
Appendix A: Central City Density in 1950 and 2020

The 2020 census portrays a country with many cities but generally low urban density. New Yorkers live in a city with a population density of 29,298 persons per square mile, but what they have is almost unique. New York City's closest peers, among cities with more than 100,000 people, are two northern New Jersey cities, Jersey City and Paterson, neither in the top 50 in terms of population and both with more than 19,000 persons per square mile. Among the top 50 cities, San Francisco comes next, at 18,635. After that, city densities fall off rapidly.

America has long been understood as a land of sprawl. In 1950, 32.8% of Americans lived in central cities and 23.3% in suburbs. By 2000, 50% of Americans lived in suburbs and 30.3% in cities.³⁶ That was a low point for central cities. By 2010, the percentage living in suburbs had continued to grow, to 51%, but the percentage living in central cities also began to grow, reaching 33%.³⁷

As central cities declined in population share relative to the suburbs, the built density of central cities also declined, as the growing central cities employed land-use patterns more akin to suburbs than to the central cities of previous decades. In 1950, central cities had about 49.6 million residents and a population density of 7,517 per square mile. By 2000, the population of central cities had grown to 85.3 million, but the density per square mile had declined to 2,716.³⁸

Figure A-1 compares the 2020 census population and population density for the 50 largest cities with the same cities in 1950. Older cities that were large and dense in 1950 have, in many cases, lost population. Cities that were small but, in some cases, relatively dense in 1950 became large cities by annexing land or merging with the surrounding county. However, most remained—or, once expanded, became—very low-density.

Figure A-1

50 Largest American Cities in 2020, with 1950 Population and Population Density (Persons per Square Mile)

City	State	2020 Population	Area (sq. mi.) 2020	Population Density 2020	1950 Population	Area (sq. mi.) 1950	Population Density 1950
New York	New York	8,804,190	300.5	29,298	7,891,957	315.1	25,046
Los Angeles	California	3,898,747	469.5	8,304	1,970,358	450.9	4,370
Chicago	Illinois	2,746,388	227.7	12,061	3,620,962	207.5	17,450
Houston	Texas	2,304,580	640.4	3,599	596,163	160.0	3,726
Phoenix	Arizona	1,608,139	518.0	3,105	106,818	17.1	6,247
Philadelphia	Pennsylvania	1,603,797	134.4	11,933	2,071,605	127.2	16,286
San Antonio	Texas	1,434,625	498.8	2,876	408,442	69.5	5,877
San Diego	California	1,386,932	325.9	4,256	334,387	99.4	3,364
Dallas	Texas	1,304,379	339.6	3,841	434,462	112.0	3,879
San Jose	California	1,013,240	178.3	5,683	95,280	17.0	5,605
Austin	Texas	961,855	319.9	3,007	132,459	32.1	4,126
Jacksonville	Florida	949,611	747.3	1,271	204,517	30.2	6,772
Fort Worth	Texas	918,915	342.9	2,646	278,778	93.7	2,975
Columbus	Ohio	905,748	220.0	4,117	375,901	39.4	9,541
Indianapolis	Indiana	887,642	361.6	2,455	427,173	55.2	7,739
Charlotte	North Carolina	874,579	308.3	2,837	134,042	30.0	4,468
San Francisco	California	873,965	46.9	18,635	775,357	44.6	17,385
Seattle	Washington	737,015	83.8	8,795	467,591	70.8	6,604
Denver	Colorado	715,522	153.1	4,674	415,786	66.8	6,224
Washington	District of Columbia	689,545	61.1	11,286	802,178	61.4	13,065
Nashville	Tennessee	689,447	475.8	1,449	174,307	22.0	7,923
Oklahoma City	Oklahoma	681,054	606.2	1,123	243,504	50.8	4,793
El Paso	Texas	678,815	258.4	2,627	130,485	25.6	5,097
Boston	Massachusetts	675,647	48.3	13,989	801,444	47.8	16,767
Portland	Oregon	652,503	133.5	4,888	373,628	64.1	5,829
Las Vegas	Nevada	641,903	141.8	4,527	24,624	N.A.	N.A.
Detroit	Michigan	639,111	138.7	4,608	1,849,568	139.6	13,249
Memphis	Tennessee	633,104	297.0	2,132	396,000	104.2	3,800
Louisville	Kentucky	633,045	263.5	2,402	369,129	39.9	9,251
Baltimore	Maryland	585,708	80.9	7,240	949,708	78.7	12,067
Milwaukee	Wisconsin	577,222	96.2	6,000	637,392	50.0	12,748
Albuquerque	New Mexico	564,559	187.3	3,014	96,815	47.9	2,021
Tucson	Arizona	542,629	241.0	2,252	45,454	9.5	4,785

