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THE BIG PICTURE FOR
GLOBAL GEOGRAPHY

The Urban Future: The Great Dispersion

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This chapter describes general urbanization trends in the United States and around the world, from 1950 to the present.¹ Cities can be glamorous or exciting, but what matters most is how they facilitate higher incomes and standards of living.

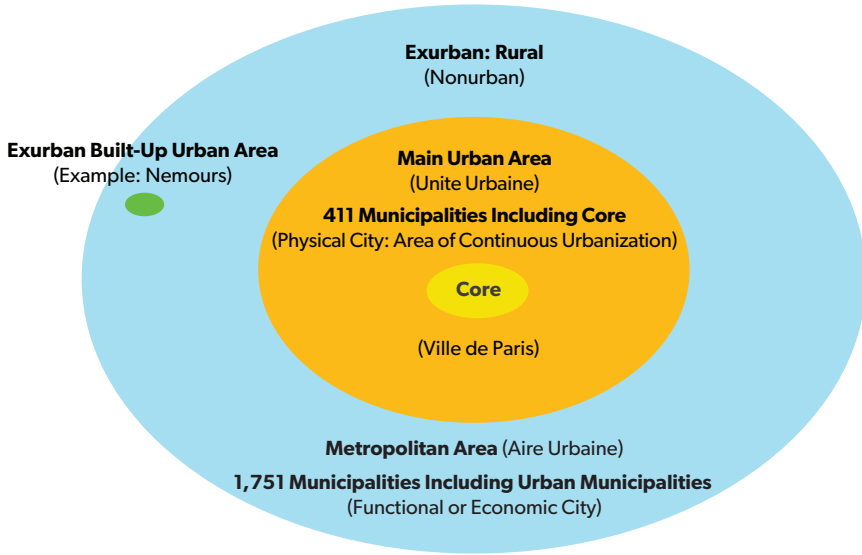
This has been urbanity's ultimate achievement. Alain Bertaud, former World Bank principal planner, connects greater urbanization, a higher standard of living, and lower poverty rates: "Cities are the major engines of economic growth, and living in cities is the only hope of escaping poverty for billions of people."² What Chicago economist Deirdre McCloskey called the "Great Enrichment," in which per capita incomes grew by a "factor of 10 and in rich countries by a factor of 30 or more (1,000% to 3,000%) from 1800 to 2010,"³ was driven by urbanization on a massive scale.

The Role of Urbanization

By 1800, 5 percent of the world population lived in urban areas of at least 2,000.⁴ Since then, urbanization has increased tenfold to 55 percent,⁵ with almost half the increase occurring since 1950.

This chapter analyzes cities in terms of their generic definitions, of which there are two. The first is "urban areas," which are the areas of *continuous urbanization* (also called "urban agglomeration"): "An Urban Agglomeration refers to the de facto population contained within the contours of a contiguous territory inhabited at urban density levels *without regard to administrative boundaries.*"⁶ (Emphasis added.) The urban area is defined by the large expanse of lights seen from a high-flying airplane contrasted with the darkness or intermittent lights in the rural surroundings.

Figure 1. Contrast of Urban and Metropolitan Areas in Paris



Source: Based on data from the National Institute of Statistics and Economic Studies.

The second generic city term is the “metropolitan area,” which includes the urban area and the economically integrated territory to the outside, largely defined by commuting. The part of the metropolitan area outside the urban area is principally rural. In urban economics, the urban area is referred to as the “physical city,” and the metropolitan area is referred to as the “functional” or “economic” city.⁷ The metropolitan area is also considered to be in the labor market.⁸

Neither of these generic terms includes the most popular definition—the “city proper,”⁹ such as New York City or San Francisco, which are simply the historic core municipalities. Metropolitan areas are far larger. The New York metropolitan area, for example, is as large as Connecticut and Delaware combined, while the San Francisco metropolitan area is larger than Delaware.¹⁰

All land that is not urban is rural.¹¹ Most metropolitan land, by the way, is actually rural; US metropolitan-area land is 90 percent rural,¹² while 83 percent of Paris metro land is outside the Paris urban area (Figure 1).¹³ Thus, the highest level at which urban density can be measured for a

generic city is the urban area, because the larger generic definition, the metropolitan area, is both urban and rural.

In this chapter, the generic terms “urban area” and “metropolitan area” (or “metro”) are used for clarity, since the term “city” is typically associated with municipal jurisdictions (such as New York City), which are neither urban areas nor metropolitan areas.¹⁴ The term “core jurisdiction” or “core” denotes the historically dominant municipality in an urban area in the reference year 1950.

The Evolution of Urban Areas. Urban areas have grown not necessarily for aesthetic or cultural reasons but largely because of their economic advantages to new residents. Of course, there must also be adequate personal security, such as protection from disease¹⁵ and crime.¹⁶

An important purpose of modern urban areas, the much-larger urban areas that have developed since 1800, has been *to improve affluence and reduce poverty*. Aristotle said that the city (urban area) “comes into being for the sake of living, but it exists for the sake of living well.”¹⁷ Only in the past two centuries have these benefits helped foster urban areas far larger and more capable of survival than before, through the attraction and development of a large middle class.

Urban Growth. The urban form has been shaped by access—the ability to reach employment, shopping, and other activities for most people in a relatively small amount of time.

Until the early 1800s, the spatial expansion of urban areas was limited by walking distances. Transit brought faster travel and a significant expansion of the urban footprint in the 19th century. The automobile further increased access starting around 1920, with international differences influenced by income. Greater access also expanded opportunities for households to live in more of their own space, both inside and out. Finally, driven by the COVID-19 pandemic, the long-predicted transition to electronic access has blossomed, with final results still too difficult to determine.

The Rise of Suburbanization. The footprint of urban areas organically expands as population increases, with declining population densities from the urban core to the suburbs. Suburbanization has been defined by

historian Kenneth Jackson as “the systematic growth of fringe areas at a pace more rapid than that of core cities.”¹⁸

Suburbs have been around for a long time. The eighth-century capital of China’s Tang Dynasty, Chang’an (now called Xi’an), is reputed to have had between one and two million residents outside the city wall (suburbs), in addition to one million inside.¹⁹

More recently, suburbanization was accompanied by material population losses in many core jurisdictions. Of 72 high-income core jurisdictions reaching a peak population of 400,000 by the mid-20th century, which have annexed only minimally and were fully built out, all but two lost population by 2000.²⁰

The decline of some core jurisdictions and rapid suburban growth reflect the post–World War II transformation of urban areas when the dominance of the automobile became virtually complete in nearly all urban areas.

