

An aerial photograph of the Nashville skyline at sunset. The sun is low on the horizon, casting a warm orange glow over the city. The skyline is dominated by several tall skyscrapers, including the AT&T Building (191 Broadway) on the left. Other visible buildings include the WeWork building, the CMT building, and the Baker Donelson building. The foreground shows a mix of older brick buildings and modern structures. The overall scene is a dense urban landscape.

FINDING THE NEXT NASHVILLE

Q3 2022

MIGRATION OF THE YOUNG, EDUCATED WORKFORCE

*by Luis Quintero and Mac McComas
21st Century Cities Initiative, Johns Hopkins University*

RESEARCH SPONSORED BY ALEX. BROWN REALTY, LLC

TABLE OF CONTENTS

Introduction	3
Geography of the Young and College Educated Labor Force	4
Migration to Productive and Big Cities	11
Work Hard, Play Hard?	15
College “Towns”	19
The Threat of “Work From Home”	22
Conclusion	26

INTRODUCTION

Young, college educated workers are among the most highly mobile demographic in the United States and are crucial to a city's success as firms in high-skill industries will seek them out and want to locate in cities with large numbers of these workers. As we highlighted in our first report, the Nashville metropolitan area experienced the fifth largest growth of young, college educated workers between 2010 and 2019¹ while also experiencing some of the fastest population and job growth in the nation. These workers not only help attract new firms and jobs to a city, but the average college educated worker contributes over a quarter of a million dollars more to the local economy than the average high school educated worker over the course of their lifetime.² If these young, educated workers move to a city for a new job in a high-tech industry, those new jobs have local multiplier effects such that they create an additional five jobs in the local economy.³ Such high-skill workers create knowledge spillovers in cities that benefit all workers, making them more productive.⁴ Given these benefits and the fact that people in their mid-20s are three to five times more likely to move than older adults, attracting footloose young, educated workers is important for the economic growth of cities.⁵ This report, the fourth in the series Finding the Next Nashville, will examine what cities have the highest share of young, college educated workers and which cities have seen the largest increase in this demographic. It will also explore some reasons why certain cities may be attracting these workers and how the COVID-19 pandemic and the increase in working from home might change those dynamics.

In this report, we will look at the geography of where young and college educated workers make up the largest share of adults in U.S. metropolitan areas in 2019, and examine how that has changed since 2010. Did metro areas that already had large numbers of young, educated people gain the most? Or were there new cities that attracted young, educated people? We will explore the role that colleges and universities have in attracting young, educated workers in cities. Which universities are the best at retaining students in their city after graduation? We will also examine the role of productivity and consumer activities in cities. Are young, college educated people moving to the most productive cities? Are they moving to big cities or small cities? Or are consumption activities and quality of life drawing young, educated people? Finally, we will explore how the rise of telecommuting and work from home brought on by the COVID-19 pandemic might impact the location decisions of young, educated workers.

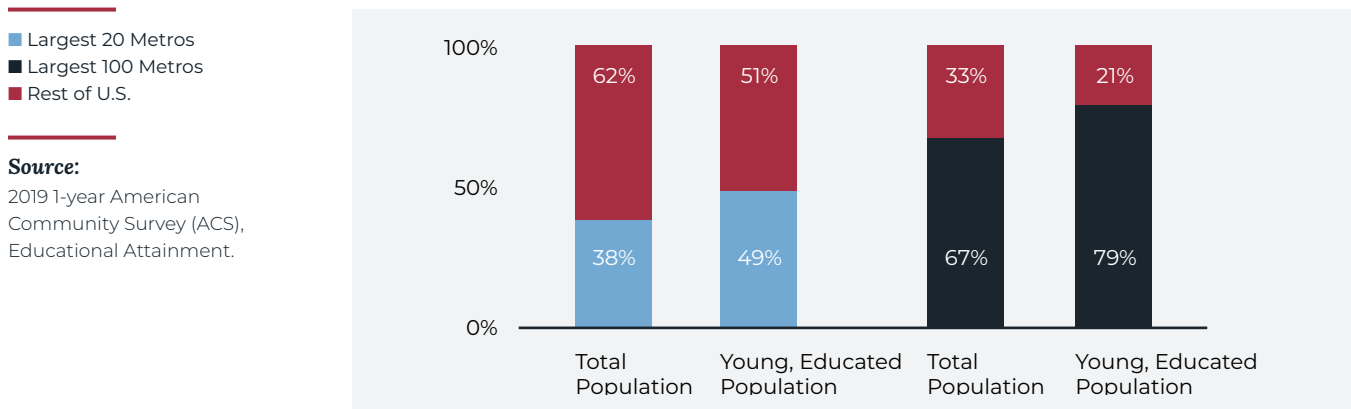
**GEOGRAPHY OF THE YOUNG
AND COLLEGE EDUCATED
LABOR FORCE, 2010 TO 2019**



From 2010 to 2019, the number of Americans aged 25 to 34, which for the purposes of this report we will define as “young”, grew by over 4.6 million to 45.5 million. Among that demographic, the number of young people who had a Bachelor’s degree or higher grew by over 4 million to 16.8 million. This means that 37 percent of all young people had a Bachelor’s degree or higher in 2019, up from 31 percent in 2010. They also grew from a share of 6.2 percent of the total population of adults to 7.5 percent. While this population of young, educated people grew in the U.S. over the last decade, the geographic distribution of this educated workforce was highly uneven.

