

DEMOGRAPHIA

URBAN POPULATION AND ECONOMIC GROWTH: INTERNATIONAL CONTEXT

Between 1950 and 2000, the population of the United States increased more than 130 million (87 percent). At the same time, nearly all of the population increase was in urban areas.¹ In 1950, 64 percent of the nation lived in urban areas, while by 2000 the number had risen to 79 percent (Figure 10). Between 1950 and 2000, urban areas experienced a population increase of 126 million, compared to an increase of only five million in rural areas. This urban increase is approximately the same as the population of Japan, but has been housed in an area less than one-half the size (Table A-1, Appendix).

Moreover, the bulk of the increase has been in larger urban areas. In 2000, 81 million more people lived in urban areas with more than 1,000,000 than in 1950. The increase among urban areas between 50,000 and 999,999 was 46 million. Among smaller urban areas (2,500 to 49,999), there was a decline of 1.2 million (Figure 1).

While urban population was increasing 87 percent from 1950 to 2000, urban land area increased 400 percent (Figure 2). Urban population density dropped 54 percent, from 5,300 per square mile to 2,400 per square mile. Most of the decrease occurred between 1950 and 1960, when average population density dropped from 5,300 to 3,100. Since 1980, urban population density has increased somewhat.

Urban land areas expanded at a greater rate than the population increase as a result of the following factors:

- Larger lot sizes occupied by single-family houses.
- Larger lot sizes occupied by the newer commercial, industrial and retail structures built to respond to higher demand generated by the increased population.
- Smaller household sizes, which meant that more housing units are required for a given level of population.

From 1950 to 2000, average household size declined 23 percent, from 3.47 to 2.68 (Figure 3). The number of households in the nation increased 142 percent, 1.64 times the 87 percent population increase (Figure 4). The nation's urban housing density has, as a result, fallen considerably less than the urban population density. From 1950 to 2000

¹ The Census Bureau generally defines urban as any area in which 2,500 or more people live. Other areas are classified as rural.

household density has fallen from 1,500 to 900 per square mile, a decline of 40 percent (Figure 5). Virtually the entire decline occurred between 1950 and 1960. Household density in 2000 is approximately the same as in 1960 and has increased since 1990 (Figure 6).² Since that time, urban households have increased 126 percent, while urban land area has increased slightly more, at 130 percent (Figure 7).

Nonetheless, population in urban cores dropped substantially faster than household sizes. For example, the city of St. Louis lost 59 percent of its population from 1950 to 2000, the largest population loss for a major city in the world in modern history. Pittsburgh, Cleveland and Detroit lost between 48 percent and 51 percent. Within central cities, even larger population losses occurred. For example, over a longer period, New York's Lower East Side lost 70 percent of its population (from its 1910 peak).

The central city loss trend extends to nearly all municipalities that (1) achieved a peak population of 200,000 or more, (2) have not materially expanded their boundaries and (3) were fully developed at their peak. Among these 23 cities (in 19 urban areas), only San Francisco and Oakland have gained population (less than one percent and three percent respectively). Central city population losses have totaled 5.5 million,³ while suburban population gains were 29.2 million (Figure 8). Generally, these same trends are masked where cities have been involved in governmental consolidations or pursued annexation. For example, the population within the 1950 boundaries of Nashville and Indianapolis, which have consolidated with their counties, declined approximately 40 percent from 1950 to 1990. In 1990, the population of Portland and Seattle (each down approximately 10 percent) inside the 1950 boundaries was below that of 1950 as also were the populations of cities involved in significant amalgamations, Nashville and Indianapolis (both down approximately 40 percent).⁴ Core areas have generally declined in population, with all population growth occurring in areas that would be considered suburban, but for the fact that they had been incorporated into central cities.⁵

International Trends: Virtually the same trends have occurred in other affluent nations. In fact, as measured by the decline in urban population density, suburbanization has been greater elsewhere in the high-income world than in the United States. The historic centers of European cities maintain their "charm" and continue to attract tourists (Image 1) but they are surrounded by sprawling suburbs that contain single-family housing (Images 2

² The nation's urban interstate highway system is often cited as a principal cause of suburbanization. But during the decade of the greatest loss of density, the 1950s, only one-fourth of that system (10,000 miles) was available and that had only been opened in the last four years of the decade. The disconnected urban freeway system that existed in 1960 could not have been a principal cause of the unprecedented reduction in urban densities that occurred in the 1950s. The interstate highway system was authorized by Congress in 1956 and funding became available for the first time in fiscal year 1957.

³ This analysis excludes the New York City borough of Richmond (Staten Island), which was largely undeveloped in 1950.

⁴ www.demographia.com/db-1950cities.htm

⁵ The one significant exception is Los Angeles, which has experienced strong core area growth (31 percent from 1950 to 2000). www.demographia.com/db-la-area.htm (this is only the core, not the entire city of Los Angeles).

and 3), “strip” commercial developments (Image 4), “big box” stores (Image 5 and 6) and wide freeways (Image 7).



Image 1: Place de la Republique: Paris⁶



Image 2: Inner Ring Suburb: Copenhagen

⁶ All images by Wendell Cox unless otherwise noted.



Image 3: Outer Ring Suburb: Paris



Image 4: Commercial Strip Development: Paris



Image 5: "Big Box" Store: Copenhagen



Image 6: Home Improvement “Big Box” Store: Stockholm



Image 7: Route A-6: Paris

From 1960 to 1990, urban densities declined 20 percent in the United States, 33 percent in Canada, 30 percent in Western Europe and 32 percent in Australia. Limited data from Japan (Tokyo) indicates a slightly lesser rate, at minus 18 percent (Figure 9). Moreover, international central cities and urban cores have been losing population.

- Like New York, the urban cores of Tokyo and Paris have all lost more than 60 percent of their population since peaking earlier in the 20th century (Figure 10).
- Paris provides an example of the manner in which low density suburban development has become the rule rather than the exception in European urban areas. From 1954 to 1999, the Paris urban area (developed or built-up area) has expanded significantly (Image 8), now covering approximately 1,000 square miles, nearly the size of the state of Rhode Island. The central city (“ville de Paris”) covers less than 35 square miles (Image 9),⁷ and has lost more than 700,000 residents since 1954 (nearly equal to the population of Washington, DC and Arlington, VA combined). The central core, containing the most frequently visited tourist sites is barely two square miles.