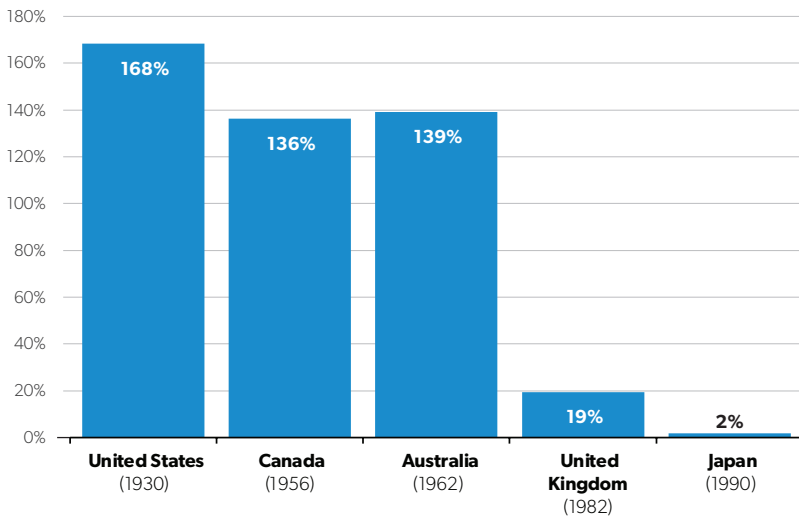
Because more precise data are not readily available, suburbs are considered to be all the urban area outside the core jurisdiction. This is less than ideal. Some prewar urbanization extends well beyond the core jurisdiction, such as in Boston or Brussels. In contrast, some core jurisdictions include little prewar urbanization, such as Brisbane and Charlotte, which remain largely suburban within their “city” limits.

Understanding Urban Dispersion in the United States and Canada

Large urban areas developed later in North America, compared to the long-established urban centers of Europe and East Asia. In 1800, the world’s largest urban area, Beijing, was 15 times the size of the United States’ leader, Philadelphia. By 1900, London was the world’s largest, but it had only 1.5 times the population of New York, which became the world’s largest in about 1925.²¹

During the 19th century, US urban areas, like their international peers, suburbanized, facilitated initially by transit. During the 1920s, automobiles became dominant, enabling quicker suburbanization, but this was temporarily muted by the Great Depression and World War II.

Unprecedented suburban growth was driven by unparalleled US affluence, which gave households the means to purchase housing on the

Figure 2. US Automobile Growth Rate Since 1930

Source: Derived from US Department of Transportation data and American Motor Vehicle Automobile Manufacturers Association, *World Motor Vehicle Data: 1993 Edition* (Washington, DC: American Automobile Manufacturers Association, 1993).

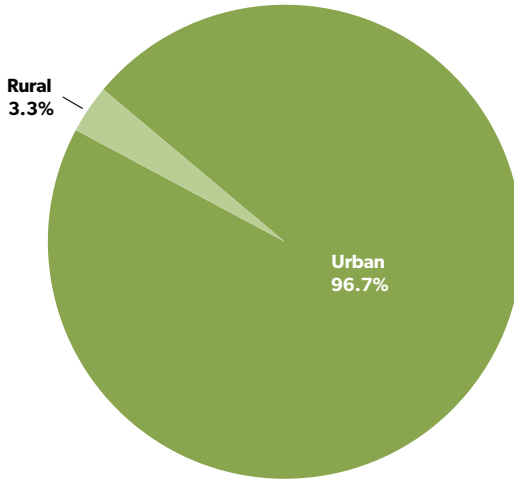
periphery.²² This was in part because the US remained the only major power with its industrial capacity intact after World War II.

Automobiles, the driver of modern suburbanization, became dominant first in the US, with 0.77 cars per household by 1930. Canada and Australia, usually among the most affluent nations, took 26 and 32 years to reach the United States' 1930 level. In the United Kingdom, it took 52 years, and in Japan, 60.²³ This longer period of motorization contributed to the greater suburbanization that was to occur in the United States (Figure 2).

United States Urban Areas: 1950 to 2010. Nearly all US population growth from 1950 to 2010 was urban (97 percent), which includes both core jurisdictions and suburbs. Rural areas grew only 3 percent (Figure 3).²⁴

Unlike most nations, the United States has readily available urban-area data from 1950.²⁵ This analysis, starting from 1950, focuses on the main urban areas²⁶ in the 53 metropolitan areas with populations greater than one million in 2010.

Figure 3. Population Growth: 1950–2010



Source: Data from US Census Bureau.

The 53 urban areas have increased in size more than 1.5 times (162 percent) and at a faster rate than the national population (104 percent), but they became steadily more suburban. Overall, the urban areas transitioned from being 35 percent suburban in 1950 to 69 percent suburban in 2010. Approximately 90 percent of the urban-area population growth was suburban.

The 53 urban areas can be divided into three categories, as reflected by characteristics of their cores (Table 1):

- *Stable Cores.* Nineteen urban areas—including Boston, New York, and Philadelphia—have “stable cores,” in which the core jurisdiction has increased its land area no more than minimally (less than 10 percent) since 1950. Most are located in the slower-growing Northeast and Midwest and have become more suburban over time. Between 1950 and 2010, these urban areas had 116 percent of their growth in the suburbs, with core jurisdictions losing population. In 1950, these urban areas were 38 percent suburban but by 2010 reached 73 percent.

Table 1. Urban Areas by Core Jurisdiction Category

Urban Area	1950 CENSUS			2010 CENSUS			GROWTH		CATEGORY
	Population (in Millions)	Core	Suburbs	Population (in Millions)	Core	Suburbs	Total Percentage	Suburb Share	
Urban Areas with Stable Cores (19)	38.6	62%	38%	70.2	27%	73%	82%	116%	1
Urban Areas with Expanding Cores (32)	16.2	71%	29%	70.9	35%	65%	336%	76%	2
New Urban Areas (2)	—	—	—	2.7	40%	60%	—	—	3
All Urban Areas (53)	54.8	65%	35%	143.8	31%	69%	162%	90%	—

Source: Data from US Census Bureau.