As shown in Figure I, by 2019, almost 80 percent of the 16.8 million young and college educated adults lived in the 100 largest metropolitan areas, almost half of them lived in the 20 largest metropolitan areas, and over 20 percent of them lived in New York City, Los Angeles, Chicago, and Washington, D.C. While this also reflects the fact that a majority of the U.S. population lives in large metropolitan areas, young and college educated adults are more likely to live in big cities than the U.S. population in general. While young and college educated adults made up 7.5 percent of the U.S. population in 2019, they made up 11 percent of the population of New York City and 13 percent of the population of Boston. Among the 100 largest metropolitan areas, which have the highest share of young and college educated adults in their population and which have seen the highest growth since 2010?

Figure I: Share of total population and young, college educated population by geography, 2019



Source:
2019 1-year American Community Survey (ACS), Educational Attainment.

Table I(a): Top 10 and bottom 10 cities for share of adult population that is young and college educated, 2019

Source:
2019 and 2010 1-year ACS,
Educational Attainment.

Rank: 2019	Name	Adult Population	# of Young & Ed.	% of Young & Ed.
-	United States	224,898,568	16,837,545	7.5%
1	San Jose, CA	1,392,655	200,304	14%
2	Madison, WI	448,645	59,571	13%
3	San Francisco, CA	3,443,062	456,241	13%
4	Austin, TX	1,507,707	197,101	13%
5	Boston, MA	3,432,848	443,450	13%
6	Denver, CO	2,075,491	251,432	12%
7	Seattle, WA	2,808,487	336,286	12%
8	Washington, DC	4,310,584	514,381	12%
9	Raleigh, NC	935,320	106,398	11%
10	New York City, NY	13,500,496	1,463,335	11%
11	Nashville, TN	1,312,544	141,507	11%
91	Las Vegas, NV	1,560,947	80,420	5%
92	Palm Bay, FL	450,772	21,276	5%
93	Bakersfield, CA	551,956	25,391	5%
94	Scranton, PA	396,701	17,801	4%
95	Youngstown, OH	382,752	15,772	4%
96	Stockton, CA	484,712	19,347	4%
97	Cape Coral, FL	584,326	21,257	4%
98	Lakeland, FL	504,283	16,477	3%
99	Deltona, FL	501,267	16,197	3%
100	North Port, FL	649,631	19,941	3%

... attracting footloose young, educated workers is important for the economic growth of cities.

Table I(b): Top 10 and bottom 10 cities for share of adult population that is young and college educated, 2010

Source:
2019 and 2010 1-year ACS,
Educational Attainment.

Rank: 2010	Name	Adult Population	# of Young & Ed.	% of Young & Ed.
-	United States	204,288,933	12,742,318	6.2%
1	Madison, WI	375,584	42,234	11%
2	Washington, DC	3,757,454	420,607	11%
3	Boston, MA	3,104,813	337,547	11%
4	San Jose, CA	1,232,081	133,204	11%
5	Austin, TX	1,089,734	117,265	11%
6	San Francisco, CA	3,038,192	313,883	10%
7	Raleigh, NC	733,460	70,283	10%
8	Minneapolis-St. Paul, MN-WI	2,167,982	207,007	10%
9	New York City, NY	12,877,789	1,195,669	9%
10	Denver, CO	1,703,989	157,465	9%
26	Nashville, TN	1,050,043	78,438	7%
91	McAllen, TX	426,142	17,405	4%
92	Riverside, CA	2,564,671	102,550	4%
93	Youngstown, OH	393,821	15,108	4%
94	Palm Bay, FL	394,234	13,153	3%
95	Bakersfield, CA	493,204	16,337	3%
96	Stockton, CA	413,983	12,799	3%
97	Deltona, FL	355,183	9,909	3%
98	Cape Coral, FL	452,098	10,968	2%
99	Lakeland, FL	407,783	9,014	2%
100	North Port, FL	531,556	11,423	2%

Tech hubs and college towns dominate the top of the list of metropolitan areas with the highest share of young and college educated adults in 2019.

Tech hubs and college towns dominate the top of the list of metropolitan areas with the highest share of young and college educated adults in 2019. Well known tech hubs such as San Jose, Seattle, San Francisco, and Boston are among the top 10, as well as emerging tech cities such as Austin and Denver. College towns such as Madison, WI and Raleigh that have small populations, but big universities are also featured among the top 10. The top 10 metropolitan areas for young and college educated adults was largely similar in 2010, although with some ranking changes. Minneapolis-St. Paul was among the top 10 in 2010, but not in 2019 as Seattle surged as a top place to live for young and college educated adults.

Table II: Top 10 metro areas with the largest percentage point increase of young and college educated adults, 2010 to 2019

Source:

2019 and 2010 1-year ACS, Educational Attainment.

Rank	Metro Area	% Change 2010 to 2019	% of Young & Ed. — 2019	% of Young & Ed. — 2010	# of Young & Ed. — 2019
1	San Jose, CA	3.6%	14.4%	10.8%	200,304
2	Seattle, WA	3.3%	12.0%	8.7%	336,286
3	Nashville, TN	3.3%	10.8%	7.5%	141,507
4	San Francisco, CA	2.9%	13.3%	10.3%	456,241
5	Denver, CO	2.9%	12.1%	9.2%	251,432
6	Grand Rapids, MI	2.6%	8.5%	5.9%	60,512
7	Austin, TX	2.3%	13.1%	10.8%	197,101
8	Colorado Springs, CO	2.3%	8.4%	6.1%	41,182
9	Pittsburgh, PA	2.2%	8.8%	6.7%	149,214
10	El Paso, TX	2.2%	6.6%	4.5%	34,726

All of these metro areas grew their population of young and college educated adults at a faster rate than their adult population in general.

