times often gloss over whether alternative development patterns and transportation options can deliver comparable flexibility with fewer side effects.

Whatever one thinks of these arguments and their critique of past practices and the current built landscape, at least when considered prospectively, sprawl has ten undeniably adverse effects that should place it on the public policy agenda.

1. Sprawl development contributes to a loss of support for public facilities and public amenities. In economic terms, sprawl encourages market failure; residents of sprawl communities have access to public facilities that they do not support with their tax dollars, and residents of older communities subsidize the existence of the these facilities.

Sprawl communities typically lack parks, museums, civic spaces, libraries, and the like. This frequently occurs either because some of these amenities are privatized and made available only to a small segment (owners of large lots have less need for public open space), or because sprawl dwellers can be “free riders” on urban facilities supported in substantial part by others. Pittsburgh city officials have noted, for example, that their city’s land base includes substantial tax exempt properties – museums, universities, parks, hospitals, libraries, zoos – far in excess of those in suburban jurisdictions whose citizens can enjoy city facilities while also benefitting from lower suburban tax rates.⁸ In many communities, property taxes in the exurbs are lower than those in the cities because of this mismatch.

In most metropolitan areas, piecemeal construction of new subdivisions does not include community centers and public

facilities. The nearest thing to civic spaces in sprawl communities are the stone gates flanking the entrance sign. And when there are common spaces, they are often restricted to the members of homeowners’ associations. There are weak or nonexistent social and financial ties to the support of regional facilities of general public benefit, such as public hospitals and parks.⁹

2. Sprawl undermines effective maintenance of existing infrastructure.

Existing developed areas – cities and older suburbs – have sewers, water systems, city streets, bridges, schools, transit systems and other hard infrastructure to maintain. But exurban development draws population away from areas with existing infrastructure and into new areas where new infrastructure must be constructed or where some infrastructure costs are avoided, at least temporarily, through the use of wells and septic systems, or by reliance on undersized roads that are upgraded at great public expense long after the developments have been constructed. The frequent result is a shift of population regionally, leading to a decline in the urban and older suburban tax base. This decline in turn prompts increases in urban taxes and rates (needed to support the existing infrastructure across a smaller population), and/or to deferral of maintenance activities. Both of these effects further disadvantage the existing systems and encourage further exodus. John Fregonese, the Region 2040 lead planner for Portland’s Metro government makes this point, “When you have sprawl, all your resources are sucked to the edge for new roads, and schools and sewers. Then you have a lack of money for rebuilding...and you get these rotting cores.”¹⁰

3. Sprawl increases societal costs for transportation. Costs rise largely because of the need for expensive retrofits. Typical

scenarios include the conversion, after sprawl has occurred, of exurban two lane roads to four lanes or six lanes, adding signals, construction of grade separations for intersections, and building county or intercounty connector highways and metropolitan belt roads. This invariably occurs at great expense and disruption – because of increased right-of-way costs, difficulties in maintaining traffic flow during the construction period, and often substantial community opposition.

This retrofit dilemma is a spin-off of the problem of traffic. People hate traffic – in fact, part of the reason for sprawl is the elusive promise that commuters and commercial offices can outrun traffic by continually expanding into lower traffic areas. And, at least initially, average commute times are generally lower *within* sprawl areas than commutes *from* sprawl areas to the center city. But traffic is, in general, extremely bad in sprawling metropolitan areas – often worse on weekends when travel is more diffuse and timing strategies intended to avoid peak travel times do not work. Catch-up transportation expenditures have to be made.¹¹

Unfortunately, often they can't be made. For example, consider the sprawl area north of Chicago. Like many suburban papers, the local newspaper in Lake County, Illinois, has a daily "roads" column. A fairly typical letter printed in the column bemoaned the daily backups at the intersection of a heavily traveled two-lane road with a four-lane highway. The Illinois DOT spokesman contacted by the paper responded that the intersection complained of had been completely upgraded and re-engineered only a few years earlier. It had already been overtaken by increased traffic flow. The spokesman commented that there was no remaining engineering or right-of-way expansion solution on this road, so the only thing that IDOT could do would be

new re-construction projects on parallel routes. The retrofit problem is a perennial feature of sprawl, as any sprawl dweller can personally attest, and its costs are high.