- *Expanding Cores.* Another 32 urban areas have “expanding cores,” in which core jurisdiction land areas have expanded substantially, through annexations or amalgamation with another jurisdiction. On average, the 2010 land area was triple that of 1950. Overall, the urban-area growth was 336 percent. In 1950, these urban areas were 29 percent suburban but increased to 65 percent in 2010. The suburbs captured 76 percent of the growth over the period. However, there was also considerable post-World War II suburbanization within cities proper that was largely indistinguishable from development outside cities proper. This category includes diverse urban areas such as Portland and Oklahoma City.
- *Not Designated.* Las Vegas and Tucson were too small to qualify as urban areas in 1950.

Later data improvements using smaller area populations made functional classifications more practical. For example, Demographia’s “City Sector Model”²⁷ used ZIP code data to estimate the 53 urban areas²⁸ at 17 percent core and 83 percent suburban in 2010.²⁹ Since 2010, the suburbs have accounted for 91 percent of the growth.³⁰

Among the 53 urban areas, the 1950 median suburban share of the population was 27 percent. By 2010, the suburban share had risen to 72 percent.

The most suburbanized urban area in 2010 was Miami (93 percent), followed by Atlanta (91 percent); Riverside–San Bernardino (89 percent); Washington, DC (13 percent); and Hartford (13 percent). The smallest suburban components were in San Antonio³¹ and Jacksonville (25 percent), followed by Oklahoma City (37 percent), Tucson (38 percent), and Memphis (39 percent). It is crucial to realize that the core jurisdiction in these latter five includes unusually large stretches of functionally suburban territory (Table 2). Just because a neighborhood is located within “city limits” does not mean it is urban in its characteristics.

This phenomenon can be seen even in America’s largest, densest, and most celebrated cores. New York City in 1900 was “surrounded by more suburbs than anywhere in the world,” according to Jackson, who called Brooklyn Heights the first commuter suburb.³²

Table 2. US Main Urban Areas in Metropolitan Areas over 1,000,000: 2010

Urban Area	1950 CENSUS		2010 CENSUS		GROWTH		CATEGORY
	Population (in Millions)	Core Suburbs	Population (in Millions)	Core Suburbs	Total Percentage	Suburb Share	
Atlanta, GA	0.507	65%	4.515	9%	791%	98%	2
Austin, TX	0.136	97%	1.362	58%	902%	47%	2
Baltimore, MD	1.162	82%	2.204	28%	90%	132%	1
Birmingham, AL	0.445	73%	0.749	28%	68%	138%	2
Boston, MA-NH-RI	2.233	36%	4.181	15%	87%	109%	1
Buffalo, NY	0.895	65%	0.936	28%	5%	879%	1
Charlotte, NC-SC	0.141	95%	1.249	59%	786%	46%	2
Chicago, IL-IN	4.921	74%	8.608	31%	75%	125%	1
Cincinnati, OH-KY-IN	0.813	62%	1.625	18%	100%	126%	1
Cleveland, OH	1.384	66%	1.781	22%	29%	231%	1
Columbus, OH	0.438	86%	1.368	57%	212%	56%	2
Dallas-Fort Worth, TX	0.855	83%	5.122	23%	499%	89%	2
Denver, CO	0.499	83%	2.374	25%	376%	90%	2
Detroit, MI	2.752	67%	3.734	19%	36%	216%	1
Grand Rapids, MI	0.227	78%	0.570	33%	151%	97%	1
Hartford, CT	0.301	59%	0.925	13%	207%	108%	1
Houston, TX	0.701	85%	4.944	42%	605%	65%	2

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Table 2. US Main Urban Areas in Metropolitan Areas over 1,000,000: 2010 (continued)

Urban Area	1950 CENSUS			2010 CENSUS			GROWTH			CATEGORY
	Population (in Millions)	Core	Suburbs	Population (in Millions)	Core	Suburbs	Total Percentage	Suburb Share		
Indianapolis, IN	0.502	85%	15%	1.487	55%	45%	196%	61%	2	
Jacksonville, FL	0.242	85%	15%	1.065	75%	25%	340%	28%	2	
Kansas City, MO-KS	0.698	65%	35%	1.519	30%	70%	118%	101%	2	
Las Vegas Henderson, NV	—	—	—	1.886	31%	69%	—	69%	3	
Los Angeles, CA	3.997	49%	51%	12.151	31%	69%	204%	78%	2	
Louisville, KY-IN	0.472	78%	22%	0.973	60%	40%	106%	56%	2	
Memphis, TN-MS-AR	0.406	98%	2%	1.060	61%	39%	161%	62%	2	
Miami, FL	0.459	54%	46%	5.502	7%	93%	1,099%	97%	1	
Milwaukee, WI	0.829	77%	23%	1.376	43%	57%	66%	108%	2	
Minneapolis–St. Paul, MN-WI	0.987	53%	47%	2.651	14%	86%	169%	108%	1	
Nashville, TN	0.259	67%	33%	0.970	60%	40%	274%	42%	2	
New Orleans, LA	0.660	86%	14%	0.900	38%	62%	36%	195%	2	
New York, NY-NJ-CT	12.296	64%	36%	18.351	45%	55%	49%	95%	1	
Oklahoma City, OK	0.275	89%	11%	0.862	63%	37%	213%	49%	2	
Orlando, FL	0.073	71%	29%	1.511	16%	84%	1,969%	87%	2	
Philadelphia, PA-NJ-DE-MD	2.922	71%	29%	5.442	28%	72%	86%	122%	1	

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Table 2. US Main Urban Areas in Metropolitan Areas over 1,000,000: 2010 (continued)

Urban Area	1950 CENSUS			2010 CENSUS			GROWTH		CATEGORY
	Population (in Millions)	Core	Suburbs	Population (in Millions)	Core	Suburbs	Total Percentage	Suburb Share	
Phoenix, AZ	0.216	49%	51%	3.629	40%	60%	1,580%	61%	2
Pittsburgh, PA	1.533	44%	56%	1.734	18%	82%	13%	285%	1
Portland, OR-WA	0.513	73%	27%	1.850	31%	69%	261%	84%	2
Providence, RI-MA	0.583	43%	57%	1.191	15%	85%	104%	112%	1
Raleigh, NC	0.069	96%	4%	0.885	46%	54%	1,182%	59%	2
Richmond, VA	0.258	89%	11%	0.954	21%	79%	270%	104%	2
Riverside— San Bernardino, CA	0.136	46%	54%	1.933	11%	89%	1,321%	92%	2
Rochester, NY	0.409	81%	19%	0.721	29%	71%	76%	139%	1
Sacramento, CA	0.212	65%	35%	1.724	27%	73%	713%	78%	2
Salt Lake City, UT	0.227	80%	20%	1.021	18%	82%	350%	100%	2
San Antonio, TX	0.450	91%	9%	1.758	75%	25%	291%	30%	2
San Diego, CA	0.433	77%	23%	2.957	44%	56%	583%	61%	2
San Francisco CA	2.022	38%	62%	3.281	25%	75%	62%	98%	1
San Jose, CA	0.176	54%	46%	1.664	57%	43%	846%	43%	2
Seattle, WA	0.622	75%	25%	3.059	20%	80%	392%	94%	2
St. Louis, MO-IL	1.401	61%	39%	2.151	15%	85%	54%	172%	1

