



FINDING THE NEXT NASHVILLE

THE LOCAL DETERMINANTS OF QUALITY OF LIFE AND HOW
THEY ATTRACT JOBS AND RESIDENTS

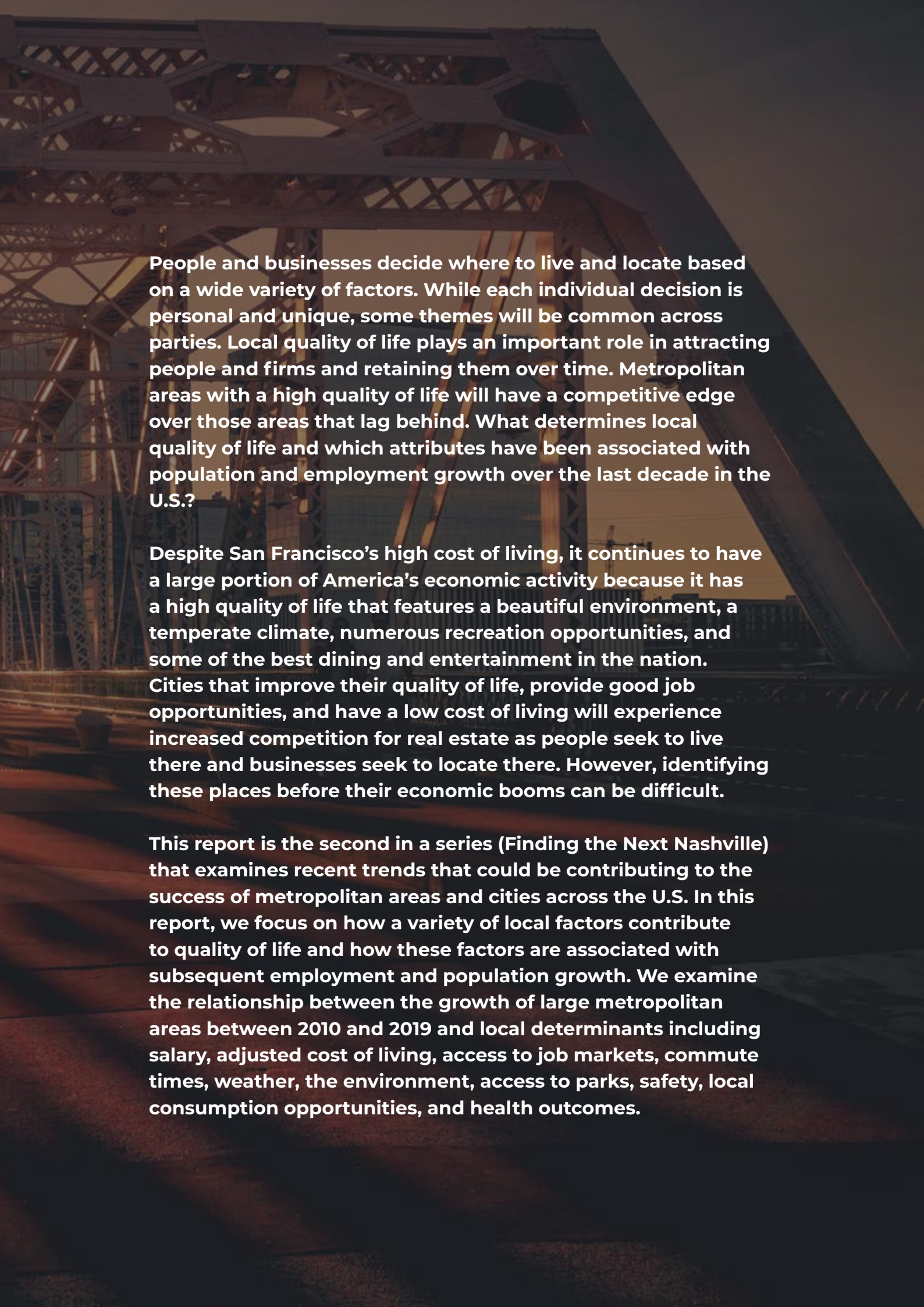
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People and businesses decide where to live and locate based on a wide variety of factors. While each individual decision is personal and unique, some themes will be common across parties. Local quality of life plays an important role in attracting people and firms and retaining them over time. Metropolitan areas with a high quality of life will have a competitive edge over those areas that lag behind. What determines local quality of life and which attributes have been associated with population and employment growth over the last decade in the U.S.?

Despite San Francisco's high cost of living, it continues to have a large portion of America's economic activity because it has a high quality of life that features a beautiful environment, a temperate climate, numerous recreation opportunities, and some of the best dining and entertainment in the nation. Cities that improve their quality of life, provide good job opportunities, and have a low cost of living will experience increased competition for real estate as people seek to live there and businesses seek to locate there. However, identifying these places before their economic booms can be difficult.

This report is the second in a series (Finding the Next Nashville) that examines recent trends that could be contributing to the success of metropolitan areas and cities across the U.S. In this report, we focus on how a variety of local factors contribute to quality of life and how these factors are associated with subsequent employment and population growth. We examine the relationship between the growth of large metropolitan areas between 2010 and 2019 and local determinants including salary, adjusted cost of living, access to job markets, commute times, weather, the environment, access to parks, safety, local consumption opportunities, and health outcomes.

FINDING THE NEXT NASHVILLE

POPULATION AND EMPLOYMENT GROWTH IN THE 2010S

Before looking into the local determinants of quality of life, we must ask the question: what metropolitan areas experienced the highest and lowest rates of population and employment growth over the last decade? By 2019, 110 metropolitan areas in the U.S. had populations over 500,000, which we will define in this report as “large”. Between 2010 and 2019, the U.S. population grew by about six percent and the median large metropolitan area grew by about the same rate. Similarly, the rate of employment growth among employer firms was about the same for the nation and the median large metropolitan area at 17 percent.

Table I ranks the top 10 and bottom 10 metro areas, and Nashville, by population and employment growth from 2010 to 2019 (2018 for employment) among the 110 largest metro areas. Among these metropolitan areas, Austin had the highest rate of population growth and the seventh highest rate of employment growth. Most metropolitan areas that rank high in population growth also rank high in employment growth. However, there are exceptions. For example, Lakeland-Winter Haven, Florida experienced 20 percent growth in both population and employment. This places the region at 9th for population growth, but only 42nd for employment growth. And, while Grand Rapids, Michigan had the highest rate of employment growth, it ranked only 50th for population growth, just above the national average. This difference can be partly explained by the fact that Grand Rapids’ unemployment rate was 0.8 percentage points higher than Lakeland’s in 2009, so there was more opportunity for growth. Winston-Salem, North Carolina experienced a similar growth pattern, ranking sixth for employment growth, but actually falling below the national average for population growth. In the case of Winston-Salem, and several other metro areas with high employment growth but lower population growth, this could be because it is located near other large population centers such as Greensboro, North Carolina, and as such, people can live in one metro and commute short distances to work in other metro areas – just a 30-minute drive in the case of Winston-Salem and Greensboro.