4. Sprawl consumes more resources than other development patterns.

Because homes, offices, utilities, and other features are farther apart (requiring more asphalt, more lengths of pipe, more conduits, more wires), because each commercial and institutional structure requires its own acres of parking, and because much of the utility infrastructure is duplicative of the "stranded" infrastructure in nearby older communities – society's overall consumption of metal, concrete, asphalt, and energy is higher.¹²

5. Sprawl separates urban poor people from jobs.

Ownership of an automobile and the resources to maintain it are essential for work in the suburbs, the site of most new jobs in the modern economy. However, the prevailing sprawl model of development drastically separates different price levels of housing from one another, as well as separating job areas from residential areas. These characteristics of sprawl mean that locating new affordable homes near jobs is quite difficult, and sprawl consequently reduces the availability of jobs for those in urban areas that lack reliable automobile transportation.¹³ Overcoming sprawl patterns could result in either increasing the number of workplaces in urban areas, or making it easier to construct and maintain the availability of affordable housing near workplaces.

6. Sprawl imposes a tax on time.

Sprawl development requires that we spend more time on the road. Exurbia, including most post-war suburbia, rigorously separates residential housing, food stores, other retail establishments, warehouse and transfer facilities, industry, schools, and

office buildings. This has adverse effects on neighborhoods, and leads to more automobile travel. In exurban areas, commercial establishments can be accessed only when people drive to each location. Nonwork automobile trips now comprise more than 80 percent of all daily trips.¹⁴ Residents of sprawl areas do not forego the benefits of mixed uses of land, but they pay a price in time, and they lack choice in their mode of travel. Describing Tyson's Corner outside Washington, D.C., where offices and commercial buildings are completely separate from any residential housing and all access is via main arterial roads, a Washington Post writer noted that "a six-mile commute home can stretch to 90 minutes."¹⁵ Sprawl also makes it take much longer for the one-third of Americans who reside in central cities and inner ring suburbs¹⁶ to get to greenfields areas for recreation and enjoyment. Sprawl, in effect, imposes a hidden tax on time by making certain amenities more remote and harder to reach.

7. Sprawl degrades water and air quality. Sprawl development is hard on streams, wetlands, and runoff quality. It reduces the resilience of streams and other waters by degrading headwaters and impoverishing habitat. For example, in the Chesapeake Bay region, sprawl is the largest threat to water quality. It increases the area of impervious surface, decreases retention time for rainwater and diminishes its infiltration into the soil and water table, and it leads to rapid erosion and structural degradation of streams and rivers, which therefore receive runoff in much greater volumes in a shorter period of time.¹⁷ It also increases the frequency and intensity of flooding, placing further demands on the public treasury for preventive structures and disaster response.¹⁸ In metropolitan areas, air pollution can be worse over a much larger area. Vehicle miles traveled as

well as time sitting in traffic rises significantly in these mega-sprawl areas; for example, motorists in the Atlanta area log about 100 million miles per day with 2.5 million registered vehicles.¹⁹ Another effect related to sprawl development patterns is the loss of a constituency that can be served by transit or other means. Residents' inability to substitute other modes for the automobile, including walking and transit, is an undeniable drag on every area's ability to meet clean air goals.²⁰

8. Sprawl results in the permanent alteration or destruction of habitats. Sprawl development converts large areas to asphalt, concrete, and structures, altering the landscape hydrology and reducing the biological productivity and habitat value of the land.²¹ While any conversion of open lands to developed uses can impair the prior environmental values and there will always be tradeoffs to accommodate human needs, sprawl development does so at a high rate of land conversion per unit of development.²²

A related problem is the loss of productive farmland near metropolitan areas. This feature of sprawl development has been documented in persuasive detail by the American Farmland Trust through repeated studies under the rubric of *Farming on the Edge*.²³ Farmland contributes at least incidentally to wildlife habitat and potential for future restoration. Although there is, at least in the near term, no threat to the nation's total food production given the amount of remaining farmland, as well as farmland currently fallowed under federal conservation and price stabilization programs, the loss of prime farmland is not desirable from the point of view of long term uses.

Conversion of land near urban areas also presents an environmental loss in the sense that dense urbanization places stresses on habitat and aquatic systems that can best be

offset by the beneficial effects of retaining larger tracts of nearby vegetated open space in the same watershed and habitat areas. Without this open space (farms, forests), metropolitan areas and their adverse environmental effects are unbuffered.

9. Sprawl creates difficulty in maintaining community. People do have communities in their suburban neighborhoods, workplaces, and in their organized activities. Modern day exurbs are not the places of alienation described by some “new urbanist” writers, many of whom draw upon affection for the older urban neighborhoods of the early and mid-20th century.²⁴ But these new sprawl communities require more driving, and more complicated arrangements to maintain social connections. This also means that children are at the mercy of scheduled activities and “play dates” rather than neighborhood interactions, and exercise becomes an isolated activity on the schedule, rather than a natural consequence of walking, biking, or using public park facilities. These demands exact a social toll. Planner William Fulton recently described the effect of sprawl in the greater Los Angeles area as “a constant caravan between the residential cocoon, where citizenship is exercised only in narrow, self-interested ways, and the spending and working cocoons, where citizenship is totally surrendered to the commercial forces that run the place.”²⁵

10. Sprawl offers the promise of choice while delivering more of the same. In America, choice is not only a cherished value, it is also something that our market economy claims as its highest achievement. But, paradoxically, we have lost choice in our system of development. Sprawl constrains our choices. If you want a new house, you can have one on a half acre in the suburbs with no retail around. If you

want to locate a store or an office, the arterial strip or highway interchange is for you. If you want transportation, you can use your car. If you are poor you can live in substandard housing in the inner city or manufactured housing on the farthest fringes of the metropolitan area. This lack of choice is why every part of exurban America resembles every other part.