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Table 2. US Main Urban Areas in Metropolitan Areas over 1,000,000: 2010 (continued)

Urban Area	1950 CENSUS		2010 CENSUS		GROWTH		CATEGORY
	Population (in Millions)	Core Suburbs	Population (in Millions)	Core Suburbs	Total Percentage	Suburb Share	
Tampa–St. Petersburg, FL	0.408	78% 22%	2.442	14% 86%	498%	99%	2
Tucson, AZ	—	— —	0.843	62% 38%	—	38%	3
Virginia Beach–Norfolk, VA	0.385	76% 24%	1.440	17% 83%	274%	105%	2
Washington, DC–VA–MD	1.287	62% 38%	4.587	13% 87%	256%	106%	1
Total	54.827	65% 35%	143.777	31% 69%	162%	90%	—
Median	0.499	73% 27%	1.724	28% 72%	212%	97%	—

Note: Category 1 indicates urban areas with stable cores, Category 2 indicates urban areas with expanding cores, and Category 3 indicates areas not designated in 1950.

Source: Data from US Census Bureau.

The New York urban area grew from 12.3 million in 1950 to 18.4 million in 2010, a 49 percent increase. The suburban share grew from 36 percent to 55 percent. This somewhat slower-than-national rate of suburbanization reflects New York's comparatively slow population growth, of which suburbs captured 95 percent.

Chicago grew from 4.9 million in 1950 to 8.6 million in 2010, a 75 percent increase. The suburban share grew from 26 percent to 69 percent. Suburbs captured 109 percent of the growth. The core declined from its 1950 peak of 3.6 million to 2.7 million in 2010.

Los Angeles grew from 4.0 million in 1950 to 12.2 million in 2010, a 75 percent increase. The suburban share grew from 51 percent to 69 percent. Suburbs captured 78 percent of the growth. The core grew from 2.0 million to 3.8 million.³³

Of course, suburban dominance has been particularly marked in the fastest-growing urban areas, mainly in the Sunbelt, outside California. Dallas-Fort Worth grew from 0.853 million to 5.122 million from 1950 to 2010, a 500 percent increase. The suburban share grew from 17 percent to 77 percent. Suburbs captured 89 percent of the growth. During this period, the Fort Worth urban area was subsumed into Dallas-Fort Worth.

Phoenix grew 16 times larger, from 200,000 to 3.6 million from 1950 to 2010. The suburban share grew from 51 percent to 60 percent. Suburbs captured 61 percent of the growth. The smaller suburban growth reflects massive core jurisdiction (city of Phoenix) annexations that left it about 40 percent *less dense* than Los Angeles suburbs.³⁴

Canada: 1950 to 2021. Although it has political and cultural differences from the US, Canada largely follows the same pattern. Vancouver is unusual, with its core jurisdiction having densified substantially within its fully developed stable borders since 1966, increasing approximately 70 percent in population by 2021.³⁵ Yet Vancouver has become 71 percent suburban, an increase from 38 percent in 1950.³⁶ The suburbs have captured 81 percent of the growth.

Toronto's growth has also been overwhelmingly suburban, with 100 percent of growth in the suburbs from 1951 to 2001, during which time it transitioned from 22 percent to 63 percent suburban. Then, amalgamation increased the core by four times, yet more than 90 percent of

growth continued to be suburban over the next 15 years.³⁷ Overall, across the country, according to the American Suburbs Project of the Massachusetts Institute of Technology (MIT) and Queen's University in Canada, 75 percent of Canada's metropolitan population lives in automobile-oriented suburbs or exurbs.³⁸

The European Experience

The United States and Canada may be suburban nations, but they hardly stand alone. This section analyzes the evolution of international urban areas. Post-1800 suburbanization emerged especially in London and Paris, which with other examples are discussed below (Table 3).³⁹ An important defining characteristic is falling population densities, principally made possible by transportation advances that enabled faster traveling in urban areas. For the most part, urban trips were made by walking until travel times were improved by mass transit (in the mid-1900s) and then the further travel-time improvements by automobiles (in the first half of the 20th century).

London: 1800 to 2021. In 1800, when nearly all travel in urban areas was by walking, the London urban area had a population density of 69,000 per square mile. When transit had become mature, in 1900, London's population density had dropped to 55,000 per square mile. In the present automobile-oriented urban area, London's population density has fallen to 16,600, down more than 75 percent from 1800.⁴⁰ Since 1901, all of London's growth has taken place in the suburbs,⁴¹ which had 30 percent of the population and increased to 56 percent by 1950. Since 1950, these trends have accelerated; as London's population increased from 8.4 million to 11.1 million in 2021, the suburbs have captured all the growth and now account for 67 percent of the population.

However, post-1950, the suburban increase underestimates dispersion. A greenbelt was imposed in the mid-20th century to stop the urban expansion. Growth then leapfrogged over the greenbelt. The counties outside the greenbelt added 5.6 million residents from 1951 to 2011, capturing 47 percent of England's growth compared to their 16 percent share in 1951.⁴²

Table 3. International Urban Areas

Urban Area	1950 CENSUS			2010 CENSUS			GROWTH		CATEGORY
	1950	Core	Suburbs	2021	Core	Suburbs	Total Percentage	Suburb Share	
Barcelona	1.8	71%	29%	4.7	35%	65%	162%	87%	1
Buenos Aires	5.2	58%	42%	16.2	19%	81%	214%	99%	1
Copenhagen	1.2	63%	37%	1.6	49%	51%	33%	92%	1
Kolkata	4.6	64%	36%	18.7	24%	76%	306%	89%	1
Lagos	0.3	66%	34%	15.5	1%	99%	4,665%	100%	1
London	8.4	44%	56%	11.1	33%	67%	33%	101%	1
Manila	1.5	65%	35%	24.0	8%	92%	1,453%	96%	1
Melbourne	1.3	7%	93%	4.6	4%	96%	248%	97%	1
Mexico City	3.4	66%	34%	21.5	9%	91%	539%	102%	1
Milan	1.9	67%	33%	5.0	28%	72%	165%	96%	1
Paris	6.3	44%	56%	11.0	20%	80%	76%	113%	1
Shanghai	4.3	100%	0%	22.1	30%	70%	416%	87%	1
Tokyo	11.3	48%	52%	39.1	24%	76%	247%	86%	1
Vancouver	0.6	62%	38%	2.4	29%	71%	337%	81%	1
Zurich	0.5	83%	17%	0.9	47%	53%	87%	94%	1

Note: Category 1 indicates urban areas with stable cores, Category 2 indicates urban areas with expanding cores, and Category 3 indicates urban areas not designed in 1950.