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Source: American Community Survey Components of Population Change, 2010 to 2019. County Business Patterns, National and Metropolitan Statistical Areas, 2010 to 2018

TABLE I: TOP 10 METROPOLITAN AREAS RANKED BY POPULATION (2010 TO 2019) AND EMPLOYMENT GROWTH (2010 TO 2018)

Rank	Metro Area	Population (2019)	Population Change (2010-2019)
	United States	328,239,523	6%
1	Austin-Round Rock-Georgetown, TX	2,227,083	29%
2	Cape Coral-Fort Myers, FL	770,577	24%
3	Raleigh-Cary, NC	1,390,785	22%
4	Provo-Orem, UT	648,252	22%
5	Orlando-Kissimmee-Sanford, FL	2,608,147	22%
6	Boise City, ID	749,202	21%
7	Fayetteville-Springdale-Rogers, AR	534,904	21%
8	Charleston-North Charleston, SC	802,122	20%
9	Lakeland-Winter Haven, FL	724,777	20%
10	North Port-Sarasota-Bradenton, FL	836,995	19%
16	Nashville-Davidson-Murfreesboro-Franklin, TN	1,934,317	17%
101	Buffalo-Cheektowaga, NY	1,127,983	-1%
102	Hartford-East Hartford-Middletown, CT	1,204,877	-1%
103	Rochester, NY	1,069,644	-1%
104	New Haven-Milford, CT	854,757	-1%
105	Cleveland-Elyria, OH	2,048,449	-1%
106	Toledo, OH	641,816	-1%
107	Pittsburgh, PA	2,317,600	-2%
108	Scranton--Wilkes-Barre, PA	553,885	-2%
109	Syracuse, NY	648,593	-2%
110	Youngstown-Warren-Boardman, OH-PA	536,081	-5%

Rank	Metro Area	Employment (2018)	Employment Change (2010-2018)
	United States	130,881,471	17%
1	Grand Rapids-Kentwood, MI	509,015	60%
2	Charlotte-Concord-Gastonia, NC-SC	1,078,675	48%
3	Provo-Orem, UT	228,196	47%
4	Greenville-Anderson, SC	346,525	40%
5	Ogden-Clearfield, UT	197,810	39%
6	Winston-Salem, NC	242,494	37%
7	Austin-Round Rock-Georgetown, TX	874,611	37%
8	Deltona-Daytona Beach-Ormond Beach, FL	172,815	35%
9	Nashville-Davidson--Murfreesboro--Franklin, TN	876,938	34%
10	Cape Coral-Fort Myers, FL	222,810	33%
101	Virginia Beach-Norfolk-Newport News, VA-NC	624,698	5%
102	Scranton--Wilkes-Barre, PA	237,301	5%
103	Syracuse, NY	263,912	5%
104	Hartford-East Hartford-Middletown, CT	552,643	4%
105	Little Rock-North Little Rock-Conway, AR	286,916	4%
106	Wichita, KS	262,826	3%
107	Toledo, OH	266,106	3%
108	Fayetteville, NC	99,068	1%
109	Youngstown-Warren-Boardman, OH-PA	191,545	-3%
110	Springfield, MA	221,866	-7%

Near or at the bottom of both rankings is Youngstown, Ohio, which between 2010 and 2019 lost five percent of its population and three percent of its employees. Hartford, Scranton, Syracuse, and Toledo also ranked among the bottom 10 in both population and employment growth. Clear regional patterns emerge, as areas with higher population and employment growth tend to be in warmer southern states or in the mountain region while areas losing population and business are in the cold northeast, mainly in Ohio, Pennsylvania, and Connecticut.

Metropolitan areas featuring long-term growth in both population and employment will likely also experience high demand for both commercial and residential real estate. This is certainly true for metro areas such as Austin, Cape Coral, and Provo, where housing prices have more than doubled from 2012 to 2021 and their respective commercial real estate markets feature some of the highest demand in the nation. In the following sections, we explore the correlates of these growth patterns and several important determinants of local quality of life. One of the primary concerns for workers are wages and cost of living. How do these factors relate to population growth at the metropolitan level over the past decade?

FINDING THE NEXT NASHVILLE

WAGES AND COST OF LIVING

Metropolitan areas that offer relatively high wages, low cost of living, and a large job market could attract more skilled and footloose people. San Francisco had a median household income of over \$100,000 in 2019, but also had one of the highest housing costs in the U.S. with the average house costing \$1.4 million in 2019. Which metropolitan areas feature high wages, low housing costs, and low local taxes allowing for relatively high disposable income? What areas have thick local labor markets that offer good employment opportunities and low levels of unemployment?

Metropolitan areas that feature high average salaries will be able to compete better at attracting skilled workers, all else equal. However, when people decide whether to move for a job, they also take into consideration cost of living. While San Jose, California features the highest average salary in the U.S., it also features one of the highest housing costs. One way to adjust for differences in cost of living between metropolitan areas is to use the Bureau of Economic Analysis' (BEA) regional price parities (RPP). The BEA's RPP indexes the cost of services, rents, and goods between metropolitan areas relative to the national average where a number above 100 indicates higher than the national average. In 2018, San Francisco was the highest cost metro area in the nation with an RPP of 134, while Beckley, West Virginia was the lowest cost metro area with an RPP of 77.

Table II shows the 10 largest metro areas with the highest and lowest salaries after adjusting for cost of living.¹ Despite having the second highest cost of living and the highest median rent cost in 2018 of \$2,201 a month, San Jose still offered the highest average salary after adjusting for cost of living at \$102,197. It should be noted that these are averages, meaning that for a significant portion of the population, cost of living may be too high for many earning salaries below the average. The top 10 list includes large population centers such as San Francisco (\$71,520) and Boston (\$64,978) and mid-size metropolitan areas such as Durham (\$66,706) and Hartford (\$61,309). The top 10 metro areas with the highest cost of living adjusted salaries also feature a wide range of typical rent costs. The typical rent in Durham-Chapel Hill, North Carolina was less than half that of San Francisco. However, after adjusting for the average salary being over \$30,000 lower in Durham than in San Francisco, less than \$4,000 separated the two metro areas.

¹ Large metropolitan areas are defined as places with more than 500,000 people in 2019. The table shows data from 2018 (most recent year), including Pensacola, Florida which had over 500,000 people by 2019.



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TABLE II: METROPOLITAN AREAS WITH THE HIGHEST AND LOWEST COST OF LIVING ADJUSTED SALARIES, 2018

Rank	Metropolitan Area	Salary, cost-of-living adjusted	Regional price parity	Salary	Population	Typical rent cost
1	San Jose-Sunnyvale-Santa Clara, CA	\$102,197	128	\$130,812	1,999,107	\$2,201
2	San Francisco-Oakland-Berkeley, CA	\$71,520	134	\$95,766	4,729,484	\$1,859
3	Bridgeport-Stamford-Norwalk, CT	\$70,740	113	\$80,078	943,823	\$1,238
4	Durham-Chapel Hill, NC	\$66,706	95	\$63,170	575,412	\$896
5	Seattle-Tacoma-Bellevue, WA	\$65,842	114	\$74,796	3,939,363	\$1,428
6	Boston-Cambridge-Newton, MA-NH	\$64,978	115	\$74,724	4,875,390	\$1,352
7	Houston-The Woodlands-Sugar Land, TX	\$61,584	102	\$62,630	6,997,384	\$939
8	Hartford-East Hartford-Middletown, CT	\$61,309	103	\$62,964	1,206,300	\$940
9	Atlanta-Sandy Springs-Alpharetta, GA	\$60,385	98	\$58,876	5,950,828	\$980
10	Chicago-Naperville-Elgin, IL-IN-WI	\$59,653	103	\$61,382	9,497,790	\$972
26	Nashville	\$56,730	94	\$53,383	1,932,099	\$925
96	Ogden-Clearfield, UT	\$44,667	94	\$41,808	676,948	\$871
97	Stockton, CA	\$44,623	101	\$45,248	752,660	\$1,034
98	Pensacola-Ferry Pass-Brent, FL	\$44,413	92	\$40,994	494,883	\$776
99	Lakeland-Winter Haven, FL	\$44,087	93	\$41,045	708,009	\$786
100	Cape Coral-Fort Myers, FL	\$43,889	98	\$42,835	754,610	\$1,061
101	North Port-Sarasota-Bradenton, FL	\$42,967	100	\$43,096	821,573	\$1,123
102	Riverside-San Bernardino-Ontario, CA	\$40,182	107	\$42,994	4,622,361	\$1,166
103	Deltona-Daytona Beach-Ormond Beach, FL	\$38,217	96	\$36,612	659,605	\$910
104	El Paso, TX	\$37,688	88	\$33,128	844,723	\$679
105	McAllen-Edinburg-Mission, TX	\$35,000	82	\$28,735	865,939	\$557