* * *

Portions of the building industry sometimes say that our *current* development patterns perfectly reflect the satisfaction of American social demands. Whatever we have, whatever we are creating, it must be what we want, or the market would provide something else. However, this position requires us to deny the influence of laws, institutions, zoning codes, financing rules, government subsidies and market failures. Much of the sprawl we see is the unintended result of laws and policies that were imperfectly aimed at something else, such as easing transportation delays, encouraging school modernization, providing healthy settings for housing, or stimulating home ownership.

We will only be able to address these mismatches of law and policy, and to root out perverse unintended consequences, if we recognize that something is amiss with our current patterns of development.

Some things really are wrong with sprawl. “*We need to find a better word,*” said a builder representative to a program on smart growth in which I participated a few years ago. Well, that’s one approach. But a better approach is recognizing that we have real problems ahead if current development patterns continue to prevail. Only such recognition will enable us to take steps to reform the laws and policies that hold us back – and enable us to find places and provide choices for our 92 million new neighbors.

ELI's Sustainable Use of Land Program and its projects are supported by the Heinz Endowments, the William Penn Foundation, the Keith Campbell Foundation, the Abell Foundation, Douglas Keare, and others. The Institute is solely responsible for the content of this publication.

Notes

1. <http://www.census.gov/ipc/www/usinterimproj/> The projection for 2040 is 392 million. Current U.S. population is 300 million.

2. Exurban means "outside the city." It is a more accurate term for today's sprawl areas than "suburban," as many sprawl areas have little direct economic or social connection to the cities in whose regions they lie. Their job centers are not in downtowns but in other exurbs.

3. Jonathan Barnett, *The Fractured Metropolis* (1995), pp. 6-7.

4. Real Estate Research Corporation, *The Costs of Sprawl: Environmental and Economic Costs of Alternative Residential Development Patterns at the Urban Fringe* (1974); Sierra Club, *Dark Side of the American Dream: The Costs and Consequences of Suburban Sprawl* (September 9, 1998); James E. Frank, *The Costs of Alternative Development Patterns: A Review of the Literature* (Urban Land Institute, 1989); Clint Yuhfill, *The Invisible Economics of Real Estate Development*, (Pennsylvania Environmental Council 1994); Robert W. Burchell, et al., *The Costs of Sprawl-Revisited: Transit Cooperative Research Program Report 39* (Transportation Research Board, National Research Council, National Academy Press, 1998).

5. See e.g., American Farmland Trust, *Farming on the Edge* (1997)(America is rapidly losing high quality farmland to development); Reid Ewing and John Kostyack, *Endangered by Sprawl: How Runaway Development Threatens America's Wildlife* (National Wildlife Federation, *Smart Growth America*, Nature Serve: Washington, DC: 2005)(sprawl is fragmenting and degrading habitat).

6. See e.g., Peter Gordon and Harry W. Richardson, "Are Compact Cities a Desirable Planning Goal?" *Journal of the American Planning Association*, Vol. 63, No. 1, Winter 1997; Peter Gordon and Harry W. Richardson, "Critiquing Sprawl's Critics," *Policy*

Analysis (Cato Institute, Jan. 24, 2000); Randall G. Holcombe, "In Defense of Urban Sprawl," PERC Reports, February, 1999. Roberta Maynard, "The Ripple Effect," *Builder* magazine, July 1998 ("Each new home build in America is like a mighty economic engine..."). Of course, developed lands also usually require substantial municipal services, and the net economic outcome from a municipal finance point of view is often negative. See American Farmland Trust, *Living on the Edge: Costs and Risks of Scatter Development*.

7. Samuel R. Staley, *The Sprawling of America: In Defense of the Dynamic City* (Reason Public Policy Institute, Policy Study No. 251, 1999)("Urban development does not threaten the nation's food supply"), Gordon and Richardson, *supra*, n. 6 ("America is not running out of open space." And "Detailed economic data suggest that the direct contribution of agriculture to the nation's economy is modest" in contrast with manufacturing and other uses of the land.)