Fresno	California	542,107	115.2	4,706	91,669	15.0	6,111
Sacramento	California	524,943	98.6	5,324	137,572	16.9	8,140
Kansas City	Missouri	508,090	314.7	1,615	456,622	80.6	5,665
Mesa	Arizona	504,258	138.7	3,636	16,790	N.A.	N.A.
Atlanta	Georgia	498,715	135.3	3,686	331,314	36.9	8,979
Omaha	Nebraska	486,051	133.2	3,433	251,117	40.7	6,170
Colorado Springs	Colorado	478,961	195.4	2,451	45,472	9.3	4,889
Raleigh	North Carolina	467,665	145.1	3,179	65,679	11.0	5,971
Long Beach	California	466,742	50.7	9,206	250,767	34.7	7,227
Virginia Beach	Virginia	459,470	244.7	1,878	5,390	N.A.	N.A.
Miami	Florida	442,241	36.0	12,284	249,276	34.2	7,289
Oakland	California	440,646	55.9	7,883	384,575	53.0	7,256
Minneapolis	Minnesota	429,954	54.0	7,962	521,718	53.8	9,697
Tulsa	Oklahoma	413,066	197.5	2,091	182,740	26.7	6,844
Bakersfield	California	403,455	149.8	2,693	34,784	7.4	4,701
Wichita	Kansas	397,532	162.0	2,454	168,279	25.7	6,548
Arlington	Texas	394,266	95.9	4,111	7,692	N.A.	N.A.

N.A. = Data not available for places under 25,000 population

Source: U.S. Bureau of the Census, 2020 census, and County and City Data Book, 1952

In 2020, 12 of the nation's top 50 cities by population had a population density above the approximate average in 1950 for all central cities of 7,500 per square mile: New York City, Los Angeles, Chicago, Philadelphia, San Francisco, Seattle, Washington, Boston, Long Beach, Miami, Oakland, and Minneapolis. Sixteen of the top 50 cities in 2020 had a population density of more than 7,500 in 1950, but only seven overlap with the list of high-density cities in 2020—New York, Chicago, Philadelphia, San Francisco, Washington, Boston, and Minneapolis. Six others (Columbus, Indianapolis, Nashville, Louisville, Sacramento, and Atlanta) have expanded greatly from their original boundaries but at much lower population densities. Much of their legacy-built density near downtown is gone now, thanks to highway building, urban renewal, and the insatiable demand for open parking lots. Detroit, Baltimore, and Milwaukee have suffered population losses that brought their population density below the threshold of 7,500 per square mile.

Other cities that were large and dense in 1950 were far less so in 2020. Cleveland, St. Louis, Pittsburgh, and Buffalo, like Detroit (Figure A-1), had lost more than half their populations by 2020 (Figure A-2). As a result, their population density went from well above the national average for central cities in 1950 to well below. These cities are, in some cases, troubled as much by vacant lots as parking lots, but the result is the same—much of the onetime dense city no longer exists.

Figure A-2

Large Cities in 1950 Whose Population Loss Exceeded 50% by 2020

City	State	2020	Area (sq mi.) 2020	Population Density 2020	1950 Population	Area (sq. mi.) 1950	Population Density 1950
Cleveland	Ohio	372,624	77.7	4,796	914,808	75	12,197
Pittsburgh	Pennsylvania	302,971	55.4	5,469	676,806	54.2	12,487
St. Louis	Missouri	301,578	61.7	4,888	856,796	61	14,066
Buffalo	New York	278,349	40.4	6,890	580,132	39.4	14,724

Source: U.S. Bureau of the Census, 2020 census, and County and City Data Book, 1952

Most of the large U.S. cities in 2020 have expansive land areas. New York City, whose five boroughs cover more than 300 square miles, is only eighth among the top 10 cities in terms of land area. Only Chicago and Philadelphia, the two other cities in the top 10 that were also large and dense in 1950, have a smaller land area. Houston, the largest by land area, is more than twice the size of New York City. Effectively, American cities become large by sprawling.