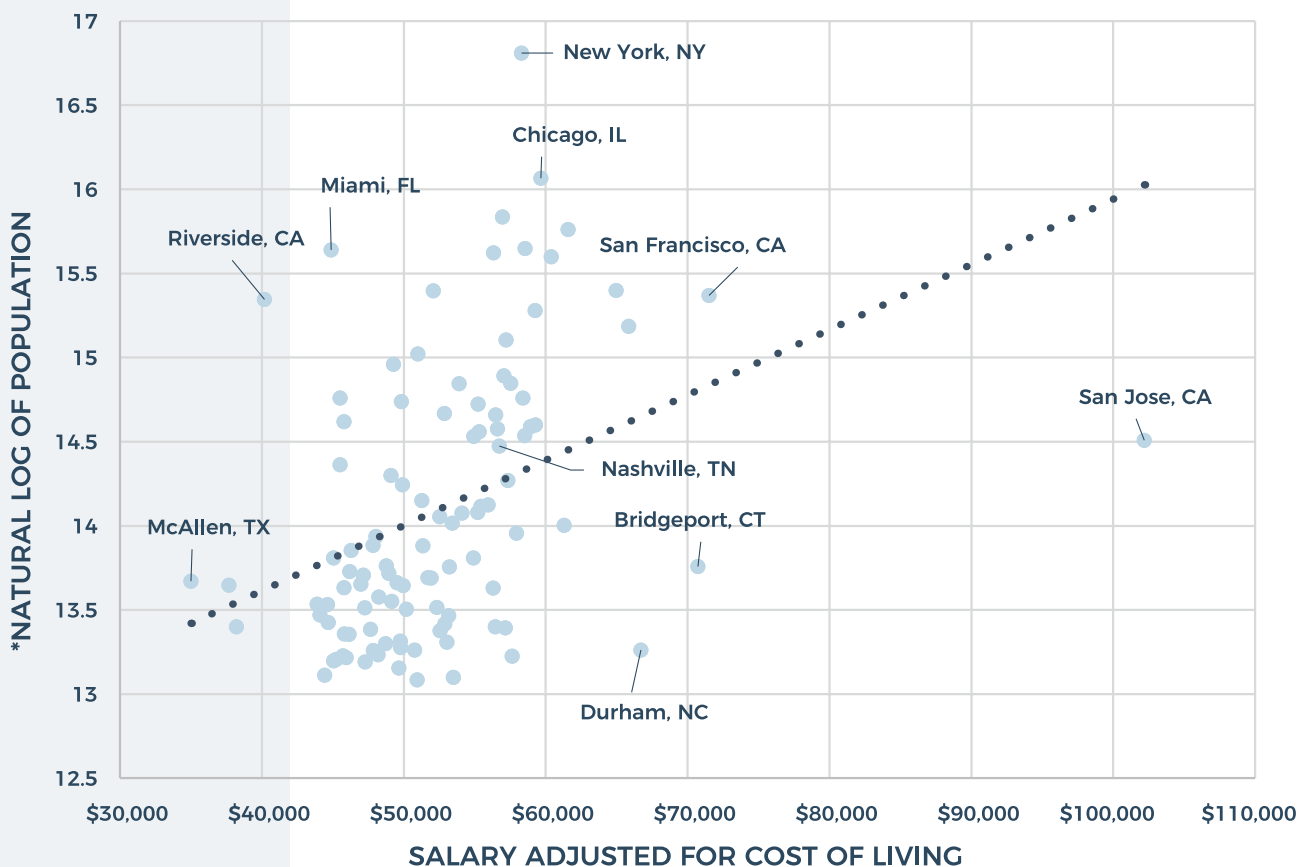
Source: Bureau of Economic Analysis, 1-Year American Community Survey, County Business Patterns

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WAGES AND COST OF LIVING

Among the bottom 10 metro areas for cost-of-living adjusted salary, North Port-Sarasota-Bradenton, Florida is notable for featuring a higher typical rent (\$1,123) than five of the top 10 metro areas. Yet, when combined with a significantly lower salary (\$43,096), this means that the Florida metro area has one of the lowest salaries after adjusting for cost of living. In contrast to the larger populations of the top 10 metro areas, nine of the ten lowest metropolitan areas all have populations under one million, including Pensacola, Florida (494,883 people in 2018) and Deltona-Daytona Beach-Ormond Beach, Florida (659,605 people in 2018). Further, metropolitan areas with salaries adjusted for cost of living above the median have significantly larger populations than those metropolitan areas with salaries below the median (2 million compared to 833,000). As shown in Figure I below, population size is positively associated with higher salaries. This makes sense as urban density increases productivity and entrepreneurship by facilitating trade in services and goods, reducing transportation costs, enabling the sharing of expensive public goods and infrastructure, and increasing interactions between smart and creative people.

FIGURE I: POPULATION AND SALARY ADJUSTED FOR COST OF LIVING, 2018



Source: Bureau of Economic Analysis, 1-Year American Community Survey, County Business Patterns

*We use the natural logarithm of population so that we can compare large population centers such as New York that are more than 20 times larger than smaller population centers such as McAllen, Texas where the outcome of interest is the average salary adjusted for cost of living. Natural logarithms use a base of approximately 2.718, so McAllen, Texas with a population of about 866,000 = $2.718^{13.67}$ so that its natural log is 13.67. This allows for more accurate modeling when looking at how increases in the population size of a metro area correlate with salaries.

ACCESS TO JOBS AND COMMUTE TIMES

Dense urban areas also have larger labor markets that increase the chance that workers will find the right job opportunity. One might be concerned about moving to a small city with a smaller labor market because if they lose their job or decide the match is not right, they will have more difficulty finding another job opportunity that is a good match. Dense cities also help solve the colocation problem of highly educated couples, where both spouses need to find jobs in the same labor market. Past *research* has shown that college educated couples are increasingly located in large metropolitan areas (those with at least 2 million people), increasing from 33 percent of college educated couples living in large metro areas in 1940 to 48 percent by 1990. Other *research* has shown that college educated couples are also more likely to live in large cities that have a high share of other college educated people. Over 40 percent of college educated couples live in cities with high shares of college educated people compared to just 2 percent of college educated couples living in cities with low shares of college educated people. Couples living in highly educated cities are also more likely to earn higher wages.

Large cities are also more likely to attract the largest and most successful employers. These employers are more likely to offer higher wage premiums for those at the top of the earnings distribution. Average salaries for the median worker in the three largest metropolitan areas of New York, Los Angeles, and Chicago were 28 percent larger than those of the three smallest “large” metropolitan areas of Pensacola, Florida; Lexington, Kentucky; and Fayetteville, North Carolina. But the salaries for workers at the 90th percentile of the earnings distribution in the three largest cities was 49 percent higher than for those at the 90th percentile in the three smaller cities.² This means that the wage premium for top earners is much higher in large cities than it is for the median worker.

