



INFINITE

SUBURBIA



What is the future of suburbia? In collaboration with a network of artists, researchers, theorists, and academics, the MIT Norman B. Leventhal Center for Advanced Urbanism examines the latest in suburban design and development, the most pervasive form of urbanization on the planet. This collection of investigations speculates and explores the theories, structures, and practices that are shaping the future of urbanization.

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# THE NEW BRIDGE TO THE FUTURE





# Infinite Suburbia



**Edited by**  
**Alan M. Berger**  
**Joel Kotkin**  
**with Celina Balderas Guzmán**

Princeton Architectural Press, New York

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**INFINITE**

**SUBURBIA**











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India, South Africa, China, Brazil, and the United States with aerial photography. Wherever possible, we worked with Matthew and John to capture sites discussed in our authors' essays. Some of these images are featured in full-page spreads throughout this book. With the artists, we also created four video narratives of footage that were featured in the Future of Suburbia exhibition at the MIT Media Lab in 2016. The video narratives exposed the staggering extent of suburban expansion, the polycentricity of metropolitan areas, interfaces with the natural environment, and the diversity of suburban building typologies around the world.

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Alan M. Berger, Joel Kotkin, and  
Celina Balderas Guzmán, 2017



# Introduction

They have not destroyed space; they have simply rendered it infinite by the destruction of its centre (hence these infinitely extendable cities).

—Jean Baudrillard, *America*

Global urbanization is heading toward infinite suburbia. Around the world, the vast majority of people are moving to cities not to inhabit their centers but to suburbanize their peripheries.<sup>1</sup> Thus, when the United Nations projects the number of future “urban” residents, or when researchers quantify the amount of land that will soon be “urbanized,” these figures largely reflect the unprecedented *suburban* expansion of global cities.<sup>2</sup> By 2030, an estimated nearly half a million square miles (1.2 million square kilometers) of land worldwide will become urbanized, especially in Asia, Africa, and Latin America.<sup>3</sup> In the United States alone, an additional 85,000 square miles (220,000 square kilometers) of rural land will be urbanized between 2003 and 2030.<sup>4</sup> Given that these figures represent the conversion of currently rural land at the urban fringe, these lands are slated to become future suburbias. Even so, many countries are already majority suburban. In the United States, 69 percent of the population lives in suburbs.<sup>5</sup> As late as 2010, over 75 percent of American jobs lay outside the urban core.<sup>6</sup> Many other developed countries are also majority-suburban. In the Global South, it is estimated 45 percent of the 1.4 billion people who become new urban residents will settle in peri-urban suburbs.<sup>7</sup> The sheer magnitude of land conversion taking place, coupled with the fact that the majority of the world’s population already lives in suburbs, demands that new attention and creative energy be devoted to the imminent suburban expansion.

Despite all the evidence showing that the world’s most prevalent and rapidly

growing form of urbanization will be suburbia, the fields of Planning, and especially Design, still lack a robust, unbiased intellectual and theoretical platform to examine and debate it.<sup>8</sup> Not since rapid post-World War II suburban expansion in the United States was ushered in by the stewardship of landscape architecture has any design field taken the lead on suburban futures.<sup>9</sup> The allied Planning and Design fields have proved unable to significantly shape suburbia, which has continued unabated and in forms primarily driven by economic policies, some consumer preferences, speculation, tax policies, and lax government regulation. The results are widespread suburban models that are wasteful, unsustainable, and inequitable for many social and economic reasons, but also spreading everywhere including China, Ireland, Spain, Turkey, Panama, Dubai, Ghana, Kenya, and many other countries.

Perhaps as a reaction to our own ineffectiveness, Planning and Design have overwhelmingly vilified suburbia. As the historian Robert Bruegmann describes in “The Antisuburban Crusade,” the intellectual elite has railed against suburbia primarily in three distinct waves in history, and particularly for aesthetic reasons (though the suburb has endless criticisms leveled against it). As a solution, many arguments call for a full return to high-density living, dismissing the suburbs altogether.<sup>10</sup> However, most of America’s and many other developed countries’ populations currently live in suburbs, while the developing world is undergoing massive suburbanization, too. A truly “back to the city” future, as imagined by retro-urbanists, seems highly unlikely short of imposition of draconian planning regimes.

This book is construed for an alternative discourse around suburbia that can open paths to improvement and agency,

Epigraph: Jean Baudrillard, *America* (London; New York: Verso, 1988), 99.

