

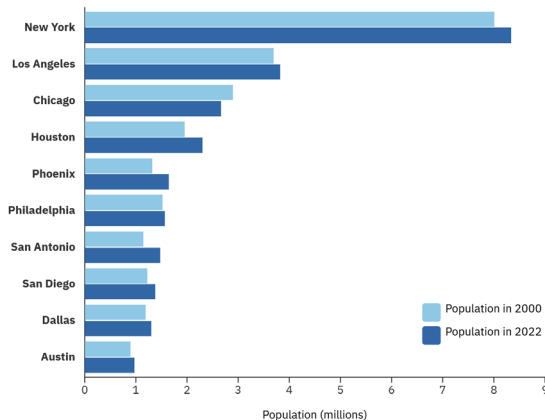
U.S. Cities

Large, densely populated cities serve as cultural and economic hubs, offering employment, education, and recreation. To sustain their populations and infrastructure, cities require constant flows of energy and resources, such as food, from elsewhere.^{1,2} There is increasing attention on the environmental impacts of cities, and the opportunities to reduce the footprint of the built environment and enhance the quality of life for residents. A city is a legal entity,³ while an urban area is determined by the U.S. Census Bureau based on the population and availability of housing.⁴ A metropolitan statistical area (MSA) is defined by the U.S. Office of Management and Budget based on county lines.^{5,6}

Urban Land Use Patterns

- 80% of the U.S. population lives in urban areas, up from 64% in 1950. By 2050, 89% of the U.S. population and 68% of the world population is projected to live in urban areas.^{7,8}
- The U.S. has over 340 urban areas with populations above 100,000;¹⁰ New York City, the largest, has 8.58M inhabitants within the five boroughs and 19.43M in the urban area.^{7,11}

Population of the 10 Most Populous U.S. Cities^{9,41}



- From 2000 to 2020, urban land area in the U.S. grew by 14%, reaching 105,493 mi², or 3% of total U.S. land area.^{12,13} It is projected to more than double by 2060.¹⁴
- In 2020, there were 2,553 people per square mile in U.S. urban areas and 19 people per square mile in rural areas.^{7,15,16,17,18} The density of urban areas increased by 9% from 2010.¹⁸
- In New York City, population density in 2020 was 29,303 people per mi².¹⁹
- Total housing units increased by 6.7% from 2010–2020, compared to 13.6% from 2000–2010.²⁰ New York County (Manhattan) has the highest density of housing units in the country, with 40,339 units per mi² of land area.¹³
- Doubling population density in urban areas can reduce CO₂ emissions from household travel and residential energy use by 48% and 35%, respectively.²¹

- Sprawl, the expansion of cities and suburbs into surrounding rural land, increases traffic and energy use, and contributes to air and water pollution as well as flooding.²² Sprawl also leads to habitat loss, automobile dependency, reduced open space, and diminished quality of life.²³
- According to Smart Growth America's Sprawl Index (based on development density, land use mix, activity centering and street accessibility), the most sprawling MSAs of the 221 surveyed are Hickory-Lenoir-Morganton, NC, Atlanta-Sandy Springs-Marietta, GA, Clarksville, TN-KY, and Prescott, AZ.²⁴

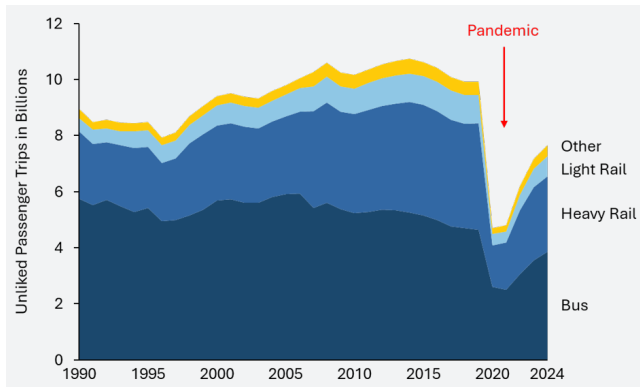
Built and Natural Environment

- In 2024, residential (19 quads) and commercial (17 quads) sectors accounted for 37% of U.S. energy consumption and 33.5% of energy-related emissions, 1,602 Mt of CO₂.²⁵ See the [Residential Building Factsheet](#) and [Commercial Building Factsheet](#) for more information.
- 70% of global emissions can be attributed to urban areas, driven by population size, income, and form of urbanization.²⁶ Of these emissions, 21% come from urban transport.²⁷
- The urban heat island effect, in which average annual temperatures average 1-7 °F higher in cities than surrounding suburban and rural areas, results in increased energy demand, air pollution, GHG emissions, and heat-related illness, as well as decreased water quality.²⁸
- Urban tree canopies mitigate the urban heat island effect.²⁹ Urban tree cover in the U.S. has declined to 39.4%, while impervious cover increased to 26.6% of urban area.¹⁴ Extensive urban reforestation would increase carbon sequestration, reduce electricity-related GHG emissions, and provide over \$9B in benefits annually.³⁰
- Since 2000, emissions from key pollutants have decreased and, with them, the number of unhealthy air days for urban residents.³¹ 44% of Americans, 152.3M people, live in regions containing unhealthy levels of particulate or ozone pollution.³² 33.5M American children live with unhealthy air pollution.³²
- Contaminant concentration and toxicity in streams increase with urban development, due to runoff, treated and untreated sewage, and industrial discharge.³³
- Stormwater runoff from the built environment is a principal contributor to water quality impairment of water bodies.³⁴