The number of job openings in an area will also determine the locational choice of people. Equally important are the number of people competing for that same job in the labor market. One way to measure this ratio is to observe the number of unemployed people divided by the number of job openings in a metropolitan area using estimates from the *Bureau of Labor Statistics*. The lower the ratio, the more job openings there are relative to the number of job seekers, and the easier it should be to find employment. A ratio of one means there is a job opening for every unemployed person, while a ratio lower than one suggests a tighter labor market where there are more job openings than people looking for work. By January 2019, this ratio was 0.8 nationally, indicating a tight labor market equivalent to 1.25 job openings per unemployed person. In 2019, among the 18 largest metro areas where data was available, Boston’s job market was the most tight with a ratio of 0.5 unemployed people per job opening (which is equivalent to two job openings per unemployed person) and least tight in Philadelphia and Riverside, California with 1.2 unemployed people per job opening. This means that (all else equal) it would be significantly easier to find a job in Boston than in Philadelphia. Some metro areas have had consistently tight labor markets for years. Denver has had less than one unemployed person per job opening every month from March 2016 to December 2019 while Minneapolis-St. Paul has had less than one unemployed person per job opening every month from April 2017 to December 2019. Other metro areas have struggled with persistently high levels of unemployment and few job openings. Riverside, California has had more than one person per job opening since the Bureau of Labor Statistics began collecting data in 2005, peaking at 15.1 unemployed people per job opening in September 2009, before falling to a low of 1.1 in November 2019.

Research by Nobel Laureate economist Daniel Kahneman suggests that commuting is one of the *greatest self-reported sources* of unpleasantness in people’s lives. People living closer to their place of work will enjoy more time for recreational activities and time spent with families and friends. Among over 100 metropolitan areas that had a workforce population over 250,000 in 2019, the average commute time was about 26 minutes. This ranged from a 38-minute commute in the New York metro area to a 21-minute commute in the Des Moines, Iowa metro area.

² Bureau of Labor Statistics, *Occupational Employment Statistics*, 2019.

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ACCESS TO JOBS AND COMMUTE TIMES

TABLE III: AVERAGE COMMUTE TIME IN METROPOLITAN AREAS WITH MORE THAN 250,000 WORKERS, 2019

Rank	Metro area	Average commute time (minutes)	Change in commute time (minutes), 2010 to 2019	Total workforce	Change in total workforce, 2010 to 2019	Typical rent cost
1	Des Moines-West Des Moines, IA	20.6	0.4	365,726	24%	\$2,201
2	Wichita, KS	20.6	1.9	309,232	7%	\$1,859
3	Fayetteville-Springdale-Rogers, AR-MO	20.9	-0.4	254,515	21%	\$1,238
4	Omaha-Council Bluffs, NE-IA	21.2	1.4	492,938	11%	\$896
5	Toledo, OH	21.2	1.2	302,996	7%	\$1,428
6	Rochester, NY	21.4	0.7	525,560	9%	\$1,352
7	Buffalo-Niagara Falls, NY	21.7	0.5	550,508	7%	\$939
8	Lexington-Fayette, KY	21.8	1.8	254,459	11%	\$940
9	Grand Rapids-Wyoming, MI	21.9	-0.1	545,994	61%	\$980
10	Dayton, OH	22.0	1.1	374,914	3%	\$972
83	Nashville-Davidson--Murfreesboro--Franklin, TN	28.5	2.4	1,013,325	41%	\$925
99	Bridgeport-Stamford-Norwalk, CT	32.2	4.6	470,950	11%	\$871
100	Chicago-Joliet-Naperville, IL-IN-WI	32.4	1.7	4,730,881	10%	\$1,034
101	Atlanta-Sandy Springs-Marietta, GA	32.5	2.2	2,978,627	26%	\$776
102	Boston-Cambridge-Quincy, MA-NH	32.6	3.8	2,649,813	17%	\$786
103	Riverside-San Bernardino-Ontario, CA	33.9	3.3	2,000,758	24%	\$1,061
104	Poughkeepsie-Newburgh-Middletown, NY	34.0	2.1	329,995	8%	\$1,123
105	San Francisco-Oakland-Fremont, CA	35.2	6.5	2,438,609	19%	\$1,166
106	Washington-Arlington-Alexandria, DC-VA-MD-WV	35.6	1.7	3,374,979	15%	\$910
107	Stockton, CA	36.3	7.8	315,341	23%	\$679
108	New York-Northern New Jersey-Long Island, NY-NJ-PA	37.7	3.1	9,490,268	11%	\$557

Source: 1-Year American Community Survey

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ACCESS TO JOBS AND COMMUTE TIMES

It makes sense that larger, denser metro areas would have longer commutes due to congestion and higher utilization of public transit. However, while only five of the 35 metro areas with a workforce population of greater than one million in 2019 had an average commute time below the metropolitan average of 26 minutes, there is substantial variation in the length of commute among smaller metro areas. The Stockton, California metro area had the second longest average commute (36 minutes) in 2019 despite having a workforce of only 315,341. The average commute time in the Poughkeepsie, New York metro area was 12 minutes longer than in the Omaha, Nebraska metro area despite Poughkeepsie having over 160,000 fewer workers. Smaller metro areas that are nearby larger metro areas with more jobs and higher paying jobs will likely have longer commutes as people can live in the cheaper and smaller metro area and commute to the larger metro area job centers. Home prices in Stockton, California are over \$1 million cheaper than in San Francisco, so it might make sense to trade a short commute for significantly more affordable housing.

How do all these determinants correlate with population growth in the last decade? Considerations for local amenities can be just as important as those for other factors like salary, cost of living, and commute times. Notably, two of the metropolitan areas among the bottom 10 for cost-of-living adjusted salary (Cape Coral-Fort Myers and North Port-Sarasota-Bradenton in Florida) had the second and tenth highest rate of population growth among metropolitan areas with more than 500,000 people from 2010 to 2019. These two metro areas were also home to the highest share of people over the age of 65 among large metro areas in the U.S. and had among the highest rates of growth among their elderly population from 2010 to 2019. Metro areas with low cost of living will be very attractive to retirees on fixed incomes and the low salaries in these areas is in part because the share of employees working in retail is more than five percentage points higher than the national average.

El Paso, Texas was the only city among the bottom 10 metropolitan areas ranked by cost-of-living adjusted salary that had a slower growth rate than the national average. While among the top 10, Chicago, Hartford, and Bridgeport all had lower growth rates than the national average. Taken in isolation, the average salary adjusted for cost of living in a metro area in 2018 was not associated with higher population growth rates from 2010 to 2019. Many metropolitan areas featuring low salaries have other attributes such as good weather, beautiful environments, and good access to parks and mountains that are able to attract footloose people. Metropolitan areas that lack these amenities may have to compensate with higher salaries to attract workers.