Source: Tertius Chandler, *Four Thousand Years of Urban Growth: An Historical Census* (Lewiston, NY: St. David's University Press, 1987); and Demographia, *Demographia World Urban Areas: 17th Annual*, June 2021, <https://web.archive.org/web/20211223203642/http://www.demographia.com/db-worldua.pdf>.

Paris: 1800 to 2021. Nor can this all be written off as a characteristic of Anglo-Saxon urban areas. Paris had a population density of 129,000 in 1800, when nearly all urban mobility was walking.⁴³ Late in the transit era (1900), the Paris density dropped to 32,000.⁴⁴ Now, in the automobile era, the urban density is 9,800, down more than 90 percent from 1800.

The Ville de Paris (core) population peaked in 1921, at 2,906,000.⁴⁵ Since then, the core has lost 700,000 residents, with all growth in the suburbs. By 1950, 56 percent of the population was in the suburbs, which now hold 80 percent. The urban area grew from 6.3 million in 1950 to 11.0 million in 2021.

Other Selected Urban Areas: 1950 to 2021. Similar patterns apply to other European urban areas. Barcelona, 29 percent suburban in 1950, became 65 percent suburban by 2021, with 87 percent of growth in the suburbs.⁴⁶

Milan, at 33 percent suburban in 1950, became 65 percent suburban by 2021, with 96 percent of the growth in the suburbs. Despite conscious policies to restrict suburban expansion, Zurich has become 53 percent suburban from 17 percent in 1951, with the suburbs capturing 94 percent of the growth.⁴⁷ With similar policies, Copenhagen follows the same pattern, increasing the suburban share from 37 percent in 1950 to the present 53 percent. During that period, 96 percent of population growth occurred in suburban areas.⁴⁸

A Truly Global Phenomenon

These trends can be seen around the world. Tokyo has been the world's largest urban area since the mid-1950s. It has grown from 8.6 million in 1950 to the present 39.1 million, but little of this growth occurred in the core. The suburbs captured 86 percent of this growth.⁴⁹ Suburban Tokyo had 52 percent of the population in 1950, which rose in 2020 to 76 percent.

This pattern also applies to other parts of East Asia. Shanghai has grown from 4.3 million in 1950 to 22.1 million in 2021, with 87 percent of the population growth in the suburbs.⁵⁰ Suburbs had virtually none of the population in 1950, rising now to 70 percent. Manila has grown from 1.5 million in 1950 to 24.0 million in 2021,⁵¹ with 96 percent of the growth

in the suburbs.⁵² In 1950, Manila was 35 percent suburban, rising now to 92 percent.

Australia has largely adopted British-style planning, which seeks to contain “sprawl,” and continues to ignore the blandishments of planners, pundits, and most academics. Melbourne has grown from 1.3 million in 1950 to the present 4.6 million, with the suburbs accounting for 97 percent of the growth. The suburban share has increased from 93 percent in 1950 to 96 percent in 2021. This minor increase is due to the minute size of the core jurisdiction,⁵³ which now has fewer than 200,000 residents. Using smaller census areas, the MIT and Queen’s University American Suburbs Project estimates that 75 percent of Australia’s metropolitan population lives in automobile-oriented suburbs or exurbs.⁵⁴

Nor is this merely a phenomenon of wealthy urban areas. Suburbs of Buenos Aires grew from 42 percent of the population in 1950 to 81 percent in 2021.⁵⁵ The suburbs accounted for 99 percent of the urban-area growth from 5.2 million in 1950 to 15.6 million in 2021. In Mexico City,⁵⁶ 102 percent of the post-1950 growth was suburban.⁵⁷ The suburbs grew from 34 percent of the population in 1950 to 91 percent in 2021 as the urban area grew from 3.4 million to 21.5 million. The urban footprint of São Paulo⁵⁸ expanded more than four times from 1953 to 1987⁵⁹ and has expanded up to 70 percent since that time.⁶⁰

Suburbanization has also been substantial even in some of the poorest urban areas. Obviously, this is different in character due to less affluence. Neat suburban townhouses and leafy neighborhoods are less than universal, and suburbs can include shantytowns or slums (as is also the case with cities proper).

Yet the spatial pattern remains surprisingly similar to the more developed parts of the world. Africa, for example, is home to some of the world’s fastest-growing urban areas. Lagos grew from a population of 300,000 in 1950 to 15.5 million in 2021, increasing more than 45 times.⁶¹ All growth was in the suburbs, which had a 34 percent share in 1950 and now have a 99 percent share.

Ethiopia’s gross domestic product (GDP) per capita ranks in the bottom 10 percent of geographies, more than 90 percent below the world average according to the World Bank.⁶² Yet the capital, Addis Ababa, expanded its urban footprint from 1987 to 2017 by nearly 200 percent.⁶³

The same pattern is evident in India, which is projected to become the world's most populous nation before 2030.⁶⁴ The core of Delhi has lost population since 1960, when the urban area was 64 percent suburban, and is now at least 97 percent suburban.⁶⁵ Kolkata has grown from 4.7 million in 1950 to 18.7 million and transitioned from 36 percent suburban in 1950 to 86 percent in 2021.⁶⁶

Given that the UN projects that nearly all urban growth (95 percent) will be in the less developed world from 2020 to 2050 (2.180 billion),⁶⁷ what happens in Delhi, Kolkata, or Lagos may be more crucial to the future of urban areas than anything happening in the more developed world, which is expected to account for only 5 percent of the world's urban growth.