Cities that were dense in 1950 had built trolley and subway lines and dispersed their population into undeveloped land along those routes. New housing was relatively dense by postwar suburban standards, to meet workers' demand for housing within walking distance of public transit. But the housing used low-cost prototypes—such as small-lot detached homes, attached housing, and small apartment buildings—to keep prices and rents affordable for most households. Contemporary cities often find those established neighborhoods and their elected representatives resistant to adding much denser new housing to meet current demand. Despite their diversity, many cities have hit on the same solution to growth—concentrating density in a few designated development areas, downtown and near downtown, where there was not an established residential presence. Only a few have successfully dispersed growth into existing residential neighborhoods.

Appendix B: How America's Densest Cities Grew in the 2010–20 Decade

An urban planning ideal for achieving dense growth is to build a transit system linking downtown and other important employment nodes, including peripheral business centers, colleges and universities, hospitals, and the airport, to dense residential neighborhoods radiating out to the edges of the city. The 12 cities listed in **FIGURE 1** have rail and bus transit systems that at least approximate the ideal coverage, but the radial growth of dense residential neighborhoods along transit lines has been harder to achieve. Instead, cities develop growth plans based on targets of opportunity—often neighborhoods that have few residents or businesses and therefore relatively less opposition to dense growth. This pattern works as long as such neighborhoods remain available. As the capacity for this type of growth is used up in the more economically robust cities, the choices become harder. The imperative to continue growing brings local planners into conflict with established homeowner communities. For cities still well below their 1950 population, more underutilized land may be available, and such conflicts can be pushed further into the future.

New York City

New York's growth in the 2010–20 decade was largely a consequence of a series of rezonings initiated by the Rudolph Giuliani and Michael Bloomberg mayoral administrations between 2001 and 2012.³⁹ These rezonings focused on areas that had few residents and low business density but were proximate to the city's legacy subway system or an extension to Manhattan's West Side that opened in 2015.

Much of the rezoned land was in manufacturing zones where new residences were not permitted and land values had stagnated during the city's long industrial decline. However, proposed large-scale rezonings of the residual land in this category require careful examination, as industrial space is now in high demand due to the growth of online retailers.⁴⁰ New York City's next round of rezonings will need to be within established residential neighborhoods. Like other cities that have been more receptive to this type of growth, New York has many retail corridors that have probably declined in value post-pandemic and would be strengthened by redevelopment that includes new housing above street-level retail establishments.⁴¹

Los Angeles

Los Angeles recorded a relatively small population gain of 2.8%—from 3.8 million in 2010 to 3.9 million in 2020.⁴² Population gains were largest in the downtown area, where the population increase was about 24,000. Playa Vista, the redevelopment of the former Hughes Aircraft Company property on the city's Westside, gained more than 7,000 residents; Woodland Hills in the west San Fernando Valley, site of another planned development, Warner Center, gained 8,200. By contrast, predominantly Hispanic and Asian areas on the city's Eastside recorded population losses, raising fears of an undercount from city officials.

Chicago

Chicago also had a small population gain of about 50,000, or 1.9%, from 2010 to 2020. This masked sharp contrasts by neighborhood, as those in and near the city's downtown gained population while more outlying neighborhoods, particularly on the South Side, lost population and, in some cases, housing units.⁴³ The downtown Loop's population increased by 13,000 and housing units by 7,900.⁴⁴ The adjacent Near North Side grew even more, gaining 15,000 housing units and 25,000 residents. Large gains were also recorded in the Near West Side and Near South Side areas, also adjoining the Loop and nearby West Town.

By contrast, many peripheral areas, such as the city's South Side, lost population. The hardest hit was Englewood, which lost 6,300 people and 1,900 housing units, and West Englewood, which lost 5,900 people and 1,000 housing units. These neighborhoods have been troubled by disinvestment, predatory lending that led to home foreclosures, and widespread home demolitions.

The proliferation of new high-rise rental apartments in Chicago's "Super Loop" to serve an influx of young professional adults⁴⁵ working in an advanced service economy while predominantly black neighborhoods deteriorate creates a sharp, racially charged contrast.⁴⁶ The city's long decline left large tracts of vacant and underutilized land near downtown that have been the focus of private investors. The city government's response is "INVEST South/West," an economic development initiative that focuses on commercial corridors in 10 communities. The initiative combines \$750 million in public funding over three years with private and philanthropic investments.⁴⁷ Chicago's experience indicates that the growth of a dense, high-productivity urban core, while an economic boon, can happen while the effects of past urban decline persist.