Among the top 10 metro areas ranked by percentage point increase in their share of young and college educated adults, only half (San Jose, Seattle, San Francisco, Denver, and Austin) were among the top 25 metro areas ranked by share of young and college educated adults in 2010. Nashville, Grand Rapids, Colorado Springs, Pittsburgh, and El Paso all emerged as new top destinations for young and college educated adults between 2010 and 2019 as their ranking grew substantially. Other metro areas that emerged as new destinations and climbed more than 15 spots in the rankings between 2010 and 2019 for their share of young and college educated adults include Portland, ME; Providence, RI; Detroit, MI; and Springfield, MA.

Table III: Top 10 metro areas with the largest percent increase in young and college educated adults, 2010 to 2019

Source:

2019 and 2010 1-year ACS, Educational Attainment.

Rank	Metro Area	% Inc. in Young & Ed.	% Inc. in Adults	Young & Ed. 2019	Adult Pop. 2019
1	Grand Rapids, MI	106%	43%	60,512	711,409
2	Cape Coral, FL	94%	29%	21,257	584,326
3	Lakeland, FL	83%	24%	16,477	504,283
4	Nashville, TN	80%	25%	141,507	1,312,544
5	North Port, FL	75%	22%	19,941	649,631
6	Charlotte, NC	69%	56%	153,887	1,794,033
7	Austin, TX	68%	38%	197,101	1,507,707
8	Greenville, SC	67%	49%	43,278	625,541
9	Seattle, WA	66%	20%	336,286	2,808,487
10	El Paso, TX	64%	11%	34,726	523,383

Grand Rapids, MI ranks as the top metropolitan area for percent increase in the number of young and college educated adults between 2010 and 2019. The midwestern city near Lake Michigan more than doubled the number of young and college educated adults that lived there between 2010 and 2019, while Cape Coral, FL almost achieved the same rate of increase. Looking at larger metropolitan areas, Nashville, Charlotte, Austin, and Seattle all stand out as cities with over 1.3 million adults that grew their young and college educated adult population by 65 percent or more. All of these metro areas grew their population of young and college educated adults at a faster rate than their adult population in general, but Charlotte, Greenville, Austin, and, to a lesser extent, Seattle also had very high adult population growth rates. The remaining top 10 metros stand out as their young and college educated adult population growth rate was over 50 percentage points higher than their adult population growth rate. Only two of the 100 largest metro areas had adult population growth rates that were higher than their young and college educated adult population growth

rates – Knoxville, TN and Baton Rouge, LA. The only metro area that experienced a decrease in its young and college educated population was San Juan, PR (-4%), however it lost a larger share of adults in general (-10%).

There is a clear regional trend that emerges when looking at growth rates of young and college educated adults from 2010 to 2019. Grand Rapids, MI stands alone as the only metro area located outside of the South and West among the top 10 states, as shown in Table III. Among the top 25 states for growth rate, only Grand Rapids and Portland, ME, which ranks 25th for growth rate, are located outside of the South and West. While several Northeast states such as New York City, Boston, and Philadelphia rank among the top 10 for real change in the number of young and college educated adults, as shown in Table IV, 19 of the top 25 and 30 of the top 50 are in the South and West. Western and Southern metro areas such as Seattle and Austin are quickly becoming top destinations for young and college educated adults, even as large numbers of this demographic continue to live in traditional destinations in the Northeast such as New York City, Boston, and Philadelphia.

While all of the metro areas that ranked among the top 10 for change in the number of young and college educated adults between 2010 and 2019 were also among the 20 largest metro areas for adult population, San Francisco, Seattle, and Denver had larger increases than their size might suggest. Washington, D.C. had almost twice the adult population in 2019 as Denver had, but the two cities had almost exactly the same change in the number of young and college educated adults since 2010. Chicago had more than twice the adult population as Seattle in 2019, but Seattle gained 47,000 more young and college educated adults. Similarly, Phoenix had more than twice as many adults as Austin by 2019, but Austin gained 10,000 more young and college educated adults since 2010. This points to the fact that young and college educated adults were moving to a combination of both large, established metro areas such as New York City and Los Angeles and emerging destinations such as Nashville, Grand Rapids, and Raleigh.

Table IV: Top 10 metro areas with highest growth in the number of young and college educated adults, 2010 to 2019

Source:
2019 and 2010 1-year ACS,
Educational Attainment.

Rank	Metro Area	Change in # of Young & Ed.	Young & Ed. 2019	Adult Pop. 2019
1	New York City, NY	267,666	1,463,335	13,500,496
2	Los Angeles, CA	237,282	862,223	9,162,092
3	San Francisco, CA	142,358	456,241	3,443,062
4	Dallas, TX	141,654	433,734	4,932,192
5	Seattle, WA	133,617	336,286	2,808,487
6	Houston, TX	120,739	370,231	4,571,710
7	Atlanta, GA	106,247	369,374	4,020,704
8	Boston, MA	105,903	443,450	3,432,848
9	Philadelphia, PA	97,564	400,139	4,248,994
10	Denver, CO	93,967	251,432	2,075,491