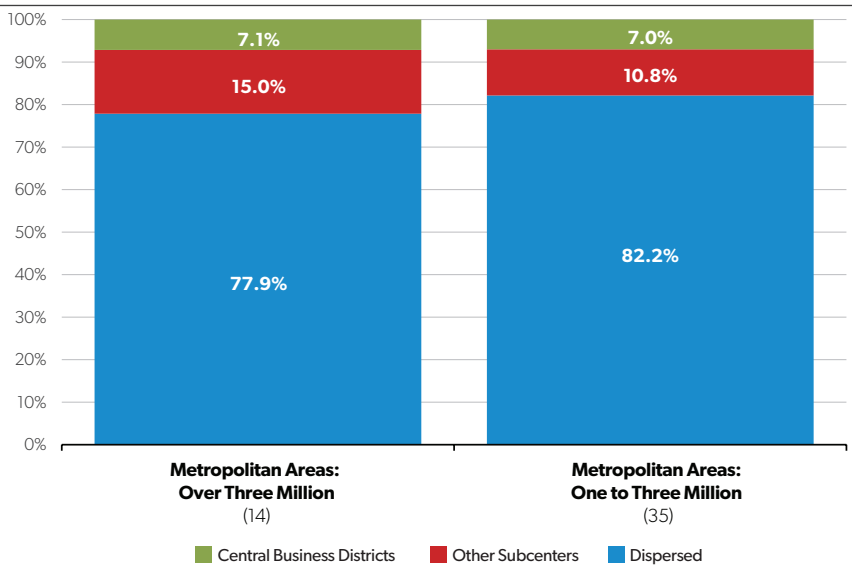
Dynamics of Urban-Area Growth: Toward a More Dispersed Future

All this violates a common perception that urban areas become denser as they grow. In fact, the tendency is the opposite, as the New York University Institute of Urban Expansion's Shlomo Angel has shown.⁶⁸ Further, with a majority of the world's population now urban, media reports sometimes imply that the average urbanite is in a megacity, such as London, New York, or Tokyo. In fact, the median world urban resident lives in an urban area with about 600,000 residents, such as Geneva or Grand Rapids, and many live in urban areas with just a few thousand residents.⁶⁹

Much the same can be said about economics. Despite the revival of some urban cores earlier in this century, the relentless dispersion of jobs continues. Crucially, the automobile has allowed employment and commercial activity to disperse throughout urban areas, particularly in higher-income nations. According to Jackson, this began early; 80 percent of the employment in metro New York was in the urban core in 1920. By 1970, more than one-half the employment was *outside*.⁷⁰

More dispersion was to follow. Joel Garreau's *Edge Cities* identified new suburban employment centers in the early 1990s, some rivaling downtown areas (central business districts).⁷¹ Edge cities brought employment, shopping, and entertainment opportunities closer to residents. The earliest edge cities appeared in metros such as Atlanta, Houston, and Los Angeles, and many more were built elsewhere.

Figure 4. US Major Metropolitan-Area Employment Dispersion and Concentration: 2000



Source: Bumsoo Lee and Peter Gordon, "Urban Spatial Structure and Economic Growth in US Metropolitan Areas" (working paper, University of Southern California, Los Angeles, CA, January 2007), <https://luskc.usc.edu/research/working-papers/urban-spatial-structure-and-economic-growth-us-metropolitan-areas>.

Then even more dispersion followed. Bumsoo Lee and Peter Gordon at the University of Southern California found that by 2000, 80 percent of employment in 79 major metropolitan areas was found outside *both* downtowns and edge cities (Figure 4).⁷² Moreover, since 2000, more than 90 percent of major metro employment was in the suburbs and exurbs.⁷³

Employment dispersion similarly proliferated around the world. Some of the most notable examples include Canary Wharf (London), La Defence (Paris), Levent (Istanbul), the Moscow International Business Center, and Santa Fe (Mexico City). Two of Manila's edge cities exceeded employment in the historic central business district.⁷⁴ São Paulo has nine large centers outside the historic central business district.⁷⁵

China also has large edge cities. The most famous is in Shanghai's Lujiazui (Pudong), with three of the world's 35 tallest buildings sharing the *same intersection*.⁷⁶ The Pearl River Delta,⁷⁷ Suzhou,⁷⁸ and Tianjin⁷⁹ have multiple edge cities, with many more across the nation.

The Importance of the Metropolitan-Area Labor Market

Shifts in technology and transportation are crucial to ensuring access to jobs.⁸⁰ According to Bertaud, metro success requires “the ability to move quickly and easily between locations.”⁸¹ Unparalleled access is the automobile’s overwhelming attribute.

According to Northwestern University’s Robert Gordon, “Much of the enthusiastic transition away from urban mass transit to automobiles reflected the inherent flexibility of the internal combustion engine—it could take you directly from your origin point to your destination with no need to walk” to a transit stop, where you would often need to transfer to another railcar (“which required more waiting”) and then “walk to your final destination.”⁸²

According to University of Minnesota research, cars can provide, on average, 30-minute access to 58 times (5,800 percent) as many jobs as transit can in 50 US metropolitan areas with populations of more than one million. This includes metro New York, served by the nation’s leading transit system, where automobiles can provide six times (600 percent) the 30-minute access as transit can.⁸³

Similar research finds 30-minute automobile access is 6.6 times that of transit in Australia, 6.0 times in Canada, 15.2 times in the Netherlands, and 5.5 times in New Zealand.⁸⁴ In Buenos Aires, those with automobiles can access 6.5 times as many jobs in an hour as those using transit.⁸⁵

Jean-Claude Ziv of the Conservatoire National des Arts et Métiers and I estimated that a comprehensive rapid-transit grid, with access similar to that of automobiles, would require funding from one-third to *all* of an urban area’s GDP each year.⁸⁶

Access to automobiles is crucial to achieving poverty reduction. Research by David King (Arizona State University), Michael Smart (Rutgers University), and Michael Manville (University of California, Los Angeles) indicates that carless households are 70 percent more likely to be in poverty.⁸⁷ Margy Waller of the Progressive Policy Institute noted, “In most cases, the shortest distance between a poor person and a job is along a line driven in a car.”⁸⁸

The Next Act: The Rise of Remote Work. Particularly since the pandemic, remote work now offers the chance for many to eliminate or reduce their physical commute. Many employers are adopting a “mandatory hybrid” model, in which employees commute to work at least *some* of the time.⁸⁹ This represents a tectonic change from the traditional pre pandemic commute.