⁷ Excluding the large peripheral parks (Bois de Boulogne and Bois de Vincennes).

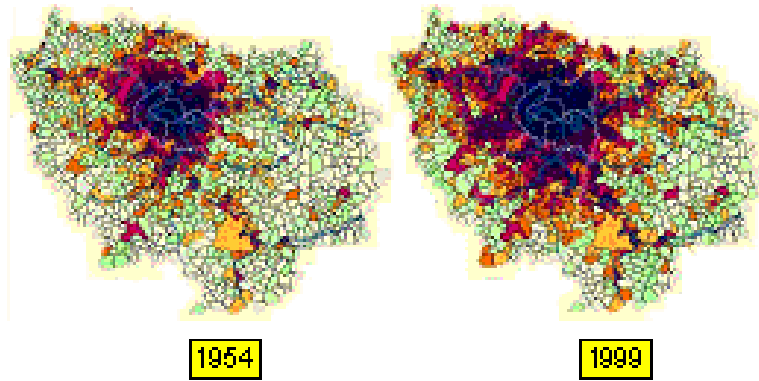


Image 8: Paris Urbanization: 1954 & 1999⁸

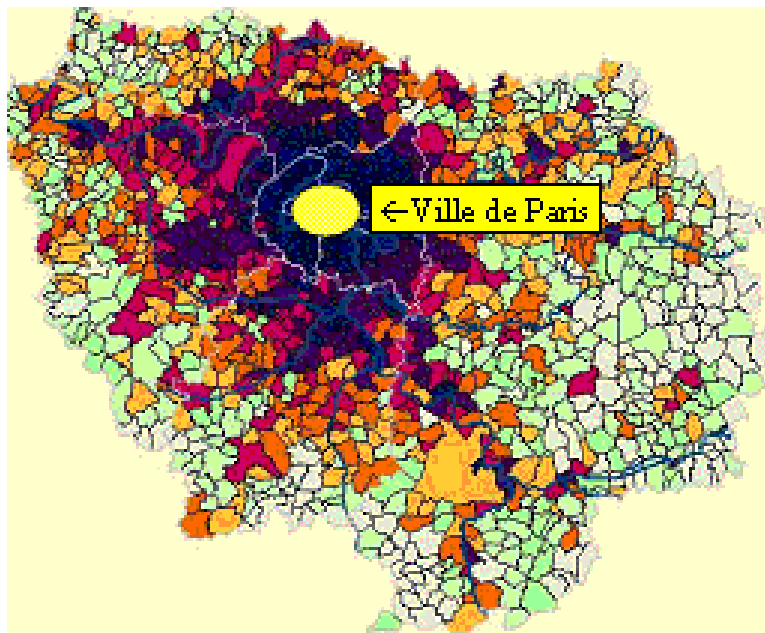


Image 9: Paris Urban Area & Ville de Paris, 1999⁹

- All 50 Western European central cities that (1) achieved a peak population of 400,000 or more, (2) have not materially expanded their boundaries and (3) were fully developed at their peak have declined in population. The total population of these cities is 45.9 million, down 10.4 million from the peak of 56.3 million (Figure 11). As in the case of the United States, annexations and consolidations (such as in Antwerp and Leeds) or large tracts of empty land (such as in Oslo and Rome) have tended to mask the same trends by incorporating suburban areas within the boundaries of central cities.
- Land area has expanded substantially even in Western European urban areas (developed or “built up” areas) that have lost population. From 1960 to 1990, the

⁸ From *Atlas des Franciliens: Territoire et Population*, INSEE & IAURIF, 2000

⁹ Based upon *Atlas des Franciliens: Territoire et Population*, INSEE & IAURIF, 2000

Amsterdam urban area lost 10 percent of its population (Figure 12), while expanding its land area more than 60 percent. The Copenhagen urban area lost 13 percent of its population and expanded its urban area 25 percent (Figure 13).

- Elsewhere in Western Europe, Canada and Australia, like in the United States, urban land area expanded at a greater rate than the population increase, as is indicated in the cases of the Paris, Zurich, Vancouver and Sydney urban areas. Even the Tokyo urban area experienced a substantially greater land expansion rate than population increase (Figures 14, 15, 16, 17, & 18).
- Recently released Italian census data indicates that there is little, if any growth large metropolitan areas.¹⁰ From 1991 to 2001, population growth was less than 40,000 in Milan, Naples and Turin combined (areas that total more than 14,000,000 residents). Yet, even in these areas, there was population growth of more than 400,000 in outlying, lower density municipalities, as urban cores have continued to decline. More than 80 percent of this growth has been in municipalities with population densities similar to that of US suburban areas (Figure 19).¹¹
- Even in less affluent nations, urban areas are sprawling. Virtually all of Mexico City's growth in the last 20 years has been in the suburbs, while core wards of the city have lost 45 percent of their population since 1960.¹² Between 1981 and 1991, the core wards of Mumbai (Bombay) began losing population.¹³ Virtually all growth has been in the suburbs in recent years in Buenos Aires, Seoul, Manila and most of the major cities of Eastern Europe and the former Soviet Union.

Thus, low density suburban development (the development of urban land area at a rate faster than the urban population increase), is occurring around the world, especially in the developed world, where incomes are rising. Like the United States, higher rates of home ownership tend to be exhibited in lower density suburban areas. For example, the 30 percent of households are homeowners in the central city of Paris, compared to 44 percent in the inner ring suburbs ("Petite Couronne") and 54 percent in the outer ring suburbs ("Grand Couronne"). And, single-family (detached) housing is more typical of the lower density suburbs, as in the United States. For example, more than 55 percent of the housing in the suburbs of Tokyo is detached,¹⁴ and more than 75 percent is detached in the exurbs.¹⁵ This compares to barely 30 percent in the central area.¹⁶ The situation is

¹⁰ Rome is excluded from this analysis because its municipal boundaries comprise considerable rural territory, making a population density comparison less meaningful.