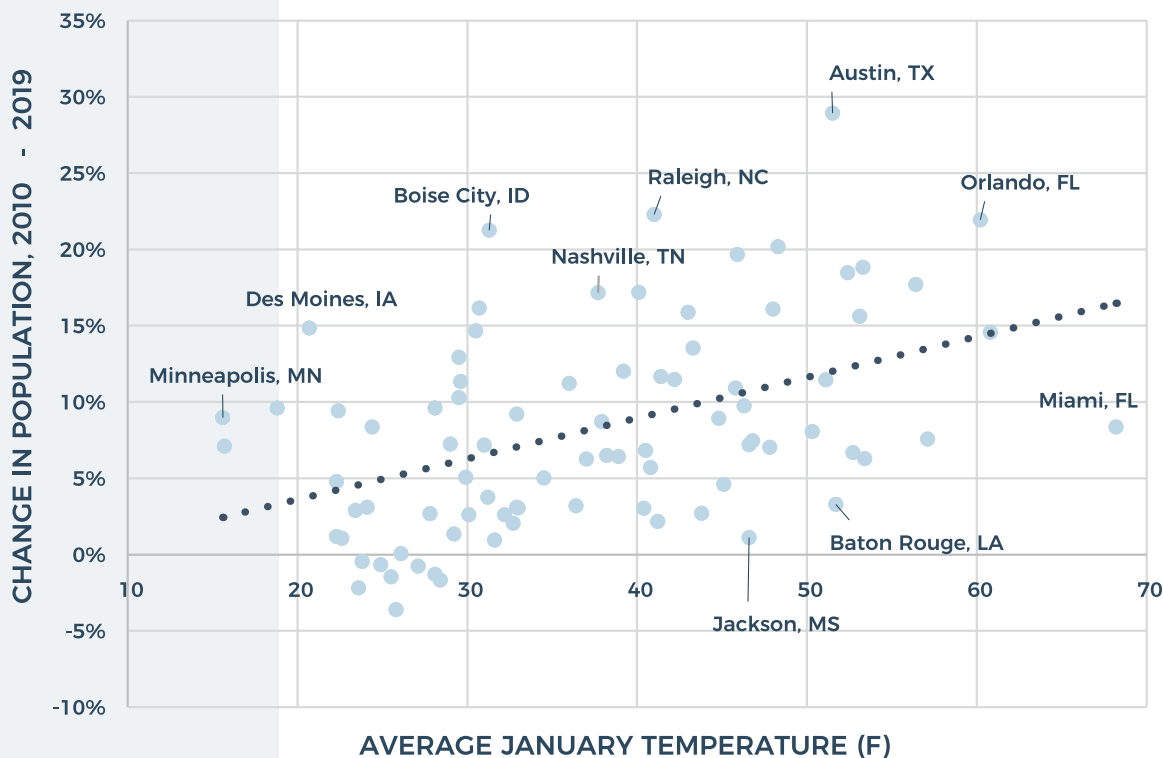
FINDING THE NEXT NASHVILLE

WEATHER, ENVIRONMENT, AND THE GREEN CITY

States with warmer average January temperatures such as Arizona, California, and Florida enjoyed greater population growth than colder states such as Minnesota, North Dakota, and Michigan in recent decades. This fact highlights the growing importance of climate and environment in determining local quality of life. Footloose people will seek out beautiful places to live, with pleasant weather, access to parks, green spaces, water, and mountains. What roles have natural beauty, green public space, and weather played in population growth in places in recent decades?

Between 2010 and 2019, metropolitan areas with warmer average January temperatures generally experienced greater population growth. Austin, Texas was the fastest growing metropolitan area during this period and has an average January temperature of over 51 degrees. The population of Youngstown, Ohio declined by five percent, the largest decline of any metropolitan area with more than 500,000 people, and has an average January temperature of 26 degrees.

FIGURE II: AVERAGE JANUARY TEMPERATURE AND POPULATION CHANGE, 2010-2019. METRO AREAS WITH GREATER THAN 500,000 IN POPULATION.



Source: National Oceanic and Atmospheric Administration (NOAA) Comparative Climactic Data and U.S. Census Bureau Components of Population Change, 2010 to 2019.

While the top ten fastest growing metropolitan areas featured some cold and warm average January temperatures, ranging from 30 degrees in Provo, Utah (4th fastest growing in population and 3rd fastest in employment) to 68 degrees in Cape Coral, Florida (2nd fastest growing in population and 10th fastest in employment) the ten slowest growing metropolitan areas all had average January temperatures below freezing. Only one metropolitan area had lower population growth than the national average during the last decade and had an average January temperature above 50 degrees, Baton Rouge, Louisiana (3% population growth, 11% employment growth and 52 degrees). Cold cities can compensate residents by offering excellent recreational opportunities. Boise City, Idaho has an average January temperature below freezing but was the sixth fastest growing metropolitan area by

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WEATHER, ENVIRONMENT, AND THE GREEN CITY

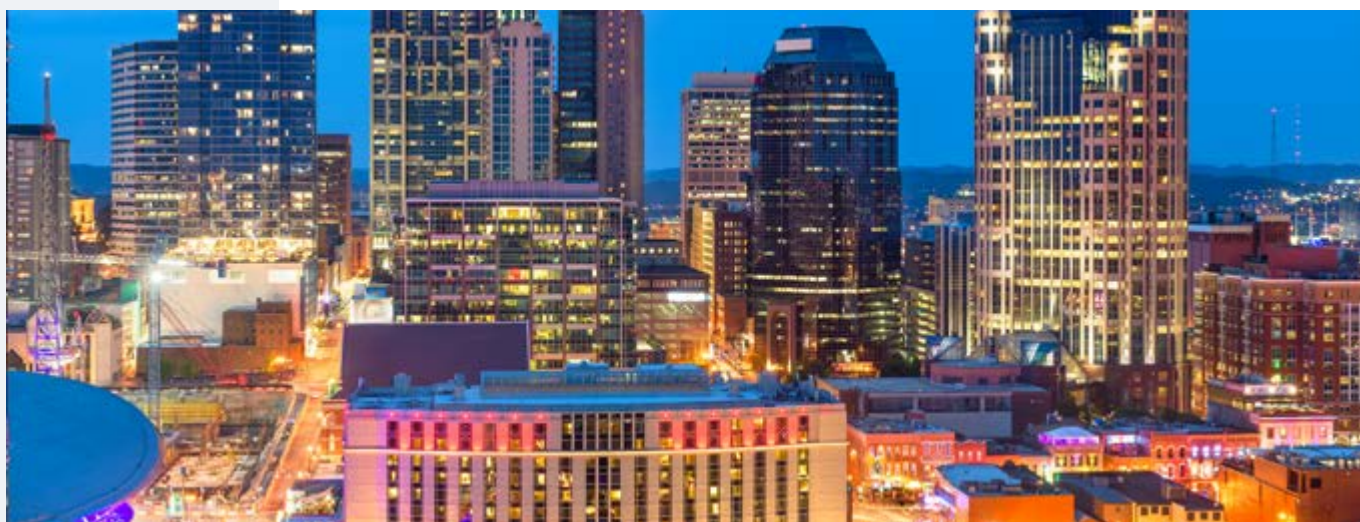
population, in part because it features a host of coffee shops, microbreweries, art galleries, biking trails, and several national wildlife refuges, nature preserves, and forests as well as a burgeoning tech scene with lower cost of living than New York and San Francisco. Similarly, Denver, Colorado boasts some of the best access to winter sports of any metropolitan area in the nation while offering the 24th highest salary after adjusting for cost of living (\$57,000), meaning that people who enjoy winter sports and the outdoors will overlook its cold temperatures. However, cold cities with fewer amenities such as Syracuse, New York (2% population loss and 5% employment growth with 23 degrees) will struggle to attract footloose residents.

Parks are one of the most visible public goods that cities offer residents. Access to green, outdoor spaces provide opportunities for recreation and relaxation in cities where engaging with the natural environment on a daily basis can otherwise prove difficult. Metropolitan areas on the West Coast and in Florida feature a high share of parks within their boundaries. For example, the land of Oxnard-Thousand Oaks-Ventura, California metropolitan area is almost half parkland, with the Los Padres National Forest and Sespe Condor Sanctuary accounting for a considerable amount of acreage.