As remote work has increased, people have started accelerating the already-strong move to more suburban and exurban areas. Indeed, remote work is the ultimate in employment access, eliminating the commute while reducing greenhouse gas emissions.⁹⁰

Addressing the Urban Class Divide

Even if technology addresses access and mobility, the real crisis may turn out to be one of living standards. In 2014, French economist Thomas Piketty produced a widely referenced analysis of world inequality.⁹¹ Soon thereafter, Matthew Rognlie of Northwestern University found that virtually all of Piketty’s increased inequality was attributable to increased house values.⁹²

In the US, housing affordability was far better in 1970, when the price-to-income ratio was no higher than 3.0 in today’s 53 largest metropolitan areas. Australia, Canada, New Zealand, and the United Kingdom retained similar affordability until the early 1990s. However, since that time, many markets have experienced materially deteriorating housing affordability.

The Organisation for Economic Co-operation and Development (OECD) reported in *Under Pressure: The Squeezed Middle-Class* that the future of the middle class is threatened by costs rising far higher than incomes. Moreover, the OECD cited the principal contributor as house prices that have been growing “three times faster than household median income over the last two decades.”⁹³

More-severe housing and land-use regulation have been associated with housing affordability losses.⁹⁴ Both the OECD and Rognlie urged a review of such regulations. In particular, widely adopted urban containment has been associated with severe losses in housing affordability, through the use of strategies such as urban-growth boundaries to constrain urban expansion.⁹⁵

Bertaud describes associated consequences, noting that urban growth boundaries and greenbelts put “arbitrary limits on city expansion” and that “the result is predictably higher prices.”⁹⁶

Urban containment elevates land costs throughout the urban area (Figure 5).⁹⁷ Indeed, such higher land prices are often an *intended* and expected result.⁹⁸

In *Rethinking Urban Sprawl*, the OECD cautions that housing affordability can deteriorate if sufficient developable land is not available within urban-growth boundaries.⁹⁹ Anthony Downs of the Brookings Institution stresses the importance of preserving a competitive market for land on the urban fringe.¹⁰⁰

The least affordable markets in the US all operate under urban containment—Los Angeles (median multiple of 9.0), San Jose (8.5), San Francisco (8.4), and San Diego (7.3). Other severely unaffordable markets have similar policies, with ratios over 5.0, such as Seattle (5.5), Miami (5.4), Denver (5.3), and Portland (5.1).

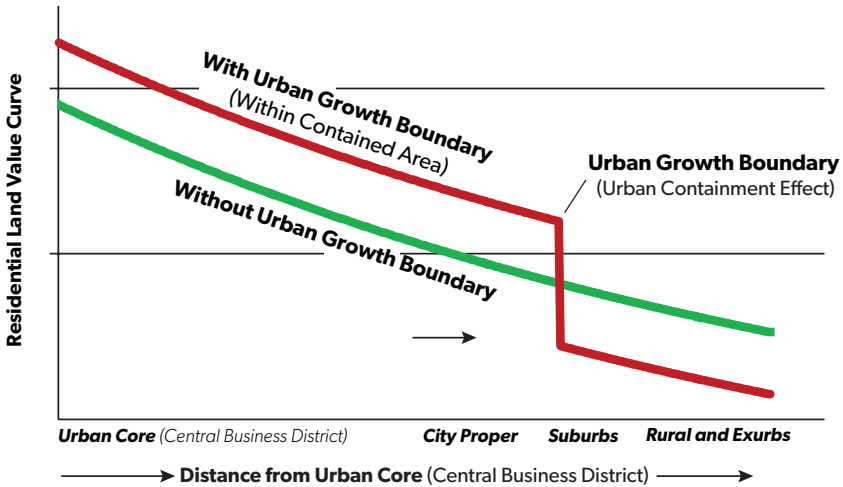
Similarly, highly unaffordable international markets have urban containment, such as Vancouver (11.9), Sydney (11.0), Auckland (8.6), and Toronto (8.6), which has more than doubled its house prices relative to incomes in just 15 years.¹⁰¹

Further, markets subject to stronger housing regulation tend to have greater price volatility, which during the housing bust of the late 2000s led to huge pension losses and upset millions of people’s lives.¹⁰²

Edward Glaeser of Harvard University and Joseph Gyourko of the University of Pennsylvania found in metro San Francisco, which includes the city *and* suburbs in four counties, that land values¹⁰³ were approximately 10 times the expected 20 percent in a well-functioning market.¹⁰⁴ San Francisco has strong urban-containment policies. These policies have had a similar effect in Australia, Canada, and the United Kingdom, as costs have skyrocketed. The dream of homeownership has become hideously expensive for people in many of the world’s greatest metropolitan areas.

Yet, most major markets in the US remain relatively affordable, as do some Canadian markets. In pre-pandemic 2019, 33 of the 56 US major markets had median multiples of 4.0 or less. In these markets, preserving housing affordability is not so much about “making room” for urban expansion,

Figure 5. Urban Containment Effect on Land Value: Urban Containment vs. Traditional Regulation

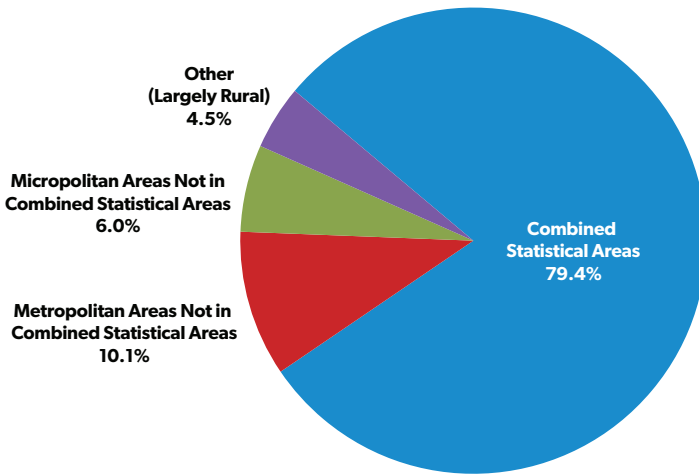


Note: Under traditional land-use regulation, in which there is no urban containment boundary (under "Traditional Regulation"), the land price gradient would be smooth (the green line labeled "Without Urban Growth Boundary"). On the other hand, an abrupt increase occurs at the urban boundary in an environment with an urban containment boundary (the red line labeled "With Urban Growth Boundary"). Source: Adapted from other works dealing with urban growth boundaries. Other graphical representations of this relationship can be found in Gerrit Knaap and Arthur C. Nelson, *The Regulated Landscape: Lessons on State Land Use Planning from Oregon* (Cambridge, MA: Lincoln Institute of Land Policy, 1992); William A. Fischel, *Zoning Rules! The Economics of Land-Use Regulation* (Cambridge, MA: Lincoln Institute of Land Policy, 2015), <https://www.lincolninst.edu/sites/default/files/pubfiles/zoning-rules-chp.pdf>; and Gerard Mildner, "Public Policy & Portland's Real Estate Market," *Quarterly and Urban Development Journal*, 4th Quarterly (2009): 1–16, <https://web.archive.org/web/20150620083722/www.pdx.edu/sites/www.pdx.edu.realestate/files/1Q10-4A-Mildner-UGB-1-31-10.pdf>.

as Angel advocates,¹⁰⁵ as it is about not taking away competitively priced land for urban expansion and better affordability.