¹¹ www.demographia.com/db-2001itmetrodistr.htm (calculated from census of Italy data).

¹² <http://www.demographia.com/db-mxcward.htm> (calculated from census of Mexico data access on city of Mexico City internet site February 2002) and www.demographia.com/db-intlcitycores.htm.

¹³ www.demographia.com/db-mumbaiward91.htm (calculated from census of India data).

¹⁴ Prefectures of Chiba and Saitama (all data for 2000 from the Japan Statistics Bureau).

¹⁵ Prefectures of Gumma, Ibaraki and Tochigi.

¹⁶ Prefecture of Tokyo. The prefecture of Kanagawa (which contains Yokohama) can also be considered central and has a detached housing rate under 45 percent.

similar in Osaka-Kobe-Kyoto.¹⁷ The “American Dream” home ownership, the single-family house in the suburbs and the car are fast becoming a “Universal Dream” (Images 10 and 11).¹⁸



Image 10: Model House Exposition: Stockholm¹⁹



Image 11: Model House Exposition: Tokyo²⁰

¹⁷ In the core prefecture of Osaka, 37 percent of housing is detached. Adjacent Hyogo (Kobe) and Kyoto prefectures have 50 and 54 percent rates, while the exurban prefecture of Nara has a rate of 67 percent.

¹⁸ A term first used in the Kemp Commission Report in the early 1990s.

¹⁹ In a number of nations, it is typical for multiple homebuilders to exhibit model houses at central exposition locations, where homebuyers select models that they arrange to be built on lots that they already own.

²⁰ Sign inset in image.

Incomes: Incomes have risen strongly in the United States. From 1950 to 2000, per capita income rose 175 percent (Figure 20), while income per household increased 141 percent on an inflation-adjusted basis (Figure 21).²¹ This higher income has made it possible for more people to own homes, automobiles and experience a higher standard of living. Household income increased in every decade between 1950 and 2000, with a 17.7 percent increase between 1990 and 2000 (Figure 22). As was noted above, US incomes remain strongly above those of other developed nations.

²¹ It would have been preferable to use median household income for this analysis. Comparable historical data is not available through the US Census Bureau for median household income.

APPENDIX

Table A-1
Demographic Information: 1950-2000

Demographics	1950	1960	1970	1980	1990	2000	1950-2000
Population (000)	151,326	180,671	205,052	227,225	249,439	282,224	86.5%
Change		29,345	24,381	22,173	22,214	32,786	
% Change		19.4%	13.5%	10.8%	9.8%	13.1%	
Households (000)	43,554	52,799	63,401	80,776	91,946	105,480	142.2%
Change		9,245	10,602	17,375	11,170	13,534	
% Change		21.2%	20.1%	27.4%	13.8%	14.7%	
Persons per Household	3.47	3.42	3.23	2.81	2.71	2.68	-23.0%
% Change		-1.5%	-5.5%	-13.0%	-3.6%	-1.4%	
Families	39,303	45,111	51,237	58,426	66,090	72,025	
Change		14.8%	13.6%	14.0%	13.1%	9.0%	
Urban Population	96,847	125,649	149,647	167,051	187,053	222,353	129.6%
Urban Share	64.0%	69.5%	73.0%	73.5%	75.0%	78.8%	
Change		28,802	23,998	17,404	20,002	35,300	
% Change		29.7%	19.1%	11.6%	12.0%	18.9%	
Share of Population Increase		98.1%	98.4%	78.5%	90.0%	107.7%	
Urban Land Area (square miles) ²²	18,422	40,238	54,103	73,930	87,376	92,505	402.1%
% of US Land	0.5%	1.1%	1.5%	2.1%	2.5%	2.6%	
% Change		118.4%	34.5%	36.6%	18.2%	5.9%	
Urban Population Density (population per square mile)	5,257	3,123	2,766	2,260	2,141	2,404	-54.3%
% Change		-40.6%	-11.4%	-18.3%	-5.3%	12.3%	
Estimated Urban Households	27,874	36,719	46,270	59,385	68,950	83,103	198.1%
% Change		31.7%	26.0%	28.3%	16.1%	20.5%	
Urban Household Density (households per square mile)	1,513	913	855	803	789	898	-40.6%
% Change		-39.7%	-6.3%	-6.1%	-1.8%	13.8%	
Income	1950	1960	1970	1980	1990	2000	
Per Household 2000\$	\$23,750	\$29,659	\$41,078	\$41,694	\$48,529	\$57,135	140.6%
		24.9%	38.5%	1.5%	16.4%	17.7%	
Per Household: Nominal	\$3,873	\$5,913	\$10,204	\$21,063	\$37,403	\$57,135	1375.2%

Data from US Census Bureau. Some items calculated.

²² Land Area on which urban population above lives.