A higher share of parkland in a metropolitan area was associated with a higher rate of population growth from 2010 to 2019. Among the top 20 metro areas ranked by land area share of parks, all but Oxnard and Los Angeles, California had higher population growth rates than the national average. Among the bottom 20 metro areas ranked by share of parkland, 12 had higher rates of growth than the national average. Syracuse, New York, whose population declined by two percent and number of employees grew by five percent from 2010 to 2019, has just one percent of its land area covered by parks.

While cities facilitate trade and learning, the activity that is concentrated in their boundaries can make them large sources of pollution. Globally, carbon dioxide emissions coming from 100 cities account for 20 percent of the world's household carbon emissions. Building infrastructure, public transportation networks, and food systems all affect the greenness of cities. In the U.S., the population centers of Chicago, New York City, and Los Angeles contribute 10 percent of total U.S. household carbon emissions. But on a per capita basis, the picture looks different. The post-industrial cities of New Orleans, Detroit, St. Louis, and Cleveland have the highest levels of household carbon emissions per capita.³ At the other end of the spectrum cities such as Provo, Utah and Cape Coral, Florida have some of the lowest carbon footprints per capita and were among the fastest growing metropolitan areas from 2010 to 2019. Among the 82 metropolitan areas where data was available, population and employment growth were negatively associated with high household carbon footprints in urban cores.

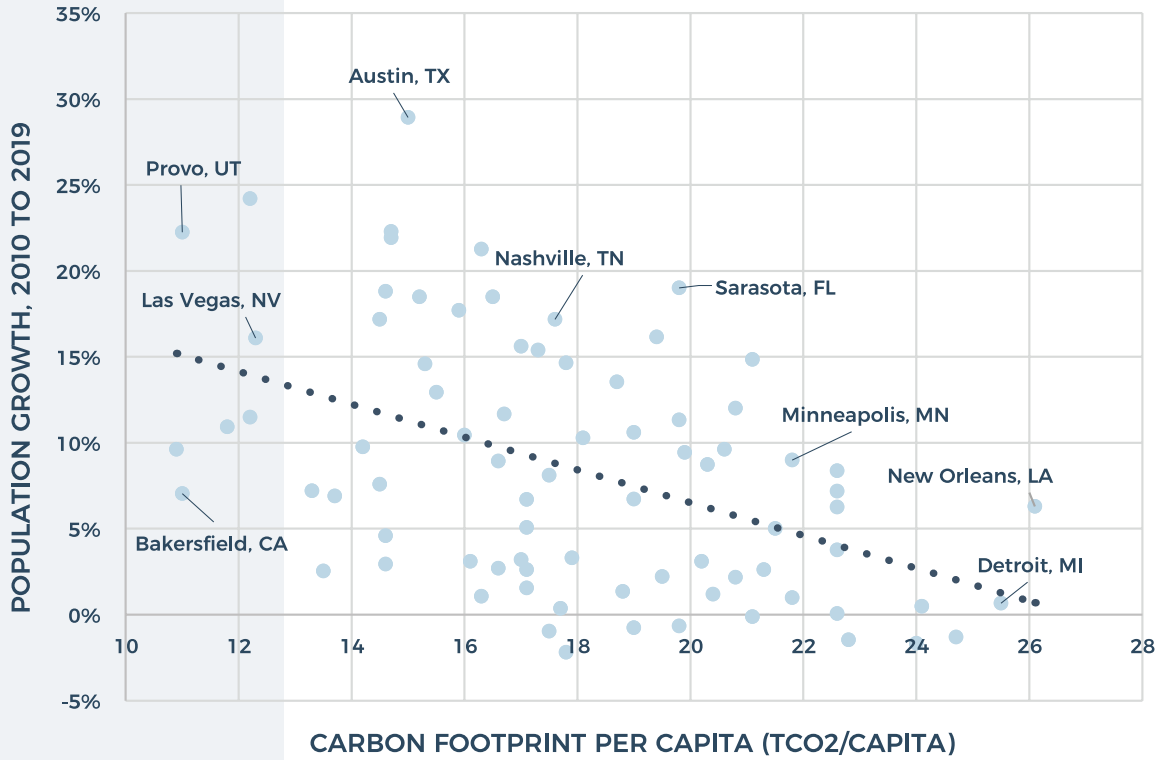
³ The estimates are only for the urban core of metropolitan areas and do not consider suburbs and exurbs, which generally have higher household carbon footprints. These estimates do not consider industry, agriculture, or land use, but focus on household consumption patterns. Moran, D., Kanemoto K, Jiborn, M., Wood, R., Többen, J., and Seto, K.C. (2018) Carbon footprints of 13,000 cities. *Environmental Research Letters*. DOI: 10.1088/1748-9326/aac72a.



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WEATHER, ENVIRONMENT, AND THE GREEN CITY

FIGURE III: HOUSEHOLD CARBON FOOTPRINT PER CAPITA AND METROPOLITAN AREA POPULATION GROWTH, 2010 TO 2019



Source: Moran, D., Kanemoto K, Jiborn, M., Wood, R., Többen, J., and Seto, K.C. (2018) Carbon footprints of 13,000 cities. *Environmental Research Letters* DOI: 10.1088/1748-9326/aac72a.

The rise of work from home brought on by the COVID-19 pandemic that effectively decoupled place of work and place of residence for many workers and made companies rethink their location strategy means that local environment and weather may be more important than ever. Cities with warm climates and great recreational opportunities in local, state, and national parks will have a competitive advantage over cities that are cold and lack outdoor activity. While green cities are increasingly attractive to workers, so are healthy cities with low levels of environmental hazards.



SAFE AND HEALTHY CITIES

Older, post-industrial cities in the U.S. struggle with legacies of environmental hazards such as lead paint and polluted air and water. Cities with fewer brownfields, lower levels of pollution, and walkable neighborhoods will feature healthier populations that live longer and have a higher quality of life. Despite significant progress in reducing environmental pollution following the Clean Air and Water acts, some areas have progressed more than others have. What places feature low levels of pollution and healthy residents with relatively low levels of asthma, heart disease, obesity, and other chronic diseases? Access to healthy food and hospitals and low density of liquor outlets and violent crime are important determinants of public health in cities. What cities perform relatively well by these measures?

Metropolitan areas with high levels of estimated prevalence of asthma, cancer, smoking, high blood pressure, coronary heart disease, and diabetes in 2018 all had significantly lower population growth rates from 2010 to 2019 than metro areas with relatively low prevalence of those health issues. This is because these health issues are highly correlated with lower neighborhood quality of life amenities and local public goods that make cities good and healthy places to live. By these measures, Provo-Orem, Utah was one of the healthiest metropolitan areas in the U.S. in 2018, with the lowest prevalence of smoking, high blood pressure, coronary heart disease, and diabetes, and one of the highest rates of population growth (22%) and employment growth (47%) from 2010 to 2019.⁴

High levels of air pollution can have detrimental health effects in cities. A high share of days with unhealthy air quality can lead to long term health problems and has been shown to *reduce cognitive ability and student test scores, increase the prevalence of dementia in older adults, and lower levels of expressed happiness*. Knowledge of air pollution at the local level has led home buyers to *avoid areas with high pollution* leading to lower prices in neighborhoods with known high levels of air pollution – houses within three kilometers of a major polluter were found to be 27 percent less valuable.