Philadelphia

As in Chicago, Philadelphia's population gain of about 78,000 was greatest in the core of the city. Also as in Chicago, the poor black and Hispanic majorities in north and west Philadelphia census tracts lost population.⁴⁸ In 2019, Philadelphia continued to have the highest poverty rate among the nation's largest cities.⁴⁹

Philadelphia's Center City housing boom is a consequence of younger professionals working in the expanding services sector.⁵⁰ The greater Center City area population grew by 16% from 2010 to 2020, while the remainder of Philadelphia grew by 3%.

New housing construction was spurred by the availability of a 10-year, 100% property-tax exemption. In response to the stark contrast between the growing and declining areas of the city, the property-tax exemption will be scaled back for projects applying after January 1, 2022, so that the 100% exemption is available only in the first year and declines by 10% in each year thereafter. In addition, for applications after the same date, a 1% tax will be imposed on the value of construction. This "Development Impact Tax" will help fund the city's Neighborhood Preservation Initiatives, which will subsidize affordable housing and neighborhood business corridor revitalization, as well as support first-time homebuyers.⁵¹

San Francisco

San Francisco's population grew by about 69,000, and this growth was concentrated in a few neighborhoods located downtown and along San Francisco Bay.⁵² These neighborhoods include Financial District / South Beach (a population increase of about 9,800), South of Market (8,600), Mission Bay (8,300), Potrero Hill (4,700), and Bayview Hunters Point (7,200). In the first four of these areas, population growth was dominated by Asians; and in the last, by white non-Hispanics.

San Francisco's growth neighborhoods are largely a consequence of redevelopment plans for large, formerly nonresidential areas. These include Hunters Point Shipyard and Candlestick Point,⁵³ Mission Bay,⁵⁴ Transbay,⁵⁵ Bayview Hunters Point,⁵⁶ and Rincon Point.⁵⁷ Other parts of the city, representing established residential neighborhoods, changed little in population.

Seattle

As in other cities, Seattle's largest neighborhood population gains between 2010 and 2020 were in neighborhoods near downtown: Queen Anne (10,500), Cascade/Eastlake (15,700), Capitol Hill (8,000), and First Hill (5,100). Large gains were also recorded in more dispersed neighborhoods: the University District gained 6,100 and West Seattle Junction / Genesee Hill 5,600. Smaller gains were recorded in many other neighborhoods.⁵⁸

Seattle's Comprehensive Plan designates Urban Centers, Hub Urban Villages, and Residential Urban Villages where growth is to be concentrated, with a conceptual hierarchy of scale from very dense to more moderate. Focusing growth in these areas, covering 17% of the city's land area, facilitates the growth of transit use and pedestrian activity.⁵⁹ The urban village strategy appears to overcome, more effectively than other cities have been able to do, the chronic inability to increase densities in established residential neighborhoods.

Seattle's rapid growth has been facilitated by voter-approved regional transit plans in 1996, 2008, and 2016. These have led to the construction of a light rail network and improved bus rapid transit and commuter rail services.⁶⁰

Washington

From 2010 to 2020, the District of Columbia's largest population gain, almost 32,000, was in Ward 6, which forms an arc to the north, east, and southwest of the Capitol.⁶¹ Like other cities, Washington targeted areas with no or few existing residents for new housing growth. The growing neighborhoods in Ward 6 include Navy Yard, a redeveloped former federal facility southeast of the Capitol; NoMa, a onetime industrial area north of Union Station;⁶² and The Wharf, an area along the waterfront in Southwest Washington that had been cleared decades ago of its former residents and businesses by urban renewal.⁶³

Washington has the advantages of federal government ownership of surplus land, as well as the potential for federal agencies to serve as anchor tenants in redevelopment projects. Both were important in the early stages of the Navy Yard redevelopment—specifically, the relocation of the Naval Sea Systems Command and the U.S. Department of Transportation to the area; and the designation of a private developer for a federally owned property.⁶⁴ The Wharf redevelopment also benefited from federal land ownership. In the case of NoMa, key public investments included a new Metro station on the existing Red Line and public parks.