8. See, e.g., Timothy McNulty, "Tax-exempt properties are killing city financially, controller Flaherty says," *Pittsburgh Post-Gazette*, Jan. 13, 2000.

9. William Fulton, *The Reluctant Metropolis: The Politics of Urban Growth in Los Angeles* (Solano Press Books: Point Arena, California, 1997).

10. Dee Hall, "The Choice: High Density or Urban Sprawl - Portland Area Gets Creative to Control Growth," *Wisconsin State Journal*, July 23, 1995.

11. D Schrank & T. Lomax, *The 2005 Urban Mobility Report* (Texas Transportation Institute, 2005) (constructed road capacity must increase *faster* than increases in travel if increases in congestion delays are to be prevented, but this has not occurred in the 85 metropolitan areas studied; indeed only four had a narrow gap).

12. Funders' Network for Smart Growth and Liveable Communities, *Energy & Smart Growth: It's About How and Where We Build* (2004), avail. at http://www.fundersnetwork.org/usr_doc/Energy_and_Smart_Growth.pdf

13. The research confirming this effect is summarized in Margaret Pugh, *Barriers to Work: The Spatial Divide Between Jobs and Welfare Recipients in Metropolitan Areas* (Brookings Institution, Sept. 1998). See also Robert Cervero et al., "Job

Accessibility as a Performance Indicator: An Analysis of Trends and Their Social Policy Implications in the San Francisco Bay Area,” Institute for Urban Regional Development, Univ. of Cal. at Berkeley (1997). The National Association of Home Builders argues that the job gap is a reason to support sprawl: build where the jobs are. “Sierra Club Report on Growth is Flawed and Biased, NAHB Says”, NAHB Press Release, Sept. 9, 1998.

14. Surface Transportation Policy Project, High Mileage Moms (1999) (only 18 percent of automobile trips are commuting to work), *available at* <http://www.transact.org/report.asp?id=184>.

15. Alice Reid, “Tysons Growth Revs Up Concern About Gridlock,” Washington Post, March 13, 1999.

16. Robert Puentes and David Warren, One-Fifth of America: A Comprehensive Guide to America’s First Suburbs (Brookings Institution, Feb. 2006), at 6.

17. See e.g., Paul Nussbaum, “Paving way for environmental harm,” Philadelphia Inquirer, Feb. 9, 1999 (recounting water quality impacts of development in exurban areas surrounding Philadelphia). Dana Beach, Coastal Sprawl: The Effects of Urban Design on Aquatic Ecosystems in the United States (Pew Oceans Commission, 2002)(summarizing scientific research).

18. Rutherford Platt, et al., Disasters and Democracy (Island Press, Washington, D.C. 1999).

19. Robert D. Bullard, Glenn S. Johnson, and Angel O. Torres, “Atlanta Megasprawl,” Forum for Applied Research and Public Policy, vo. 14, no. 3, Fall 1999, p. 17, 19.

20. Environmental Protection Agency, The Transportation and Environmental Impacts of Infill Versus Greenfield Development: A Comparative Case Study Analysis (Washington, D.C., 1998).

21. Reid Ewing and John Kostyack, Endangered by Sprawl: How Runaway Development Threatens America’s Wildlife (National Wildlife Federation, Smart Growth America, Nature Serve: Washington, DC: 2005); Bruce Stein, L.S. Kutner, J.S. Adams, Precious Heritage: The Status of Biodiversity in the United States (Oxford U. Press: New York: 2000).

22. See generally, James M. McElfish, Jr., Nature-Friendly Ordinances (Envtl. L. Inst. 2004).

23. American Farmland Trust, Farming on the Edge (1997).

24. E.g. James Howard Kunstler, The Geography of Nowhere (1993)(a well-written jeremiad including riffs on the alleged alienation of exurbia).

25. William Fulton, The Reluctant Metropolis: The Politics of Urban Growth in Los Angeles,” (Point Arena, California: Solano Press Books, 1997), pp. 343-344.

For more than three decades, the Environmental Law Institute has played a pivotal role in shaping the fields of environmental law, management, and policy domestically and abroad. Today, ELI is an internationally recognized, independent research and education center.

Through its publications and information services, training courses

and seminars, research programs and policy recommendations, the Institute activates a broad constituency of environmental professionals in government, industry, the private bar, public interest groups, and academia. Central to ELI's mission is convening this diverse constituency to work cooperatively in developing effective solutions to pressing environmental

problems.

The Institute is governed by a board of directors who represent a balanced mix of leaders within the environmental profession. Support for the Institute comes from individuals, foundations, government, corporations, law firms, and other sources.

Environmental Law Institute

2000 L Street, N.W., Suite 620

Washington, D.C. 20036

Telephone: (202) 939-3800

Fax: (202) 939-3868

www.eli.org