But this will require that these metros avoid the policies of the excessively unaffordable metros, especially California, Sydney, and Vancouver. The impossibly excessive cost of living is driving outward migration in a phenomenon the *Los Angeles Times* has called the "Great California Migration."¹⁰⁶ Since 2000, California has lost a net 2.7 million residents to other states¹⁰⁷—nearly as many people as live in Chicago.

Figure 6. US Population Distribution: 2020 Census



Source: Data from US Census Bureau.

The Future?

Over the past two centuries, transportation advances have allowed people to disperse, living farther from work and in more owned interior and exterior space. Now information technology is creating more personal time, with online access replacing much travel related principally to work, shopping, and other destinations.

This improved access is available throughout many nations, proliferating through metropolitan areas of all sizes. For example, in the US, large labor markets house about 90 percent of the population.¹⁰⁸ Full-time or intermittent commute travel (such as weekly or monthly) makes it easier for people to live farther from their employer (Figure 6).

Increasingly, the conveniences of urban living—such as broadband, arts, and entertainment—are becoming available even in largely rural areas. Better rural internet access could bring further convergence.¹⁰⁹

With suburban, exurban, and rural attractiveness improving, the costs of living in urban cores could decline, driven by a balance of supply and demand in housing markets. Even if this scenario proves to be a “future too far,” future urbanization is likely to be shaped by greater virtual activity.

Dense urban cores are not dead, nor will they expire. However, to compete with suburban and exurban areas, they must foster a quality of life that attracts and retains people.

Notes

1. No source provides fully comparable data for urban areas (or metropolitan areas) in either the United States or around the world. Any analysis requires consulting multiple sources—which, though not completely comparable, are sufficient to indicate general trends. For example, one of the best sources is the US Census Bureau’s urban area (called urbanized area before 2010) data, which have been subject to revision over the past 70 years, but not so much so that they are not useful for this analysis. The international data are even more difficult. The 1950 to 2021 analysis is based on national statistical bureau sources, the United Nations (a database with inconsistencies in some cases due to national reporting differences), and *Demographia World Urban Areas*, a product that relies on the European Commission Global Human Settlement Layer 250-meter grid. See European Commission, GHS-POP R2019A, 2019, https://ghsl.jrc.ec.europa.eu/ghs_pop2019.php. In this chapter, the latest source data are adjusted to 2021 by population-projection rates. Again, while the comparability of the early and present data is less than perfect, it is sufficiently comparable for broad comparisons.

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8. See Alain Bertaud, “Cities as Labor Markets” (working paper, New York University Marron Institute of Urban Management, New York, February 19, 2014), https://marroninstitute.nyu.edu/uploads/content/Cities_as_Labor_Markets.pdf.

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Woon Nam (Oxfordshire, UK: Routledge, 2014).

21. Tertius Chandler, *Four Thousand Years of Urban Growth* (Lewiston, NY: Edwin Mellen Press, 1987).

22. University of Groningen, Groningen Growth and Development Centre, “Maddison Historical Statistics,” <https://www.rug.nl/ggdc/historicaldevelopment/maddison/?lang=en>.

23. Derived from US Department of Transportation data and American Automobile Manufacturers Association, *World Motor Vehicle Data: 1993 Edition* (Washington, DC: American Automobile Manufacturers Association, 1993).

24. These data are only produced in the decennial census and were last released for 2010.

25. There have been criteria revisions over the period, such as replacing municipalities with census blocks as building blocks.

26. In 1950, San Bernardino was the core of the Riverside–San Bernardino urban area, and Norfolk was the core of the present Virginia Beach urban area.

27. The “City Sector Model” is intended to portray urban areas in terms of their pre–World War II urban cores versus the suburban and exurban development that has occurred since 1945.

28. Tucson was not included.

29. Data exclude “City Sector Model” exurban data for comparability with the urban-area data. See Wendell Cox, “Measuring Urban Cores and Suburbs in the United States,” in *Infinite Suburbia*, ed. Alan Berger and Joel Kotkin (Princeton, NJ: Princeton Architectural Press, 2018).

30. Wendell Cox, “Latest Data Shows Pre-Pandemic Suburban/Exurban Population Gains,” *NewGeography.com*, December 17, 2020, <https://www.newgeography.com/content/006882-latest-data-shows-pre-pandemic-suburbanexurban-population-gains>.

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35. Based on data from Statistics Canada, website, <https://www.statcan.gc.ca/en/start>.

36. Its core jurisdiction is the city of Vancouver.

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39. All cores are stable (analogous to Category 1 in Table 2).
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42. Demographia, "Southeast England Population by Area from 1891," <http://demographia.com/db-seuk1891.pdf>.
43. A video covering more than two centuries of Paris suburbanization is at New York University, Marron Institute of Urban Management, "Paris," YouTube, April 3, 2014, https://www.youtube.com/watch?v=9ieLOA_icKo.
44. Angel et al., "The Persistent Decline in Urban Densities."
45. Its core jurisdiction is the Ville de Paris.
46. Its core jurisdiction is the city of Barcelona.
47. Its core jurisdiction is the city of Zurich.
48. Its core jurisdiction is the city of Copenhagen.
49. Its core jurisdiction is the 23 districts comprising the former city of Tokyo.
50. Its core jurisdiction is the present districts of Changning, Hongkou, Huangpu, Jing'an, Luwan, Puto, Xuhui, Yangpu, and Zhabei. See Shenjing He, "New-Build Gentrification in Central Shanghai: Demographic Changes and Socioeconomic Implications," *Population Space and Place* 16, no. 5 (January 2009): 345–61, <https://onlinelibrary.wiley.com/doi/10.1002/psp.548>.
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53. Its core jurisdiction is the Melbourne local government area.
54. Massachusetts Institute of Technology, Norman B. Leventhal Center for Advanced Urbanism, "The American Suburbs Project."
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