MIGRATION TO PRODUCTIVE AND BIG CITIES

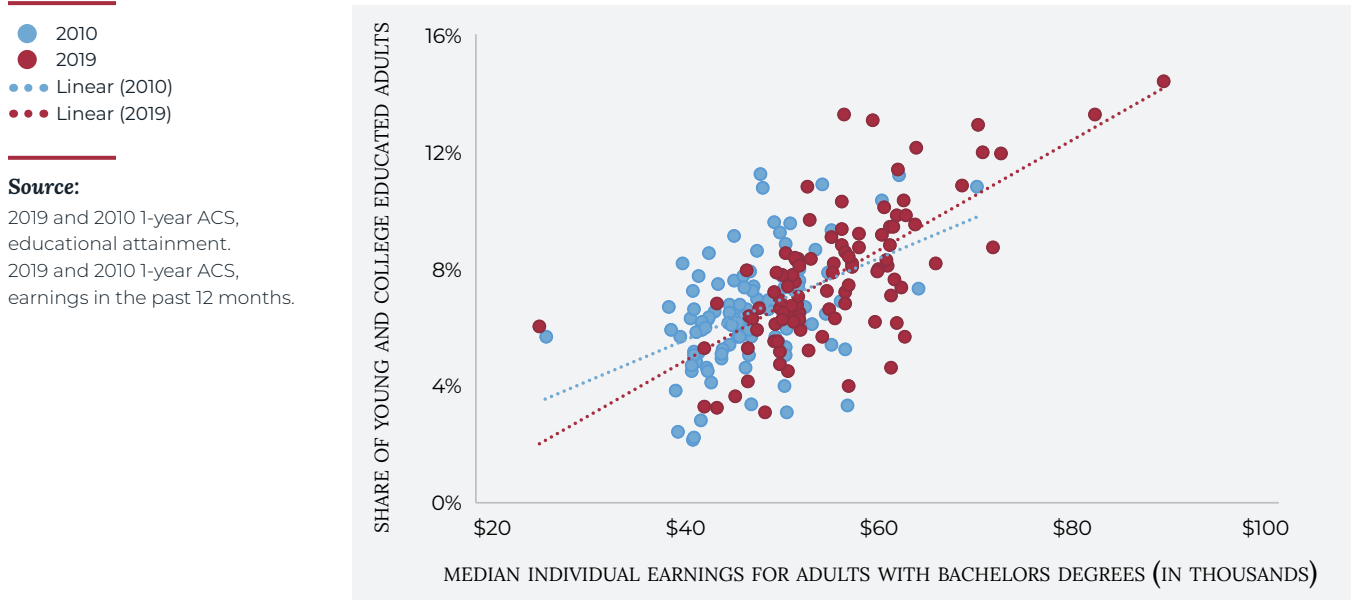


College educated adults are more likely to migrate than their high school educated peers.⁶ There is also evidence that college educated workers are more responsive to out-of-state labor market opportunities.⁷ More productive cities that reward college educated adults for their skills with higher wages will be more attractive places to live, all else equal. However, households face tradeoffs in choosing where to live as it can be costly to move and cities featuring higher incomes can also have higher rents, costs of living, and commute times as demand to live in a metro area increases. Given that young adults are more likely than older adults to migrate and college educated adults are more mobile, were young and college educated adults choosing to live in cities that offered higher nominal wages by 2019?

In 2019, metropolitan areas with higher median individual earnings for adults with Bachelor's degrees also had higher shares of young and college educated adults in the population. This suggests that young and college educated workers are choosing to live in more productive cities. In 2019, the San Jose metropolitan area offered the highest median earnings for college graduates and had the highest share of young and college educated adults among the 100 largest metro areas. The median college graduate in San Jose earned over \$88,000 compared to just over \$61,000 in Philadelphia. The west coast tech hub had a share of young and college educated adults that was five percentage points higher than the city of brotherly love. The Lakeland-Winter Haven, FL metropolitan area had the second lowest median earnings for college educated adults and the third lowest share of young and college educated adults. There are some outliers to this trend, including Nashville, which had the 11th highest share of young and college educated adults but earnings that were around the median for large metro areas, and Madison, WI, which had the second highest share of young and college educated adults in 2019 but earnings that were slightly above the median. These cities have other attributes that may have made them attractive locations for young and college educated adults which we will explore in subsequent sections.

Comparing 2010 and 2019, as seen in Chart I, there is a strong relationship between median earnings for workers with Bachelor’s degrees and the share of young and college educated adults in metro areas in both 2010 and 2019. However, this correlation is significantly stronger in 2019 than it is in 2010, as indicated by the steeper orange line in Chart I. This means that by 2019, young and college educated adults were more likely to be living in metro areas featuring higher median earnings than in 2010.

Chart I: Share of young and college educated adults and median individual earnings for adults with a Bachelor’s degree, 2010 and 2019. Earnings and share of young and college educated adults are positively correlated, and the relationship has become stronger in recent years.



Recent research by Davis and Dingel (2020)⁸ provides evidence that more populous cities are more productive places that feature an abundance of skilled workers and more skill-intensive work. When looking across all 100 metro areas, more populous metropolitan areas tend to have higher shares of young and college educated adults, as seen in Chart II. This relationship is very similar in both 2010 and 2019. In 2019, among the 41 metropolitan areas with more than one million adults, 30 cities had shares of young and college educated adults that were higher than the national average while 11 cities had shares below the national average. Two of those 11 cities with low shares of young and college educated adults are the former Rust Belt cities of Detroit and Cleveland, while the remainder are located in the South and West including Las Vegas, Tampa Bay, Sacramento, and Phoenix.