Distribution of Population Growth

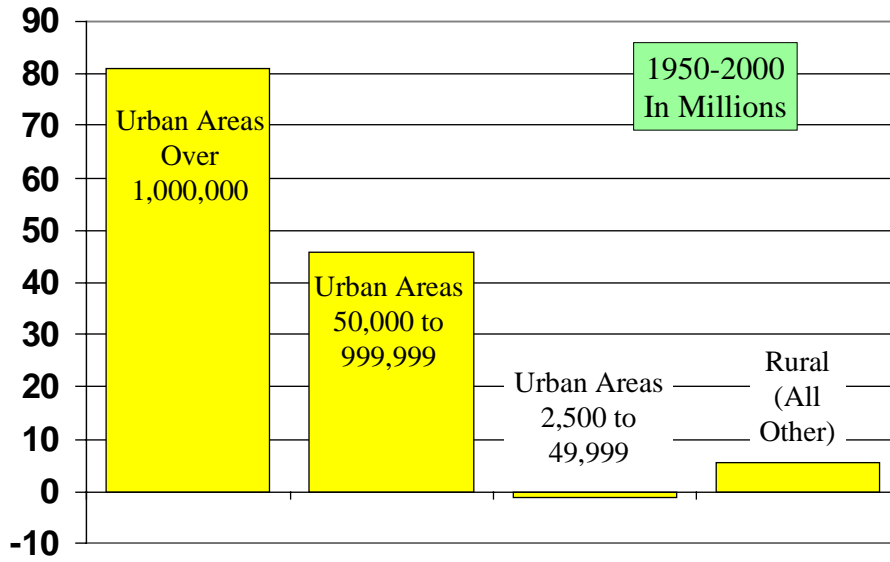


Figure 1

Population & Land Area Change

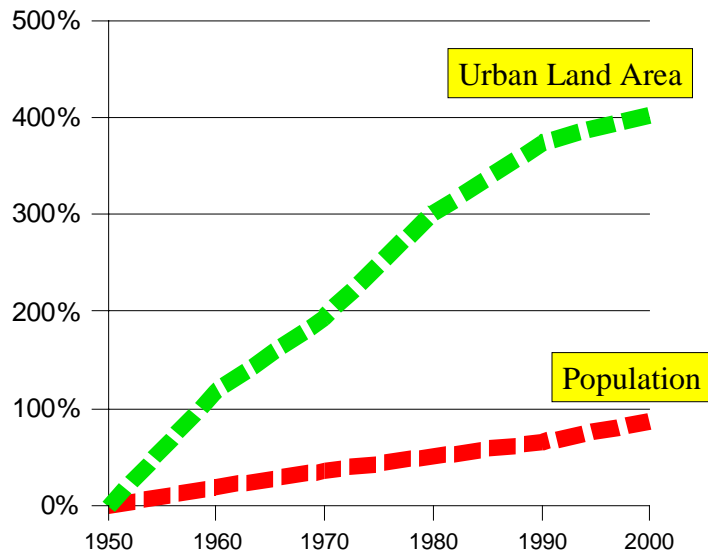


Figure 2

Average Household Size

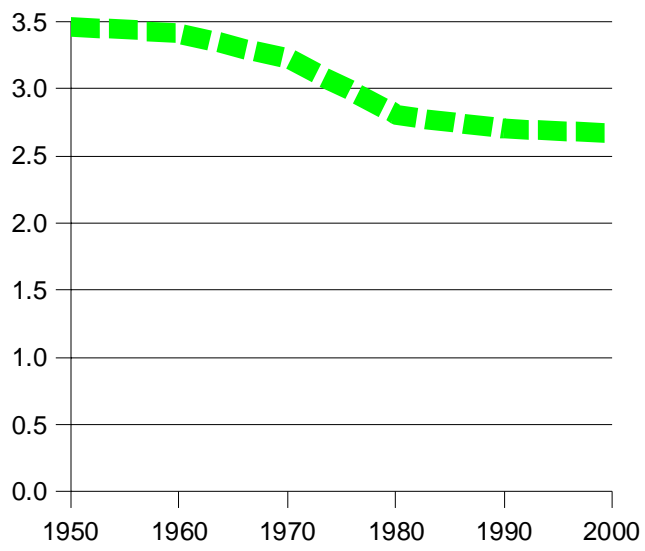


Figure 3

Population & Household Growth

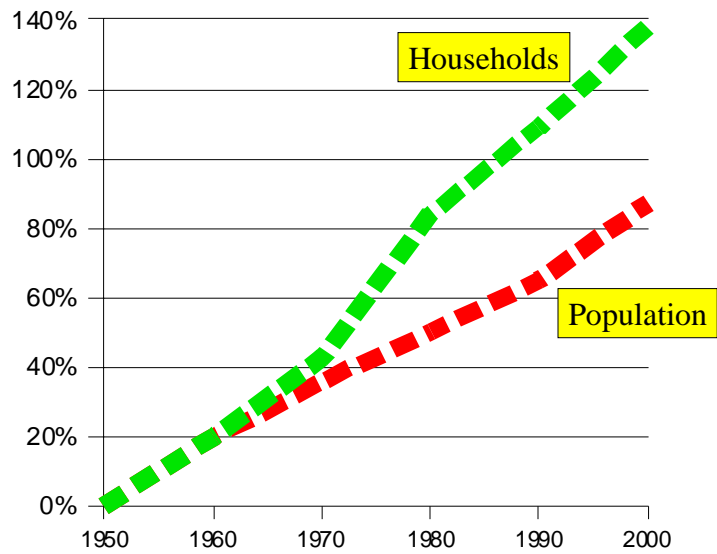


Figure 4

Urban Density: Population & Household