Transportation and Mobility

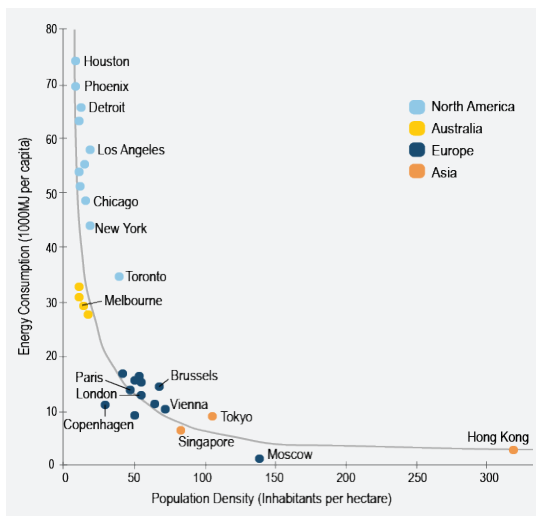
- In 2019, 56.1B passenger-miles were traveled on U.S. public transit. This decreased to 23.3B in 2021 during the COVID-19 pandemic and rose to 31.3B in 2022.^{36,37}
- In 2022, buses, bus rapid transit, and trolleybuses accounted for 48% of U.S. public transit trips, 38% were metro rail, and 5% were light rail and streetcars.³⁷ Using public transit rather than a personal vehicle lowers carbon emissions by 55%.³⁹
- Between 2020 and 2024, public transit ridership rose by 63%, yet 2024 levels remained 22% below 2019.³⁸

Public Transportation Ridership³⁸



- Public transportation in the U.S. prevents 148B VMT, saves 6.6B gal of gasoline, and 63 Mt of CO₂ emissions annually.⁴⁰ \$1B invested in public transportation yields \$5B in GDP growth and supports nearly 50,000 jobs.⁴²
- In 2019, transit buses used 89.5T Btu to travel 19.3B PM, while rail used 47.1T Btu for 39.3B PM.⁴³ In contrast, passenger cars and trucks consumed 15,108T Btu and traveled 4,470B PM.⁴³ See the [Person Transportation Factsheet](#) for more information.

Urban Density and Transportation-Related Energy Use³⁵



- Urban congestion cost Americans an extra 8.7B hours of travel time and 3.5B gal of fuel in 2019.⁴⁴
- In large U.S. cities, parking lots cover an average of 26% of land area.⁴⁵

Socioeconomic Patterns

- The average unemployment rate of metropolitan areas in May 2025 was 4%, ranging from 1.7% in Sioux Falls, SD to 17.4% in El Centro, CA.⁴⁶ In 2018, U.S. metro economies accounted for 91% of GDP, 92% of wage income, and 88% of jobs.⁴⁷ Only 9 countries had a higher 2018 GDP than the NYC area.⁴⁷
- In 2023, the median household income inside metropolitan areas was \$83,590; outside metropolitan areas it was \$62,520.⁴⁸ Poverty rates are lower within metropolitan areas (10.7%) than outside (13.5%).⁴⁹

- In 2015, the top 1% of U.S. families earned 26 times more income than the bottom 99%. In the 17 most unequal metro areas, the top 1% earned at least 35 times more than the bottom 99%. In Jackson, WY, the ratio was 132:1.⁵⁰
- MSAs with a high concentration of tech and finance workers tend to have higher income inequality. Rust Belt and Midwest MSAs, many of which rely on manufacturing, tend to have more equal wage distributions.⁵¹
- Urban areas historically occupied by racially marginalized groups are less likely to have trees, which help mitigate the urban heat island effect.⁵² Racially marginalized groups are more likely to live in sections of cities that experience greater urban heat island effects.⁵³ Adding green space to cities can lead to gentrification, which exacerbates inequity.⁵⁴
- 51.6% of unhoused people in the U.S. live in major cities.⁵⁵

Solutions and Sustainable Alternatives

- Urban areas create unique opportunities for residents to shape systems that enhance resource circularity.⁵⁶
- A sustainable urban area preserves environmental quality, uses renewable energy efficiently, maintains a healthy population with access to healthcare, and fosters economic vitality, social equity, and civic engagement.⁵⁷
- Achieving urban sustainability requires an integrated approach to environmental management, measures to limit sprawl, strong connections among community, ecology, and economy, and coordinated stakeholder interaction.^{57,58}
- Well-being can be improved by prioritizing means to reduce climate risk for low-income and marginalized communities.²⁶

U.S. Cities Future Climate Solutions⁵⁹