Looking at the other end of the spectrum, most small metro areas have smaller shares of young and college educated adults. Over three quarters of the 49 cities with shares of young and college educated adults below the median had populations below one million. At the bottom of the rankings in both 2019 and 2010 (see Tables I(a) and I(b) on pages 6 and 7), small metro areas with populations under 650,000 account for all but one of the bottom 10. Some of this pattern has to do with these cities being attractive destinations for retirees. In 2019, all but two of the bottom 10 cities are located in the South and West

and half are in Florida. Many of these cities have some of the highest rates of older adults in the nation including North Port, FL where adults over 65 make up one third of the population, the highest share among the 100 largest metro areas. Cape Coral, Deltona, and Lakeland also rank among the highest share of older adults and the lowest share of young and college educated adults. These small, less expensive, and warm cities tend to be more attractive to retirees than young and college educated adults starting out their careers. Among the 38 cities with populations under one million and shares of young and college educated adults below the median, two thirds were in warmer Southern and Western states, while the remainder were old industrial cities such as Allentown, PA and Akron, OH.

However, as shown in Chart II, there is significant variation among smaller metro areas with populations between 370,000 and one million. The majority of them, around two thirds, have shares of young and college educated adults that are below the national average. Yet, the range of this share is from 3 to 13 percent, with four of these small cities among the top 20 for highest share of young and college educated adults. These include college cities such as Madison, WI and Raleigh and emerging tech hubs with low cost of living such as Des Moines and Salt Lake City.

By 2019, America’s young and college educated population was heavily concentrated in large and productive cities that offered higher salaries. Large metropolitan areas such as Boston, Washington, D.C., Seattle, San Francisco, and Denver offered college educated adults high salaries and had some of the highest shares of young and educated adults in the U.S. While some smaller college cities such as Raleigh and Madison, WI had high shares, most small metro areas also had small shares of college educated young adults.

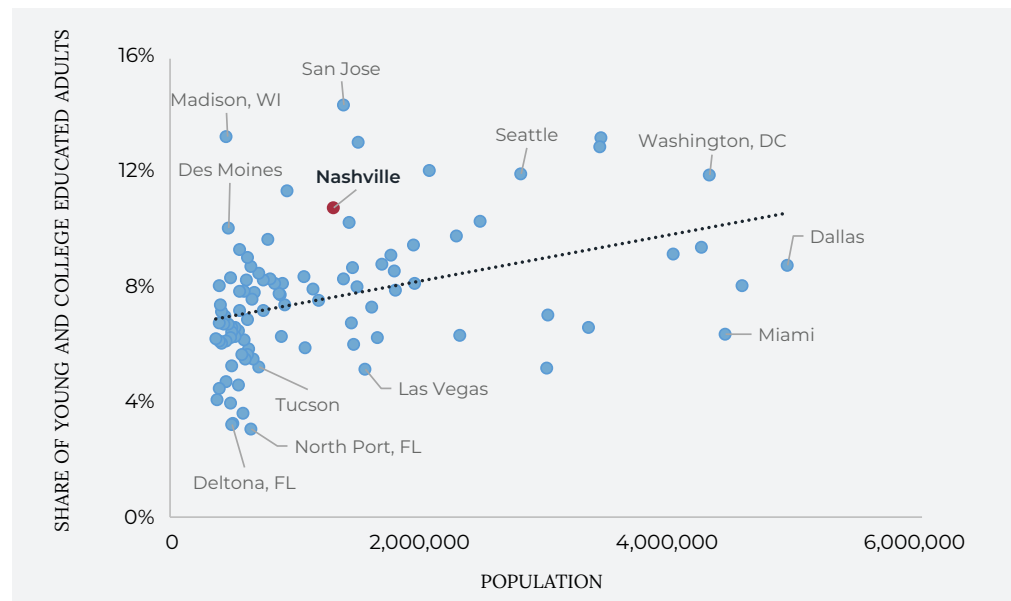
Chart II: Population size and share – Young and college educated, 2019

Source:

2019 1-Year ACS.

Note:

New York, Los Angeles, and Chicago are omitted for scale. Their exclusion does not meaningfully change the positive relationship.



WORK HARD, PLAY HARD?



While cities are places of productive work, they are also centers of consumer activity and recreation. One way that cities can better compete to attract people and jobs is to provide more of these cultural opportunities. Indeed, cities that provided more consumption and leisure amenities have grown faster in recent decades.^{9,10} There is also evidence that cities that feature more cultural amenities fare better at attracting college educated workers.¹¹ Even among high rent cities, college educated workers have demonstrated a strong willingness to pay to live in cities that offer both higher wages and amenities, more so than non-college educated workers.¹² Cities with growing amenities attract more wealthy and educated residents, which in turn creates a market for more amenities, a self-reinforcing dynamic.¹³ Psychologists have tested this “work hard, play hard” theory and found evidence to support the idea that the same people that are attracted to accomplishment at work are attracted to leisure activities.¹⁴ Is it the case that young and college educated workers were moving to cities with more consumer and leisure opportunities in the last decade?