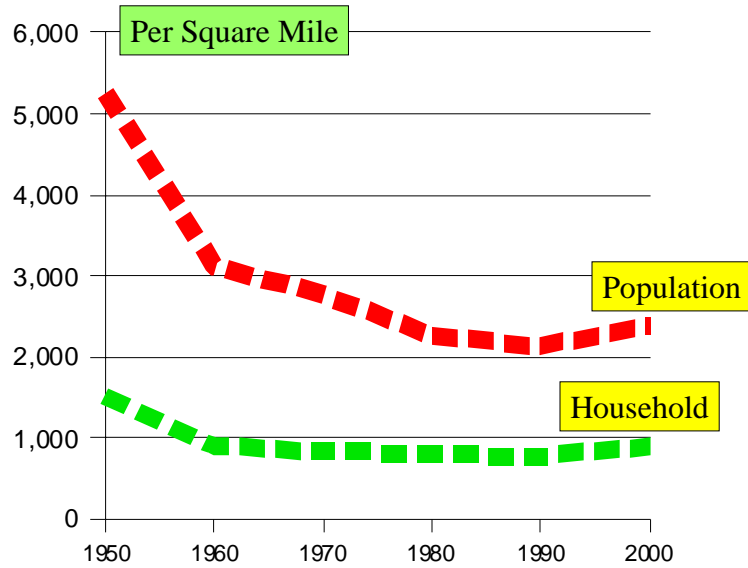


Figure 5

Urban Density: Population & Household

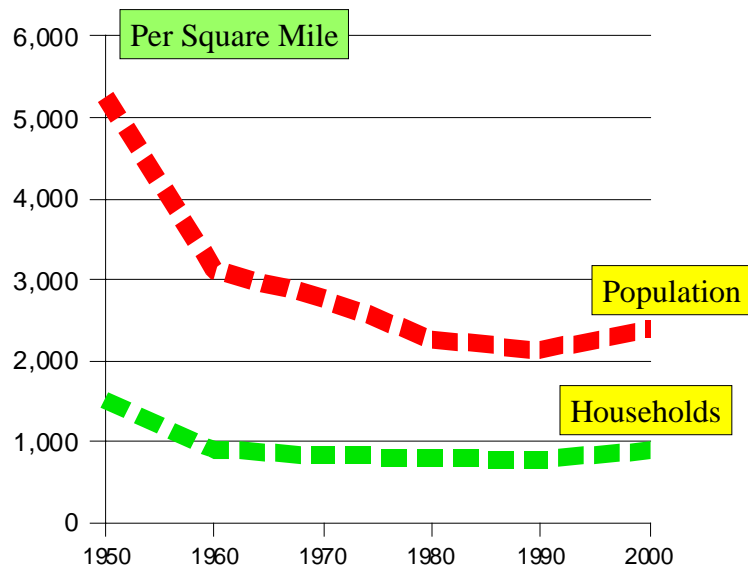


Figure 6

Change in Urban Household Density

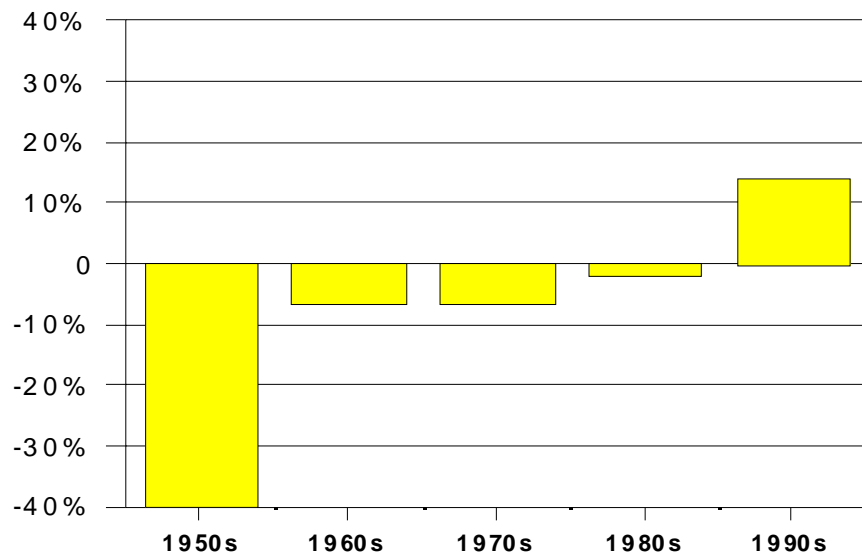


Figure 7

Urban Population Trend

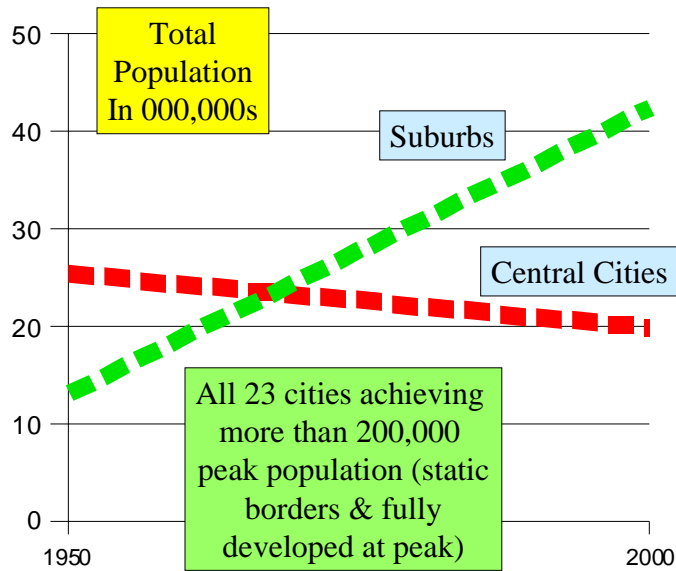


Figure 8

International Urban Density Trends

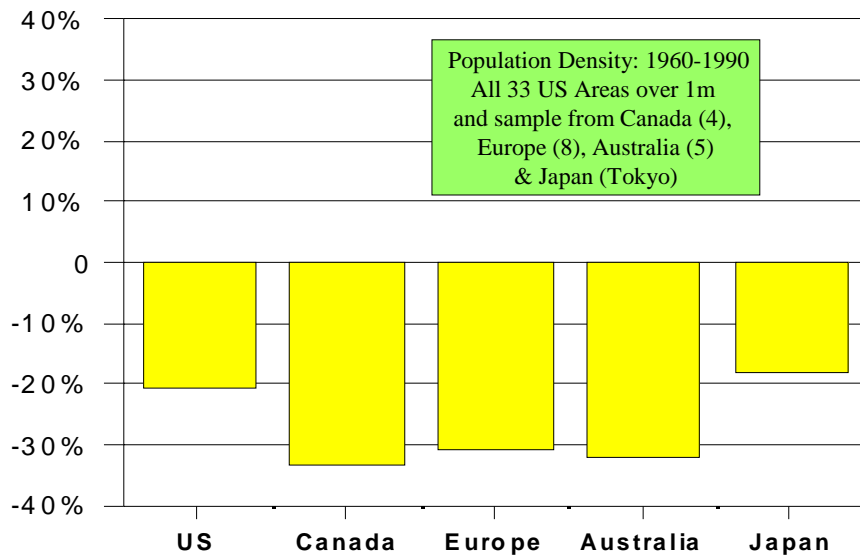