On its own, a high share of days with unhealthy air quality was not associated with slower rates of population growth in U.S. metropolitan areas from 2010 to 2019. However, after accounting for both average January temperature and carbon footprint per capita, metropolitan areas with low shares of days with unhealthy air quality between 2016 and 2020 had significantly higher population growth rates from 2010 to 2019.⁵ Syracuse, New York and Scranton-Wilkes Barre, Pennsylvania both had low shares of days with unhealthy air quality between 2016 and 2020, with less than 0.3 percent of days where air quality was unhealthy for sensitive groups or worse. However, they also both had some of the lowest rates of population growth, possibly attributable to the very cold average January temperatures they experienced. On the opposite end of the spectrum, between 2016 and 2020, over 20 percent of days had unhealthy air quality in the Phoenix-Mesa-Chandler, Arizona metropolitan area, but people were willing to move there because of its relatively warm average January temperature of 56. Cape Coral-Fort Myers, Florida had one of the lowest shares of days with unhealthy air quality, while its average January temperature of above 60 corresponded with one of the highest population growth rates. Cape Coral-Fort Myers, Florida; Austin-Round Rock-Georgetown, Texas; Orlando-Kissimmee-Sanford, Florida; and Deltona-Daytona Beach- Ormond Beach, Florida all had fewer than one percent of days with unhealthy air quality, an average January temperature greater than 50 degrees, and a population growth rate that was more than double the national average from 2010 to 2019.

⁴ Source: CDC PLACES, 2019.

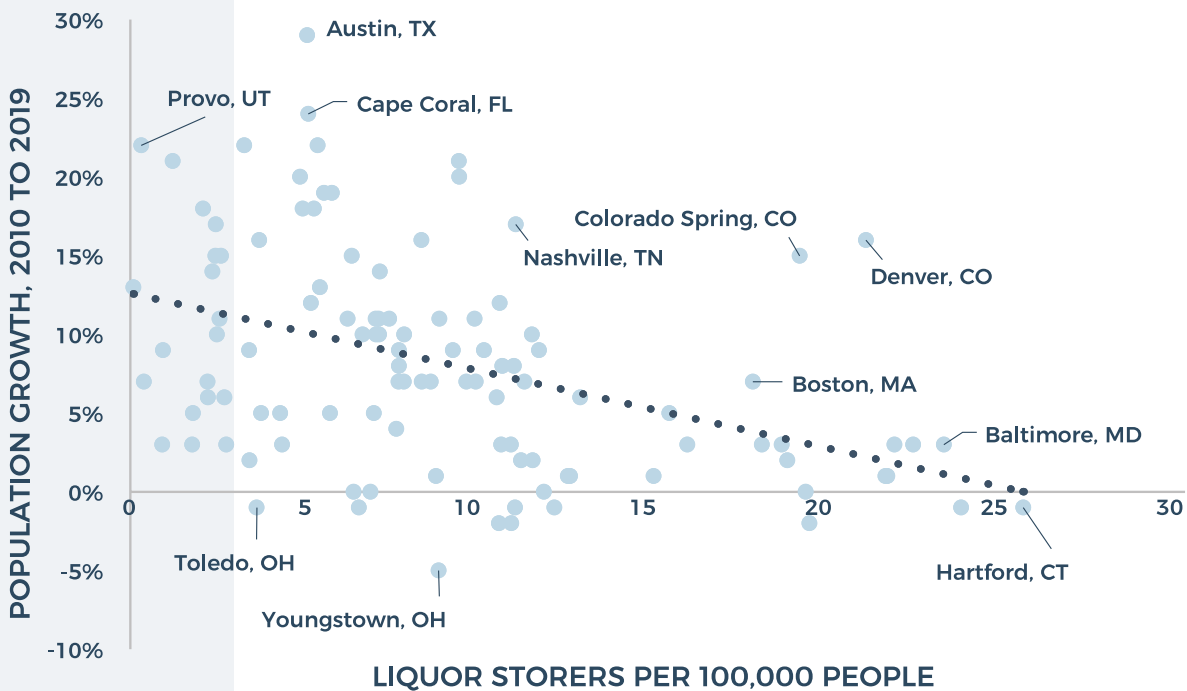
⁵ Source: EPA Air Quality Index, 2016 to 2020.

FINDING THE NEXT NASHVILLE

SAFE AND HEALTHY CITIES

The built environment of cities and urban planning can have a significant impact on the health outcomes of residents. The density of liquor stores in residential neighborhoods has been shown to have adverse effects on the wellbeing of residents, most notably on increases in crime. A recent study in Baltimore found that after adjusting for neighborhood context and disadvantage an increase of one alcohol outlet was associated with a 2.2 percent rise in violent crime. Given these strong negative effects, what is the relationship between alcohol outlet density and population growth during the past decade? Apart from the Denver, Colorado metropolitan area, the 10 metropolitan areas with the highest density of beer, wine, and liquor stores per capita all had population growth rates less than half the national average from 2010 to 2019. Hartford, Connecticut had the highest share of liquor stores per 100,000 residents (25.4) among large metropolitan areas in the U.S. and lost one percent of its population from 2010 to 2019. Among the 15 fastest growing metropolitan areas during this period, only Fayetteville, Arkansas (9.3 outlets per 100,000 people) and Charleston, South Carolina (9.4 outlets per 100,000 people) had liquor store outlet density higher than the median metropolitan area (7.6 outlets per 100,000 people), while among the 30 slowest growing metropolitan areas, only five had liquor store outlet densities lower than the median.

FIGURE IV: BEER, WINE, AND LIQUOR STORE DENSITY AND POPULATION GROWTH, 2010-2019



Source: Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2019.



FINDING THE NEXT NASHVILLE

SAFE AND HEALTHY CITIES

Walkable and bikeable cities have gained a lot of attention in recent decades as a pushback against a car-centric culture and design in American cities. While only a small share of workers regularly commutes by bicycle in the U.S., many cities have focused on building out bike infrastructure in recent decades in response to increased demand by both commuters and residents looking for recreational opportunities. Cities with a higher share of bicycle commuters have enjoyed higher rates of population and employment growth from 2010 to 2019. The 10 metropolitan areas with the highest share of bicycle commuters in 2019 all had population growth rates above the national average.⁶ While walkable neighborhoods are attractive and can be healthier, average neighborhood walkability in a metropolitan area was not associated with economic growth from 2010 to 2019.⁷ While metropolitan areas with high walkability such as Salt Lake City and Denver had high population and business growth, metropolitan areas with some of the lowest levels of walkability such as Nashville and Charlotte also had high population and employment growth.

Safety is a primary concern for many urban dwellers and wealthy people will seek to avoid areas with high rates of violent crime or cities that they perceive to be unsafe. However, at the metropolitan level per capita violent crime rates were only slightly negatively associated with population growth from 2010 to 2019.⁸ Among 83 metropolitan areas where data was available, the median violent crime rate per 100,000 residents was 371 in 2019. While the four fastest growing metropolitan areas of Austin, Texas; Cape Coral, Florida; Raleigh, North Carolina; and Provo, Utah all had violent crime rates below 300 per 100,000 residents, the metropolitan areas of Jacksonville, Florida; Las Vegas, Nevada; San Antonio, Texas; and Orlando, Florida all had violent crime rates well over 400 per 100,000 people and experienced some of the highest population growth rates from 2010 to 2019. This slight negative association is not surprising given that violent crime is extremely concentrated in a few neighborhoods within a metropolitan area with little spillover into communities located miles away. Crime and safety are very localized issues that rarely push people to avoid an entire metropolitan area.

⁶ U.S. Census Bureau, 5-Year American Community Survey, 2019.

⁷ U.S. EPA National Walkability Index.

⁸ FBI Uniform Crime Reporting, 2019.