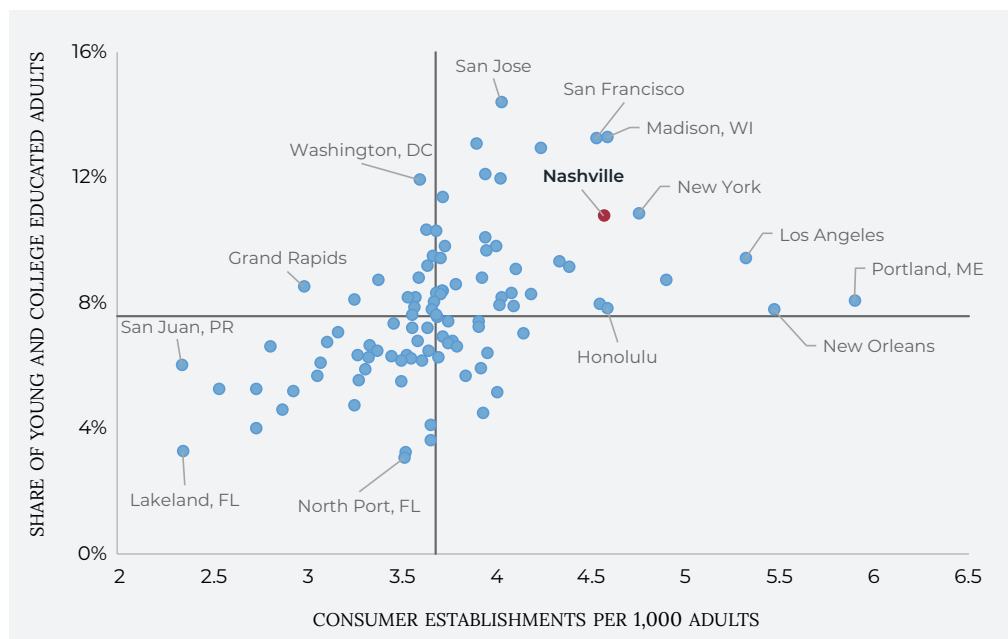
Chart III: Consumer establishments per capita and share of young and college educated adults, 2019

Source:

2019 1-Year ACS and Quarterly Census of Employment and Wages (QCEW).

Note:

Black lines indicate median. Consumer establishments are defined as NAICS Code 71 Arts, entertainment, and recreation and NAICS Code 72 Accommodation and food services.



In 2019, among the 100 largest metropolitan areas, there is a strong, positive association between the share of young and college educated adults and the number of consumer establishments (businesses in either the arts, entertainment, and recreation industry or the accommodation and food services industry) per adult, as shown in Chart III. New Orleans, Los Angeles, and Portland, ME had the highest number of consumer establishments per adult in 2019. While none of these cities were among the top 10 for their share of young and college educated adults, they were all above the median share and Los Angeles was 20th. The top three cities with the highest shares of young and college educated adults in 2019 – San Jose;



Madison, WI; and San Francisco – were all among the top 20 cities for consumer establishments, with Madison, WI being the sixth highest. Among the top 50 cities for consumer establishments per capita, 72 percent had shares of young and college educated adults that were above the median, as shown in the top right quadrant of Chart III. Out of the 100 largest metro areas, over 70 percent were either above the median for both young and college educated adults and consumer establishments or below the median, as shown in the top right and bottom left quadrants of Chart III. However, among the top 10 cities for consumer establishments per adult, Chart III shows significant variation in their share of young and college educated adults. Rankings range from New Orleans (#49) and Honolulu (#47) to Madison, WI (#2) and San Francisco (#3). Cities such as New Orleans, Honolulu, and Portland, ME are popular tourist destinations featuring many entertainment, dining, and recreation businesses, but they are not the most productive cities. As such, they may not be the most attractive to young adults starting out their careers.

In our second report in this series, we examined the relationship between population and job growth and other quality of life measures such as warm climates. Are young and college educated adults living in or moving to warmer climates? There is a

slightly significant and positive relationship between growth in the population of young and college educated adults between 2010 and 2019. However, in 2019, there is a more significant and negative relationship between average January temperature and the share of young and college educated adults in a metropolitan area. Further, the positive relationship between growth in the population of young and college educated adults in the last decade is weaker than that for the general population. This means that while some young and college educated adults may be moving to warmer cities, relatively cold cities such as Denver, New York City, Boston, and Madison, Wisconsin continue to have much higher shares than many cities in Florida and California, as shown in Table V. Further, young and college educated adults will seek to be around other young and educated adults, a phenomenon known as homophily where similar demographic groups tend to cluster together. So, once a young and educated population starts to grow in a given city, it will likely continue to grow in a self-reinforcing process, and vice versa.

Table V: Earnings and consumer establishments per adult rankings for metro areas with the highest and lowest shares of young and college educated adults, 2019

Source:
2019 1-Year ACS and QCEW.

Rank	Metro Area	Share of Young & Ed.	Rank: Earnings for Ed.	Rank: Consumer Est.
1	San Jose, CA	14.4%	1	20
2	Madison, WI	13.3%	40	6
3	San Francisco, CA	13.3%	2	10
4	Austin, TX	13.1%	29	34
5	Boston, MA	12.9%	6	13
6	Denver, CO	12.1%	9	28
7	Seattle, WA	12.0%	5	21
8	Washington, DC	11.9%	3	62
9	Raleigh, NC	11.4%	15	42
10	New York City, NY	10.8%	7	5
11	Nashville, TN	10.8%	53	8
91	Las Vegas, NV	5.2%	76	23
92	Palm Bay, FL	4.7%	77	85
93	Bakersfield, CA	4.6%	19	93
94	Scranton, PA	4.5%	67	29
95	Youngstown, OH	4.1%	88	56
96	Stockton, CA	4.0%	36	96
97	Cape Coral, FL	3.6%	91	55
98	Lakeland, FL	3.3%	95	98
99	Deltona, FL	3.2%	92	72
100	North Port, FL	3.1%	83	73

While cities with the highest number of consumer opportunities did not have the highest shares of young and college educated adults, there was a general positive trend between the two. We do find some evidence to support the “Work hard, play hard” hypothesis for young and college educated adults. As shown in Table V, cities with high shares of this demographic ranked relatively high for either earnings or consumer activity, and both in the case of San Jose, San Francisco, Boston, Seattle, and New York City, while cities with low shares tended to rank low in both earnings and consumer opportunities.