Figure 9

Core Population Losses

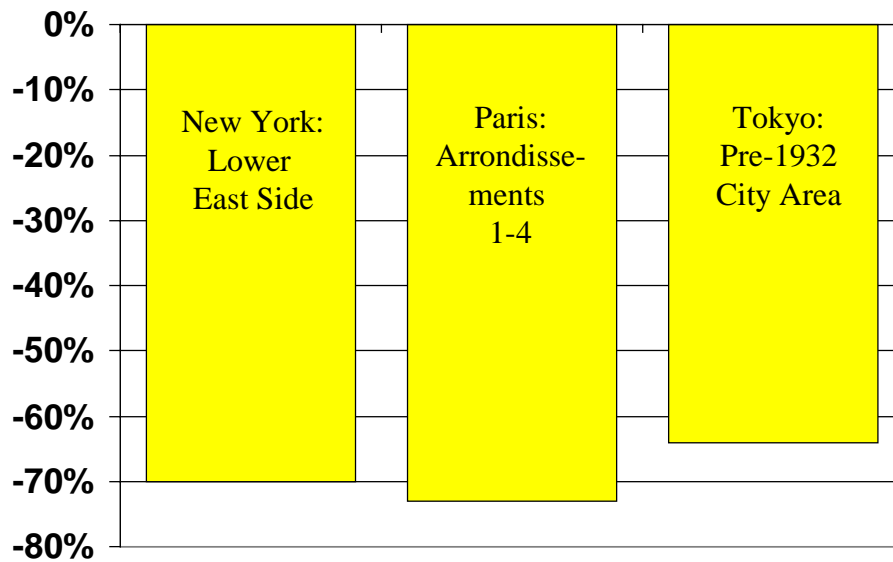


Figure 10

Western Europe Core City Population

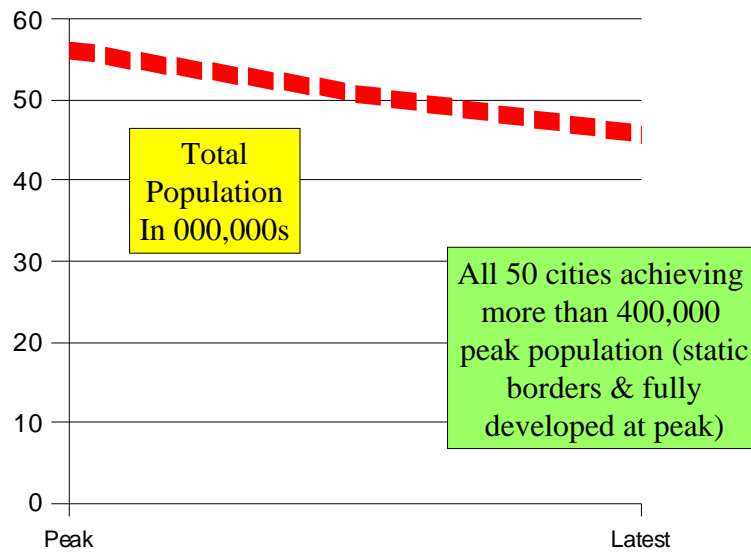


Figure 11

Amsterdam Population & Land Area

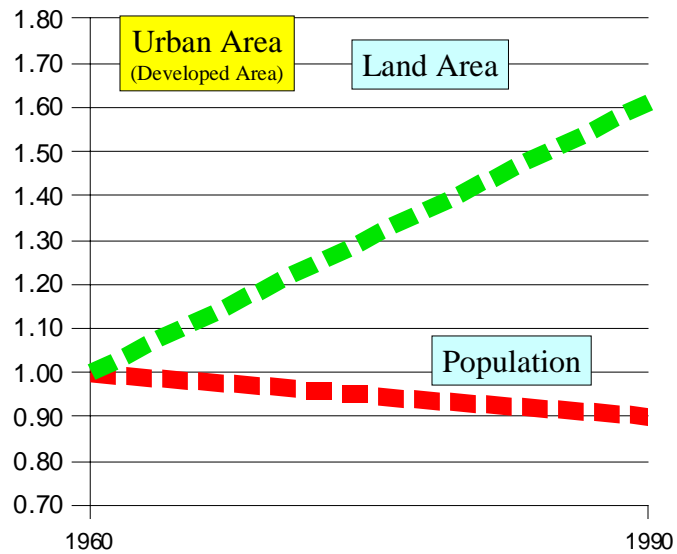


Figure 12

Copenhagen Population & Land Area

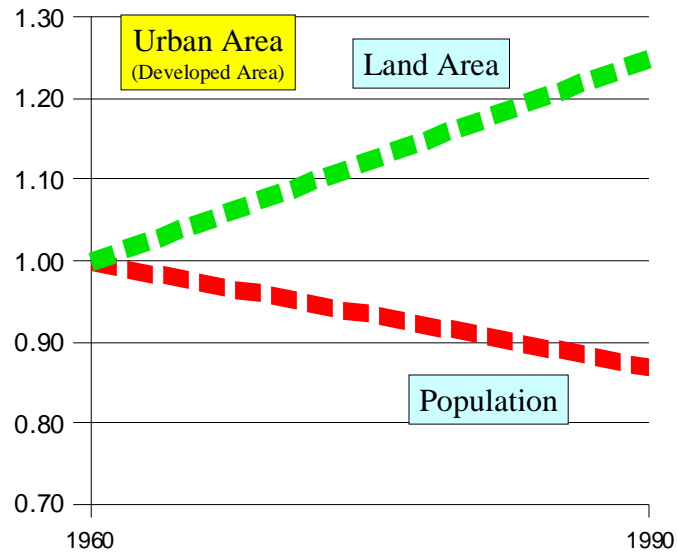


Figure 13

Paris Population & Land Area