As in other cities, Washington's rapid housing growth, tied to the growth of high-paying service jobs employing college graduates, has generated political pushback from those concerned with the displacement of lower-income households in neighborhoods where market rents are rising. To address such concerns, Mayor Muriel Bowser has targeted an additional \$150 million—on top of \$100 million already allocated, in fiscal year 2021, as well as \$250 million in fiscal year 2022—for the District's Housing Production Trust Fund, which can be used to produce and preserve affordable housing.⁶⁵

Boston

Boston's growth was better distributed among neighborhoods than in some other cities.⁶⁶ The largest absolute population gains were in Dorchester (7,900), South Boston (6,100), and Roxbury (5,000). The largest percentage gains, but smaller absolute gains, were in neighborhoods closer to Downtown. Of these neighborhoods, the largest was South Boston Waterfront (3,700). This redevelopment of a former industrial area, largely with market-rate housing, is more characteristic of other high-density cities' growth schemes.⁶⁷ Chinatown, Downtown, and the West End also had large percentage gains, but smaller absolute gains.

One underpinning for Boston's greater success in dispersing new housing beyond its Downtown areas is its explicit targeting of middle-income market-rate housing. According to the latest update of the city's housing plan, "the market is expected to continue producing new units that are unassisted by government but are priced at levels that are affordable to middle-income households. This is particularly the case for new development located in non-Downtown locations. The City's goal for this category of market-rate middle-income housing [by 2030] is now 20,700 units."⁶⁸

Middle-income households are defined as those earning \$50,000–\$125,000 annually. The report includes additional actions to spur construction of unsubsidized housing for this group, including encouraging ADUs (second units on single-family lots); allowing higher unit densities on lots that are well served by transit; and speeding up permitting for small projects.⁶⁹ The plan also sets an ambitious goal for the production of income-restricted housing but is vague on funding.⁷⁰

Long Beach

Long Beach achieved its density in previous decades, growing little between 2010 and 2020. The city missed its 2013–21 state-imposed housing goal of 7,000 units and now faces a much larger goal of 26,500 for 2021–29.⁷¹ Long Beach officials point to new pro-housing initiatives, including a pilot program to construct 500 micro-units as small as 300 square feet in the downtown area and Midtown Corridor to the north.⁷² More dubiously, the city recently adopted an inclusionary housing ordinance, requiring that a portion of new units in new apartment buildings in the same two areas meet affordability standards.⁷³ Although the city council adopted provisions to lessen the economic impact of the ordinance on new developments meeting the city's ambitious housing goals, the requirements may work at cross-purposes and contribute to missing the goal again.

Miami

Miami's population growth was focused on a tight area in and near downtown and the waterfront, generally east of Interstate 95 and stretching from Interstate 195 in the north to the Brickell neighborhood in the south.⁷⁴ The largest gain of any census tract, 4,700, was in census tract 37.10, straddling the MacArthur Causeway and including the city's performing-arts center.

High-density housing growth was directed into these areas by the Miami 21 zoning code, which went into effect in 2010.⁷⁵ Miami 21 is a form-based zoning code, emphasizing controls on the physical form of buildings, with controls on specific uses within buildings a secondary concern. The code promotes mixed uses and a good relationship between buildings and the public realm, leading to walkable neighborhoods and the use of public transit.

Oakland

Oakland's population gains were concentrated near downtown and a corridor served by the Bay Area Rapid Transit (BART) Blue and Green Lines subway to the southeast.⁷⁶ Large areas of the city north of International Boulevard, a major artery running southeast across the city from Lake Merritt, near downtown, experienced little growth. The growth was consistent with the map of Priority Development Areas included in the city's state-mandated Housing Element for 2015–23.⁷⁷ In addition to development around BART stations, Oakland's growth has taken advantage of formerly industrial land along its waterfront. The Brooklyn Basin plan for the redevelopment of a 64-acre site along the inlet separating Oakland from Alameda is currently approved for 3,100 units, and the city is considering an application to add 600 more.⁷⁸

Minneapolis

The population gains in Minneapolis were focused on a swath of land encompassing the east side of the Mississippi River, which runs diagonally through the city, and the downtown on the west side of the river.⁷⁹ The city is well known for its Minneapolis 2040 plan, enacted in 2019, which seeks to spread multifamily housing growth along transit corridors, and up to three units on lots in predominantly single-family areas.⁸⁰ The plan was enacted too late in the decade to affect the 2020 census results. However, a precursor of the city's future with more dispersed population growth can be found in census tract 77, along West Lake Street. With the construction of new apartments in the Uptown neighborhood, the population grew by 3,100, more than doubling between 2010 and 2020.

In November 2021, Minneapolis voters approved a ballot measure authorizing the city council to enact rent control. Mayor Jacob Frey, who won reelection, had opposed rent regulation in the past, pointing to the city's unprecedented investments in affordable housing during his last term as a better response to public concerns about housing affordability.⁸¹