COLLEGE “TOWNS”



As we noted earlier in this report, college towns such as Madison, WI and Raleigh, NC rank among the top metro areas with shares of young and college educated adults accounting for over 11 percent of their population. It is not a stretch to suggest that the colleges and universities located in these metropolitan areas play an outsize role in attracting and retaining this demographic. Looking beyond these two cities, what is the relationship between colleges and universities in metro areas and high populations of young and college educated adults? Do metro areas with top ranked colleges and universities attract more of this demographic? What colleges and universities are best at retaining students in their metro area after graduation?

Metro areas with high shares of young and college educated adults tend to be home to top ranked colleges and universities. Among the 10 metro areas with the largest shares of young and college educated adults, all have at least one college ranked among U.S. News and World Reports top 125 schools in the U.S. This includes San Jose, home to Stanford, which consistently ranks among the top 5 schools, and Boston, home to Harvard, which consistently ranks among the top two schools in the nation. Among the 25 metro areas, only four, Des Moines, Salt Lake City, Charleston, and Omaha, do not have a college ranked among the top 125.¹⁵ None of the bottom 10 metro areas for shares of young and college educated adults have a single school ranked in the top 125. Among the bottom 25 metro areas, there are five top ranked schools in five different metro areas, compared to over 50 among the top 10.

Looking at it another way, cities with the best ranked schools also tend to have high shares of young and college educated adults. Among the top 25 ranked schools all but one, William and Mary in Virginia Beach-Norfolk-Newport News, VA-NC, is located in cities with shares that are higher than the national average. New Haven, home to Yale which consistently ranks among the top three schools in the nation, has a share of young and college educated adults that is only slightly higher than the national average. Further, 82 percent of the top 125 ranked schools were located in metro areas with shares of young and college educated adults above the median.

While it is clear that there is a positive relationship between having a top ranked school and the share of young and college educated adults in a metro area, this could be for a variety of reasons. These universities could be great at retaining students after graduation or they could simply be innovative centers of knowledge that are good at creating environments where smart workers and startups want to collocate. To test whether the former is true, we gathered LinkedIn data on the share of alumni that were still living in the metro area of the school they graduated from between 2010 and 2019. Looking at the top 100 ranked schools, the University of Washington in Seattle had the highest retention rate of 64 percent over the period, while Yeshiva in New York had 60 percent and UC Irvine had 58 percent in Los Angeles. All three of these cities ranked among the top 25 for shares of young and educated adults in 2019.

It is generally true that top ranked schools with the highest retention rates were located in metro areas with high shares of young and college educated adults, yet there are notable exceptions. While the University of Miami had the 10th highest retention rate (42 percent) and was ranked among the top 50 schools in the U.S. in the last decade, Miami ranked 70th among the 100 largest metro areas for its share of young and college educated adults. Similarly, Case Western had the 20th highest retention rate of 36 percent, yet Cleveland ranked 62nd for its share of young and college educated adults. But these were the exceptions, as universities such as Stanford had retention rates of almost half and were located in San Francisco, the city with the third highest share of young and college educated adults in the U.S. Top ranked universities and colleges clearly play an important role in attracting and retaining young and college educated workers, however, their presence alone will not necessarily make a metropolitan area competitive at attracting this highly sought-after demographic.

Top ranked universities and colleges clearly play an important role in attracting and retaining young and college educated workers, however, their presence alone will not necessarily make a metropolitan area competitive at attracting this highly sought-after demographic.

THE THREAT OF WORK FROM HOME



Universities are often seen as community “anchors” as they are both large institutions that employ many workers, have a large physical presence in a city, and are extremely difficult to relocate. It is much easier for a software company to move to another city than a university, and the latter rarely, if ever, happens. As such, cities with top ranked universities will continue to have a competitive advantage over those that do not at attracting and retaining young and college educated adults. However, there has been a rise in telecommuting and work from home jobs (WFH) during the COVID-19 pandemic. Also, even though COVID-19 related restrictions on movement have concluded in many parts of the country, some businesses are still increasing the number of remote jobs they offer. Cities with a high number of jobs that can be done WFH could be at risk of losing jobs and population, including young and college educated workers who tend to be employed in jobs that can be done remotely. What metro areas have the highest number of jobs that can be WFH jobs? Are these cities at risk of losing shares of young and educated adults as the number of WFH jobs increases?

The metro areas with the highest shares of jobs with remote work potential (work from home jobs) also have some of the highest shares of young and college educated adults.¹⁶ As shown in Table VI, metro areas with a high share of WFH jobs such as Washington, D.C. and San Francisco, where almost half of all jobs could be done from home, also have some of the highest shares of young and college educated workers. This makes sense, as jobs that can be done remotely are usually those that require higher levels of educational attainment and can be done using a computer at a home office. Around 80 percent of jobs in the educational services industry and the professional, scientific, and technical services industry can be done remotely. In Boston, these two industries account for a quarter of all jobs. But in Las Vegas, the city that ranked last for their share of WFH jobs, these industries account for just 11 percent of all jobs. As such, if there is a significant rise in WFH, Boston has relatively more risk of losing jobs than Las Vegas as 44 percent of jobs in the Boston metro area could be done remotely, compared to 31 percent in Las Vegas.

Table VI: The 10 cities with highest and lowest share of work from home jobs, 2019**Source:**

2019 1-year ACS, Table S2404.