1 Although rarely loudly proclaimed, this phenomenon has been noted in the press as well as in scholarly literature, albeit in disparate places. One reason for the disparate sources is that global suburbanization is often called by other terms (e.g., peri-urbanization in the Global South) and studied by scholars specializing in those specific conditions. As a result, what is a global phenomenon is often divided into multiple niche topics (or specific geographies), and thus the global picture is harder to discern and figures are difficult to come by. More study on the global phenomenon is needed. Nonetheless, the dominance of suburbanization worldwide has been noted, for example, in “A Suburban World,” *Economist*, December 6, 2014, <http://www.economist.com/news/leaders/21635486-emerging-world-becoming-suburban-its-leaders-should-welcome-avoid-wests>; Mark Clapson and Ray Hutchison, eds., *Suburbanization in Global Society* (Bingley, UK: Emerald, 2010). In 2010 the United Nations (UN) declared that “suburbanization is becoming more prevalent,” and that “more and more people both in the North and South are moving outside the city to ‘satellite’ or dormitory cities and suburban neighborhoods.” See UN-HABITAT, “State of the World’s Cities 2010/2011, Bridging the Urban Divide,” ix, 10–11, <http://mirror.unhabitat.org/pmss/listItemDetails.aspx?publicationID=2917>.

2 Within professional and popular design culture, there is a strange propagation of facts used to distort the dominance of “cities.” When the UN declared that by 2030, six out of every ten



rather than condemning it altogether or trying to stop it. As Bruegmann reveals, the long history of antisuburban crusades has shown that the latter strategies always fail. Changing the discourse entails abandoning ideological biases and critically examining nuanced research on suburbia that exposes both its flaws and its opportunities. In doing so, we find that suburbia contains many opportunities to be a more productive landscape than its current condition. As the largest form of new growth and settlement globally, it is a vast frontier awaiting innovation. Suburbia could be an experimental test bed for new typological forms, environmental retrofitting, clean water, home-based employment, energy production, novel ecosystems, social programs, and many other innovations yet unimagined. Moreover, in order to find innovative solutions for suburbia, the allied Design and Planning fields need a new intellectual framework.

The *Infinite Suburbia* project began in the summer of 2014 to find the most recent, cutting-edge research on suburbia that pointed toward more productive futures. Following a literature search involving over five hundred references by a team of researchers at MIT Norman B. Leventhal Center for Advanced Urbanism, over fifty authors were invited to contribute to the publication. We allowed authors to define suburbia on their own terms. We wanted to include contrasting perspectives and have a balanced approach to show there are advantages and disadvantages to the suburban condition.

### The Infinite Suburbia Roadmap

Suburbia is complex. Its production, persistence, and expansion can best be explained as a nonlinear set of interrelationships. We cannot talk about one aspect of suburbia without considering how it might affect many other social,

people would live in an urban area, and seven out of ten by 2050, they carefully defined that "there is no common global definition of what constitutes an urban settlement. As a result, the urban definition employed by national statistical offices varies widely across countries, and in some cases has changed over time within a country." See United Nations, Department of Economic and Social Affairs, Population Division, "World Urbanization Prospects: The 2014 Revision, Highlights" (United Nations, 2015), <http://esa.un.org/unpd/wup/Highlights/WUP2014-Highlights.pdf>. Albeit a minor conflation of language, the term *urban*, as specified by previous UN documents, was swapped out for "cities" by those outlets reporting on the UN's publications. These figures were uncritically adopted by foundations that have funded initiatives and spent hundreds of millions on this topic. See "100RC Announces Opening of 2014 100 Resilient Cities Challenge," accessed December 7, 2015, <http://www.100resilientcities.org/blog/entry/>. It is impossible to trace the exact origins of this conflation, but it is certainly ubiquitous now. The subtle swap in terminology has been malignant and has permeated the corporate world and popular media in an uncritical cycle of repetition. Thought leaders, such as Bill Ford, the chairman of Ford Motor Company, declared at his TED talk that 75 percent of the world will be living in cities. See Bill Ford, *A Future beyond Traffic Gridlock*, TED Talks, March 2011, [https://www.ted.com/talks/bill\\_ford\\_a\\_future\\_beyond\\_traffic\\_gridlock](https://www.ted.com/talks/bill_ford_a_future_beyond_traffic_gridlock). Hundreds of other media outlets regularly use the same statistic and incorrect language.