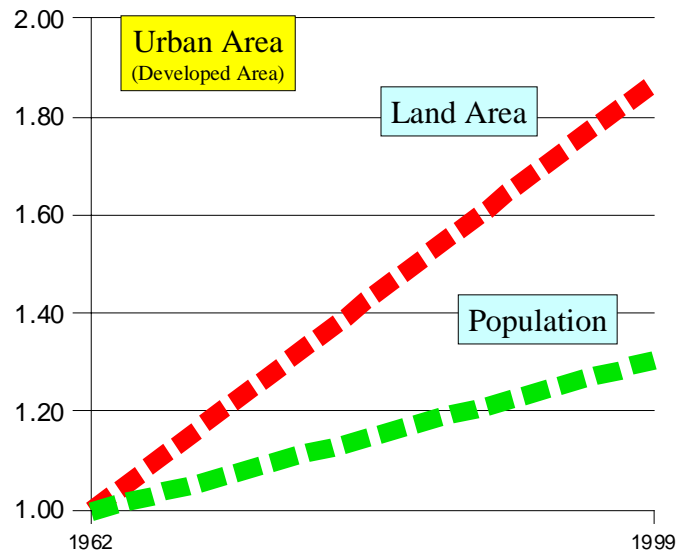


Figure 14

Zurich Population & Land Area

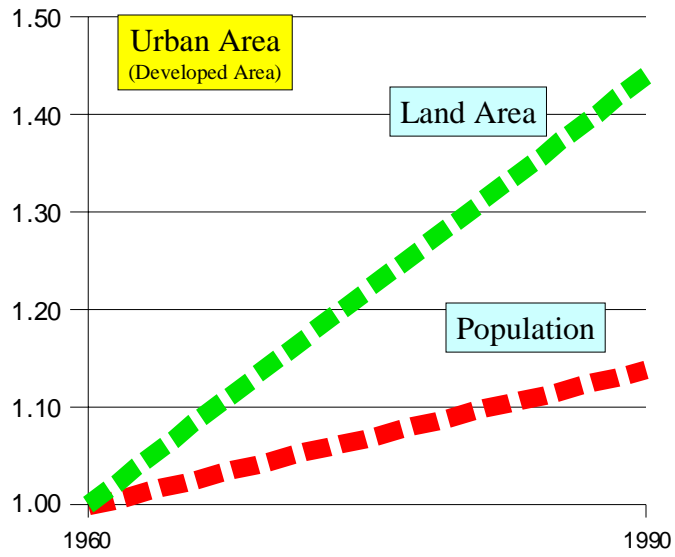


Figure 15

Vancouver Population & Land Area

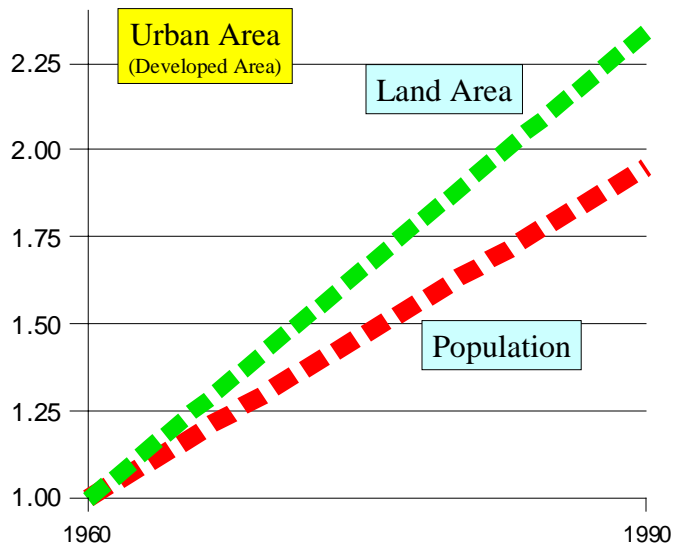


Figure 16

Sydney Population & Land Area

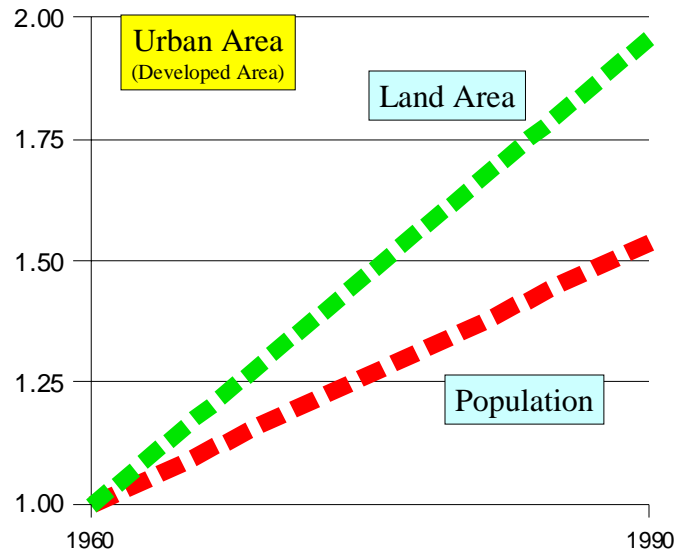


Figure 17

Tokyo Population & Land Area

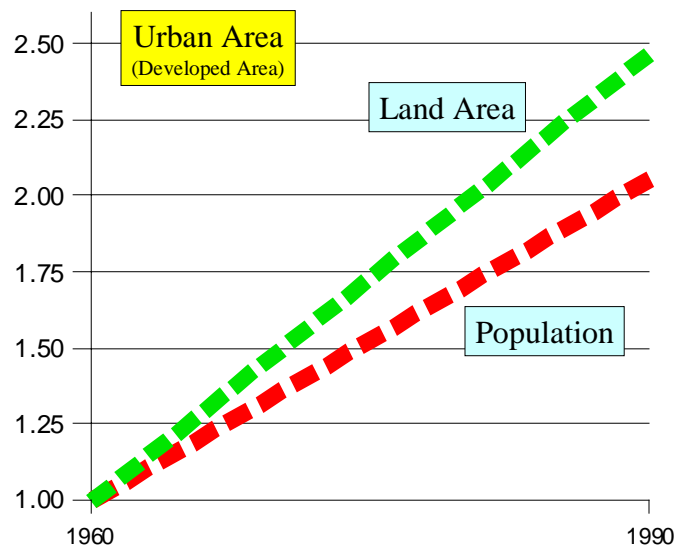