FINDING THE NEXT NASHVILLE

THE CONSUMER CITY

Cities have increasingly become centers for consumer activities such as shopping, dining, and entertainment. The rise of reverse commuting, where people work in the suburbs but live and recreate in city centers, highlights the importance of this activity to urban vibrancy. Urban centers that provide a large and diverse number of consumption opportunities have enjoyed greater population growth in recent decades. What metropolitan areas feature dense clusters of entertainment and consumption opportunities? Have cities with larger numbers of restaurants, bars, theaters, farmers markets, museums, gyms, and retail outlets attracted more people and business in the last decade?

Traditionally, cities were viewed as places with advantages in production and disadvantages in consumption. But in recent decades, cities have increasingly become centers of consumption as high amenity cities have *grown faster* than low amenity cities, while increases in urban rents have outpaced urban wages, providing evidence for the demand to live in cultural centers. New York City is famous as an international culinary hub with over 60 Michelin starred restaurants. The city also features excellent cultural amenities in the form of art museums and theaters. The rise of reverse commuting where people live in urban centers and commute to suburbs demonstrates the importance of cities as places of consumption.

Between 2010 and 2019, metropolitan areas that experienced larger increases in the number of businesses in the arts, entertainment, and recreation (AER) industry sector per capita also had greater population growth. Over this period, the Charlotte, North Carolina metro area had the greatest per capita increase in AER businesses, from 2.8 per 10,000 residents to 4.3 per 10,000 residents, while also experiencing a population growth rate of 17 percent, far above the national average. Along with Charlotte, Las Vegas, Nashville, Denver, Austin, and Provo, Utah all ranked in the top 10 for metro areas growing the number of AER businesses per capita while also experiencing some of the fastest rates of population growth from 2010 to 2019. However, some of the fastest growing metropolitan areas such as Cape Coral, Florida and Lakeland, Florida had both relatively small numbers of AER businesses per capita and negative growth in per capita AER businesses from 2010 to 2019. When we account for average January temperature, the correlation between population growth and growth in AER businesses per capita becomes stronger, as it accounts for cities such as Cape Coral that offer other amenities in the form of warm winters.⁹

⁹ *County Business Patterns, Metropolitan Statistical Area estimates, 2010 and 2018.*



FINDING THE NEXT NASHVILLE

THE CONSUMER CITY

Some metropolitan areas have much higher numbers of specific types of businesses per capita that will prove attractive to many people. In their complete absence or extremely altered state, the COVID-19 pandemic has highlighted the popularity of spectator sports and performing arts as consumption activities. Metropolitan areas that increased their share of performing arts, spectator sports, and businesses in related industries per capita from 2010 to 2018 experienced higher rates of population growth. Nashville, Las Vegas, Charlotte, Charleston, Austin, Orlando, and Provo, Utah were among the top ten metropolitan areas ranked by increase in the number of these businesses per capita and had among the highest population growth rates among large metropolitan areas over the same period.

Micro- and craft-breweries became increasingly popular in cities and towns across the U.S. over the past decade, growing from 554 establishments in 2010 to 3,884 establishments in 2018. Almost 30 percent of these breweries were located in just 15 metropolitan areas. After controlling for average January temperature, the number of breweries per capita in a metropolitan area in 2018 was associated with a higher rate of population growth from 2010 to 2019. In 2010, the Denver, Colorado metropolitan area had just five breweries, but by 2018, it had 103, the second highest number of breweries per capita among large metropolitan areas in the U.S. behind only Portland, Maine. The cold metropolitan areas of Portland, Oregon; Madison, Wisconsin; Colorado Springs, Colorado; and Seattle, Washington all had some of the highest number of breweries per capita and experienced population growth rates well above the national average. While residents living in these cities may not enjoy warm winters, they are compensated with other consumption amenities that cities such as Phoenix, Miami, Las Vegas, and Houston do not offer, with fewer than one-fifth the number of breweries per capita, but with very warm winters.

As new consumption patterns arise in the U.S., metropolitan areas that follow these emerging trends and supply residents with a greater number of opportunities to enjoy the products and services offered by these types of local businesses will be more competitive in attracting both residents and jobs.



FINDING THE NEXT NASHVILLE

CONCLUSION

Cities are dynamic places that feature boom and bust cycles of investment and development. Metropolitan areas that are hot real estate markets one decade might be centers of disinvestment the next. Perhaps no city is more emblematic of this trend than New York City, which has experienced several cycles of boom and bust and is currently struggling with implications brought by the COVID-19 pandemic and the rise of work from home. In this report, we have looked at a variety of quality of life factors that were associated with high levels of population and employment growth as well as real estate demand in the last decade including average January temperature, access to parks, bikeable neighborhoods, consumption opportunities, and health outcomes. While we are not trying to predict what cities will be the next centers of population growth and real estate investment over the next decade, we are trying to examine some of the reasons why some cities grow while others seem to struggle.

In our first report, we highlighted Nashville as a city that experienced high levels of population and employment growth in recent decades and explored a variety of reasons that may have led to that growth. As we think about the future, certain cities stand out as places that may have distinct advantages in the quality of life they offer residents, and thus as possible continued centers of growth and investment. Austin, Boise City, Charlotte, Charleston, Denver, and Provo are notable for being among the top 20 fastest growing metropolitan areas measured by both population and employment growth. How do these cities rank among the various quality of life indicators examined in this report?

TABLE IV: RANKING SIX GROWING METROPOLITAN AREAS BY QUALITY OF LIFE INDICATORS IN 2019 (MEASURES OF GROWTH ARE RELATIVE TO 2010)

Metro Area	Population growth	Job growth	Cost of living adjusted salary	Average January temperature	Share of parks	Carbon footprint per capita	Composite health ranking	Change in number of arts, entertainment, and recreation businesses per 10,000 residents
Austin	1	7	13	12	88	19	3	8
Provo	4	3	87	60	19	2	1	3
Boise	6	18	59	52	18	26	25	42
Charleston	8	13	73	15	11	NA	38	24
Charlotte	15	2	16	36	83	12	47	1
Denver	17	19	24	55	10	52	9	7

Source: ACS, CBP, BLS, NOAA, ESRI, Moran et al (2018), CDC.

What becomes clear is that each metropolitan area offers different and distinct quality of life amenities that will attract different types of people. Provo, Utah offers a relatively low salary after adjusting for cost of living and cold temperatures, but it makes up for that by offering excellent access to parks and nature, low carbon living, top ranked health outcomes, and one of the fastest growing arts, entertainment, and recreation scenes in the nation. Meanwhile, Austin has much warmer winters, one of the highest salaries after adjusting for cost of living, but less access to the beautiful mountains and parks that Provo offers. Both metropolitan areas are notable for their rising tech companies and will likely continue to do well attracting businesses and people who enjoy the high quality of life offered by both metropolitan areas. Boise City, Idaho will not attract the same types of people and businesses that will find Charleston, South Carolina attractive, but both areas are likely to continue to grow. As such, real estate demand will differ depending on the types of businesses and land uses that are feasible and attractive in each area. The local determinants of quality of life such as warm winters, access to nature, and thriving arts and entertainment scenes will continue to be important factors that guide investment decision making.

APPENDIX

JOHNS HOPKINS UNIVERSITY, 21ST CENTURY CITIES INITIATIVES

The *21st Century Cities Initiative* at Johns Hopkins University, led by Dr. Matthew E. Kahn, was established in 2014 to strengthen and support understanding of urban issues regarding growth, governance, and public policy.

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APPENDIX

ALEX. BROWN REALTY, INC.

Alex. Brown Realty (ABR) is a privately held real estate investment manager and sponsor of real estate private equity offerings for institutional, family office and high net worth clients. The firm has invested in over \$4 billion in real estate assets since its founding in 1972 and has experience across diverse U.S. markets and property sectors.

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