Consider *USA Today's* headline "U.N.: By '09, Half the World Will Live in Cities," which incorrectly states the content of their own article and UN report! The article goes on as follows: "The (UN) report predicts that there will be 27 'megacities' with at least 10 million population by mid-century compared to 19 today, but it forecasts that at least half the urban growth in the coming decades will be in the many smaller cities with less than 500,000 people... Thus, the urban areas of the world are expected to absorb all the population growth expected over the next four decades while at the same time drawing in some of the rural population," which completely obfuscates the differences between "urban areas" and "cities." See "U.N.: By '09, Half the World Will Live in Cities," *USA Today*, February 26, 2008, [http://usatoday30.usatoday.com/news/world/2008-02-26-cities-population\\_N.htm](http://usatoday30.usatoday.com/news/world/2008-02-26-cities-population_N.htm). Using the same family of UN reports, Fast Company reported with its own headline: "By 2050, 70 percent of the World's Population Will Be Urban. Is That a Good Thing?" The article, however, gets its content confused with terminology again, saying: "Once you get over the fact that, by 2050, both China and India will have about a billion people living in cities alone, you can mine the image for thoughtful comparison. For instance, since the 1990s, more than 75 percent of the US population has lived in cities... By 2050, somewhere between 50-75 percent of their population will live in cities." This is factually incorrect, but it is fascinating to see such a blatant misunderstanding between the use of *urban* in the headline and *cities* in all of these varied outlets. See Mark Wilson, "By 2050, 70 percent of the

World's Population Will Be Urban. Is That a Good Thing?," *Fast Company*, Co.Design, March 12, 2012, <http://www.fastcodesign.com/1669244/by-2050-70-of-the-worlds-population-will-be-urban-is-that-a-good-thing>.

- 3 Karen C. Seto, Burak Güneralp, and Lucy R. Hutyra, "Global Forecasts of Urban Expansion to 2030 and Direct Impacts on Biodiversity and Carbon Pools," *Proceedings of the National Academy of Sciences* 109, no. 40 (October 2, 2012): 16083-88.
- 4 Eric M. White, Anita T. Morzillo, and Ralph J. Alig, "Past and Projected Rural Land Conversion in the US at State, Regional, and National Levels," *Landscape and Urban Planning* 89, nos. 1-2 (January 30, 2009): 37-48.
- 5 Wendell Cox, "Measuring US Urban Cores and Suburbs," in *Infinite Suburbia* (New York: Princeton Architectural Press, 2017).
- 6 Elizabeth Kneebone, "Job Sprawl Stalls," Metropolitan Opportunity Series (Brookings Institute, Metropolitan Policy Program, April 2013), [http://www.brookings.edu/~media/research/files/reports/2013/04/18%20job%20sprawl%20kneebone/srvy\\_job\\_sprawl.pdf](http://www.brookings.edu/~media/research/files/reports/2013/04/18%20job%20sprawl%20kneebone/srvy_job_sprawl.pdf).
- 7 Douglas Webster, *Summary of Peri-urbanization: The New Global Frontier* (Enschede, Netherlands: International Institute for Geo-Information Science and Earth Observation, 2004).
- 8 The start of the "suburban century" was noted in an influential article by William Schneider, "The Suburban Century Begins," *Atlantic Monthly*, July 1992, <http://www.theatlantic.com/past/politics/ecbgi/schsub.htm>.
- 9 Garrett Eckbo, Daniel Kiley, and James Rose, "Landscape Design in the Primeval Environment,"



economic, political, or ecological factors. Any study of suburbia—just as any study of urbanization at large—is not bounded by any single discipline or argument. For these reasons, instead of conforming to a linear packaging of chapters, we have chosen a more unconventional structuring of this book.

To capture the complexity and richness inherent in the book's content, we analyzed all essays to find common, reoccurring topics across authors. Initially, we identified nearly two hundred common topics creating over three hundred connections across the fifty-two essays in the book. When we mapped these topics and linked them to the book's essays, we found a rich set of interrelationships between seemingly disparate essays and topics, exposing the multidisciplinary nature of suburban studies.

We reduced the topics from two hundred to twenty-one in order to distill the most important ideas in the book. Thus, the Infinite Suburbia Roadmap was born. The Roadmap is the navigational guide to this book. It maps the book's essays and their connections to the twenty-one topics, which have been organized around five major themes: the drive for upward social mobility, polycentric metropolitan form, metropolitan economic relationships, harnessing ecological productivity, and scales of governance.

These themes are the five chapters of the book. The authors' essays are placed in the chapter that is most closely related to their theses, indicated in the Roadmap by page, chapter, and essay number, plus a symbol marking the essay type: history, case study, research, or theory. However, most essays straddle multiple themes, and the Roadmap is useful in showing the connections between one essay or topic to another. In this way, the Roadmap allows readers to take their own improvised journeys through the material, starting at a topic of interest and following the threads

that unfold. We invite readers to construct unique trajectories and to form their own paths derived from the material.