Figure 18

Italy Change in Population by Density

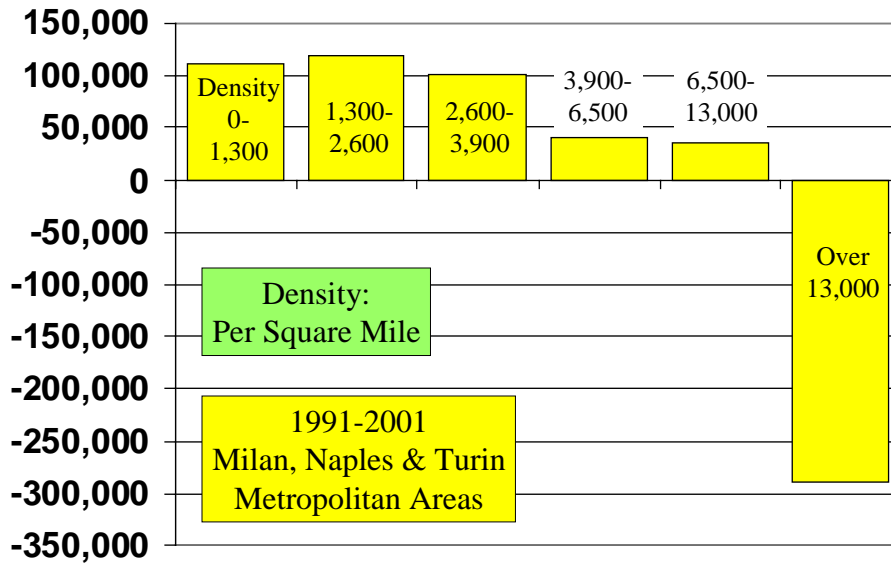


Figure 19

Income per Capita

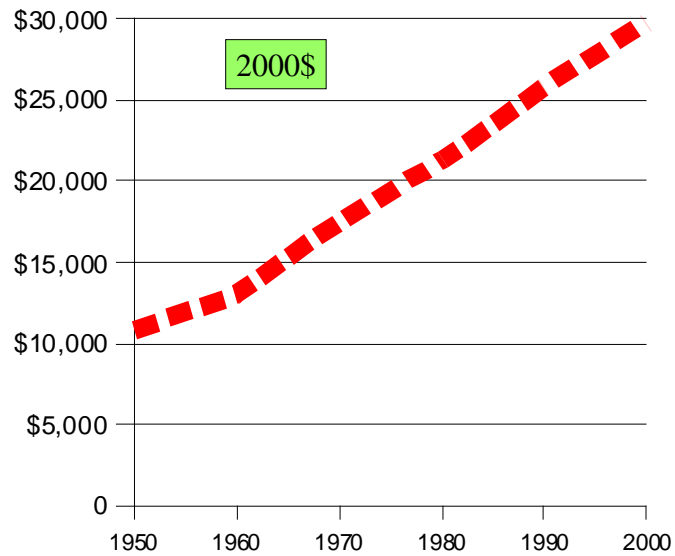


Figure 20

Income per Household

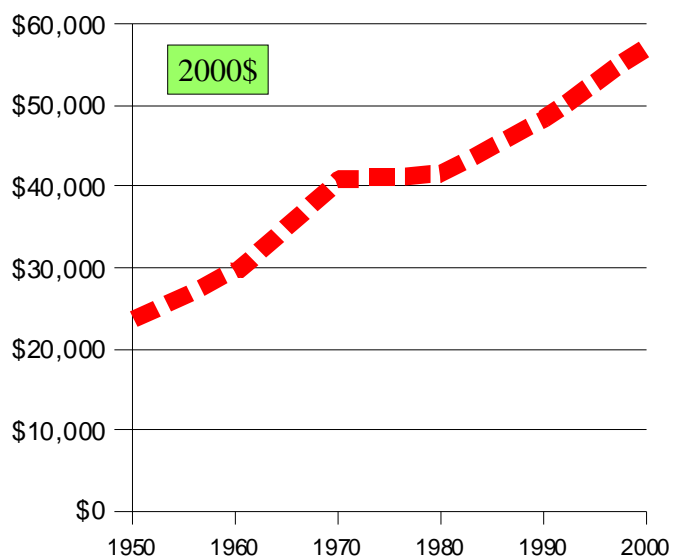


Figure 21

Change in Income per Household

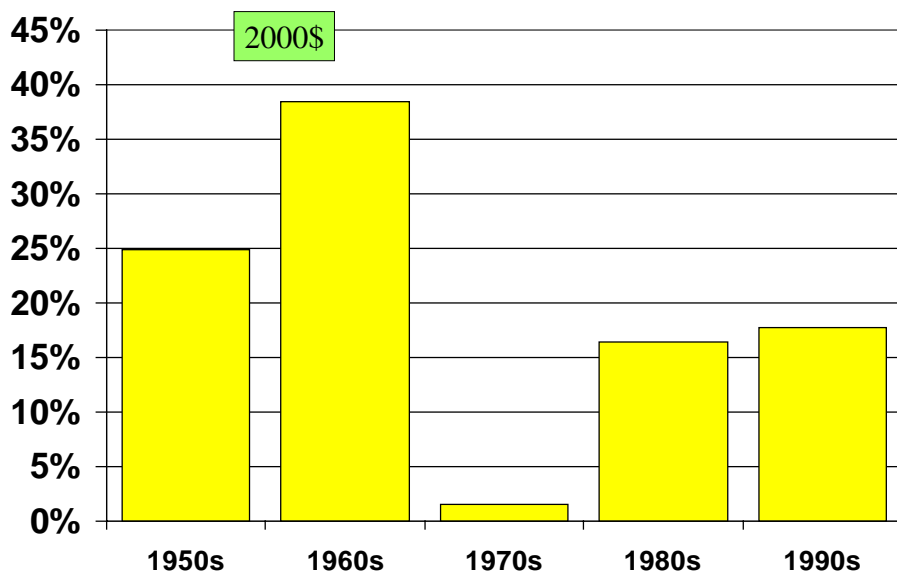


Figure 22

<http://www.demographia.com>