Since the topics and major themes emerged organically from the book's content, they constitute the most important ideas in the book and potentially the beginnings of a new theory on suburbia. Suburbia—if not ignored altogether—has long been a niche subject within urban theory. Even when studied in its own right, suburbia has typically been geographically imagined as an extension of urban cores, which reinforces the city-suburb duality.<sup>11</sup> Changing such deeply embedded dualism requires envisioning suburbia not as an “explosion” away from a center but as an emergence of new centers with different, and often unique, characteristics.<sup>12</sup> Herein, we begin building a new theory of suburbia that is inclusive of old and new centralities. It is a theory that aims to understand the phenomenon of “complete urbanization.”<sup>13</sup>

Related fields have parallel theories already in development. In social science, new regionalism examines the effects of regional-scale urban agglomerations in terms of economic, political, and cultural effects. New regionalism accepts the polycentric structure of modern metropolitan areas. Yet the geographer Edward Soja admits that, “unfortunately, the new regionalism in an explicit and assertive sense has remained poorly articulated in the wider literature and not well developed empirically.”<sup>14</sup> Moreover, as a social science theory, a spatial component tends to be missing from new regionalist literature. Designers and planners need a theory that also helps to explain the spatial structure and characteristics of metropolitan areas and even larger regions to serve as a framework for agency and intervention. As many of our authors explain, little physical Design and Planning agency exists at these larger scales, even though it is one of increasing

*Architectural Record* 87, no. 2 (February 1940): 74–79.

10 Vishaan Chakrabarti, *A Country of Cities: A Manifesto for an Urban America* (New York: Metropolis Books, 2013).

11 Roger Keil, “Suburban,” in *Urban Theory: New Critical Perspectives*, ed. Mark Jayne and Kevin Ward (London: Routledge, 2016).

12 Ibid.

13 Ibid.

14 Edward Soja, “Accentuate the Regional,” *International Journal of Urban and Regional Research* 39, no. 2 (March 1, 2015): 373, doi:10.1111/1468-2427.12176.



focus and importance in our age of environmental concerns. It is because of their horizontality that suburban surfaces still have the capacity for retrofitting large, new designed systems that can alter regional sustainability. At the same time, heavy regulatory and financial constraints in urban cores, especially the challenges of infrastructural upgrades in congested spaces, make large-scale Design and Planning an anathema.

The purpose of this book is not to unveil a fully developed new theory of suburbia; rather, our ambition is to lay out a plausible roadmap that outlines the beginnings of such a theory. We start by prioritizing contemporary issues, the critical need for larger scales of physical Design and Planning, and opening new lines of research that planners and designers interested in the physical nature of urbanization would not typically follow. We hope that other urban scholars and practitioners expand on the conversations begun in this book to eventually shape a more full-fledged theory for understanding the future of suburbia.

### **The Drive for Upward Social Mobility**

The first chapter explores suburbia as a place of opportunity and upward social mobility for many, but also frequently a result or manifestation of social inequalities. Suburbia's power as a place of opportunity comes from its dynamic and heterogeneous nature. As Robert Fishman describes, "Nothing is more hybridized—indeed, chaotic—than morphology and land uses at the edge of a rapidly growing city." In "The Myth of Homogeneous Suburbia," Jon C. Teaford expands on the hybridity of suburbia, outlining the ways in which suburbs have been socially and economically mixed since their inception. In fact, suburbia's social diversity has radically increased over the past twenty years. Not only do 61 percent of foreign-born immigrants in America live

in suburban areas of large metros, suburbia is home to more than half of all minority groups.<sup>15</sup> Moreover, the number of large metro areas where suburbs are majority-minority has increased from eight to sixteen since 2000.<sup>16</sup> In the United States, suburbs are diversifying at the national level, but the metropolitan dynamics also yield interesting insights into the movements of minority groups. In "Reexamining Race and Ethnicity in the Suburbs," Ali Modarres's research shows how minorities are continuing to move into formerly white areas in greater numbers. Where they originally inherited inner-city areas during white flight, now minorities are moving into the inner-ring suburbs vacated by white populations moving to gentrified inner-city areas. In doing so, minorities are gaining access to homeownership and amenities that enhance their quality of life.

The movement of minority groups into formerly white suburbs is more than just an American phenomenon, and adjustments need to be made to handle these migrations depending on where they are located. From Norway's Grorud Valley, outside Oslo, Espen Aukrust Hauglin and Janike Kampevold Larsen discuss in "The Grorud Valley: Borderline Suburbia" how the valley's landscape structure needs reconsideration now that new demographic groups have moved in. These groups have a different relationship to nature and recreational needs than the native Norwegians the Grorud Valley was designed for.

Contrary to popular press, millennials are also finding homes in suburbia in great numbers. Morley Winograd and Michael D. Hais, in their essay, "Millennials' Hearts Are in the Suburbs," argue that as millennials move from urban cores into suburbs, they will dramatically reshape its landscape.

And yet, while suburbia is a place of opportunity for many, it can also be the

15 Foreign-born statistic, from Jill H. Wilson and Nicole Prchal Svajlenka, "Immigrants Continue to Disperse, with Fastest Growth in the Suburbs," Brookings Institution, accessed March 5, 2015, <http://www.brookings.edu/research/papers/2014/10/29-immigrants-disperse-suburbs-wilson-svajlenka>; William H. Frey, "Melting Pot Cities and Suburbs: Racial and Ethnic Change in Metro America in the 2000s," State of Metropolitan America (Metropolitan Policy Program, Brookings Institute, May 2011).

16 William H. Frey, "The Rise of Melting-Pot Suburbs," Brookings Institution, May 26, 2015, <http://www.brookings.edu/blogs/the-avenue/posts/2015/05/26-melting-pot-suburbs-frey>.



manifestation of social inequalities of many kinds. Robert Fishman, in “The Divided Metropolis: The Suburb and the Explosion of Global Urbanization,” explains the now familiar tendency to enclave the rich in suburbia, leaving the disadvantaged in the city center, as originally devised in the Anglo-Saxon model. Historically, France has done the reverse, pushing its poor to the periphery (housing them in modernist *grands ensembles*), keeping the urban core gentrified. Only Ebenezer Howard’s garden city model attempts to break class divisions, but its implementation has been limited. Most other models are predicated on divisions between the rich and the poor, resulting in asymmetrical provision of infrastructure and services. Thus fragmentation in metropolitan areas arises between the rich (frequently in gated communities) and the poor (frequently in slums) that exist side by side in many developing world cities.

Mexico City is a metropolitan area known for its divisions along economic lines, in part fueled by the concerns of security and exclusivity of the upper classes. Guénola Capron and Martha de Alba’s essay “Mexico’s Suburban Dream” recounts how Mexico City’s first middle-class suburbs emerged in the 1940s and 1950s at a time when suburbs were initially associated with poverty. They describe how the fusion of international and local architectural ideas produced the designs for the first developments, which normalized suburban middle- and upper-class development in Mexico City.

As the central parts of cities become denser, land on the fringe often provides a cheaper alternative. Housing affordability is a major driver of suburban growth, without which America risks becoming a “rentership society” with degradation of wealth and quality of life, according to Joel Kotkin in “Suburbia as a Class Issue.” Kotkin argues that homeownership

is a way for Americans to achieve middle-class status, and the suburbs are the place where homes are most accessible to buyers. In “Australia’s Misplaced War on the Suburban Dream,” Ross Elliott explains how policymakers have sought to increase density in the urban cores by creating aggressive tax policies to curb suburban expansion, leading to record high property prices that have made it impossible for young first-time homebuyers to buy. Similarly, in the United Kingdom, strict greenbelt and rural development policies have created social costs in the form of poor housing quality and high housing prices, as explained by James Heartfield in “How Britain’s Greenbelts Choke Suburbs and Force Up Prices.” As Joel Kotkin reminds us, there will always be people who prefer suburban living. Kotkin and other authors see suburbanization as an innate human desire (most likely for privacy and ownership) that may be repressed, but will burgeon when given the opportunity.

Yet as suburbia has offered homeownership, amenities, and higher quality of life for the masses, the elite have consistently voiced strong opposition to suburbs:

There are major problems with suburban development including everything from the cost of providing services to the problem of protecting species habitat. But it is hard to avoid the conclusion that the existing criticism has, more often than not, been based on traditional aesthetic notions about “proper” urban form deeply rooted in the model of the traditional European city, with its focus of power and authority at the center.<sup>17</sup>

While there are many valid criticisms of suburbia, Robert Bruegmann in “The Antisuburban Crusade” explains that the heart of the criticisms tend to rest on the elites’ judgments of suburban aesthetics and taste, often leading to negative

17 Robert Bruegmann, “The Antisuburban Crusade,” in *Infinite Suburbia* (New York: Princeton Architectural Press, 2017), 57.