Rank	Metro Area	% of Work From Home Jobs	# of Work From Home Jobs	Total Jobs	% of Young & Ed.
1	Washington, DC	45%	1,144,147	2,547,976	12%
2	San Francisco, CA	44%	815,505	1,856,317	13%
3	Boston, MA	44%	827,031	1,897,379	13%
4	Bridgeport, CT	43%	142,437	329,431	9%
5	Raleigh, NC	43%	227,479	530,693	11%
6	Madison, WI	43%	115,384	269,551	13%
7	San Jose, CA	43%	332,066	778,837	14%
8	Des Moines, IA	42%	118,301	279,145	10%
9	Austin, TX	42%	383,647	906,837	13%
10	Baltimore, MD	42%	439,850	1,042,373	9%
91	Toledo, OH	34%	71,646	210,082	7%
92	Grand Rapids, MI	34%	128,370	378,170	9%
93	Lancaster, PA	34%	64,256	189,720	6%
94	Fresno, CA	34%	94,109	278,149	6%
95	Riverside, CA	33%	485,592	1,454,929	5%
96	Bakersfield, CA	33%	71,087	215,002	5%
97	Lakeland, FL	33%	75,511	230,751	3%
98	Youngstown, OH	32%	53,876	166,045	4%
99	Stockton, CA	32%	73,958	228,804	4%
100	Las Vegas, NV	31%	251,539	802,752	5%

Does this mean that cities such as Boston and San Francisco could lose a large share of their young and college educated population if there is a rise in WFH beyond the COVID-19 pandemic? While there is plenty of anecdotal evidence of companies moving from expensive cities such as San Francisco to lower cost metro areas such as Miami and there has been a recent rise in migration from California to Texas, on average, there has not been a major reshuffle of people moving across metro areas. However, several large companies such as Twitter and Zillow have fully embraced WFH, and others might follow suit. Recent research by Ramani and Bloom (2021) found a “donut effect” during the pandemic where people, jobs, and real estate demand moved to the suburban metropolitan fringe from the central district rather than from one metro area to another.¹⁷ They explain this by citing the rise in hybrid work, where remote work is done several days a week, but workers still need to come into the office three or so days a week. As such, one can live further from their place of work, but still need to be within commuting distance, as place of work and place of home have not been completely decoupled. This could be even more true for younger

workers with less work experience. Companies seeking to train these younger employees and instill within them a sense of company culture may want to keep them in the office for even more time than the average employee. There is some evidence of this as JPMorgan CEO Jamie Dimon has been quoted saying that working remotely “does not work for young people” and surveys during the pandemic found that those with less work experience felt less productive working remotely than those with more work experience.¹⁸ These findings suggest that an increase in WFH will not cause a large change in where young and college educated people live across all metropolitan areas, however some of the higher price metro areas could see some population loss or the relocation of people from downtown areas to cheaper suburban areas.



CONCLUSION

Cities that experienced large increases in young and college educated adults from 2010 to 2019 also ranked high in population growth or employment growth during that period. Among the top 10 cities for growth among this demographic, only 9th ranked Seattle and 10th ranked El Paso were not also among the top 10 for population or employment growth. This would suggest that young and college educated adults play a critical role in local economies. However, there is the issue of cause and effect. Are young and educated adults driving growth in population and jobs in cities or are they moving to places with growing population and jobs? Unfortunately, the available data do not allow us to disentangle these various growth indicators, however there is a strong correlation between them.

In this report, we have explored the geography of young and college educated adults and shown their high level of concentration in the most populous metropolitan areas in the United States. We also found that this demographic was choosing to live in large, established metropolitan areas with a reputation for attracting young and educated workers, such as New York City and Los

Angeles, and emerging destinations, such as Nashville, Grand Rapids, and Raleigh. We found evidence that young and college educated workers are moving to the most productive cities that offer higher wages, and that this movement has increased from 2010 to 2019. We found some evidence that cities offering more consumption activities were attracting more young and educated workers and that cities with high shares of this demographic tended to offer either higher wages, a high level of consumption activities, or both. We highlighted the importance of top ranked universities as knowledge creation centers that likely play some role in attracting young and college educated workers, although it may not be through direct retention of students. Finally, we explored the potentially disruptive impact that a pandemic induced rise in Work From Home could have on the geography of young and college educated workers.

If these cities can respond to increasing demand with increased supply of housing, retain and grow companies, and maintain quality of life, they will likely continue to be top destinations in coming years

Nashville ranks particularly high among peer cities for its current high share of young and college educated adults (11th), percentage growth in young and college educated adults since 2010 (4th), and percentage point growth in its share of young and college educated adults since 2010 (3rd). However, it is not the only city that ranks high by these measures. Both Seattle and Austin have experienced high growth rates in the past decade. Recently released population estimates from the U.S. Census Bureau suggest that Austin enjoyed continued growth from 2020 to 2021, ranking 4th in numeric growth by gaining an estimated 53,301 residents. Anecdotal evidence suggests that Austin has fared particularly well during the pandemic as many Americans moved to Sunbelt cities, including tech companies and young and college educated adults.¹⁹ Indeed, Dallas, Phoenix, Houston, and Austin ranked among the top four metro areas for population growth from 2020 to 2021. If these cities can respond to increasing demand with increased supply of housing, retain and grow companies, and maintain quality of life, they will likely continue to be top destinations in coming years.



ENDNOTES

- 1 Among 100 mid-size metropolitan areas with populations between 300,000 and two million.
- 2 Rothwell, J. What colleges do for local economies: A direct measure based on consumption. Brookings Institution. November 2015.
- 3 Morreti, E. Local Multipliers. *American Economic Review: Papers and Proceedings* 100. May 2010, 373-377.
- 4 Quintero, L and Roberts, M. Explaining Spatial Variations in Productivity Evidence from Latin America and the Caribbean. World Bank Group Policy Research Paper No. 8560. August 2018.
Davis, D and Dingel, J. The comparative advantage of cities. *Journal of International Economics*. March 2020, 123.
Moretti, E. Chapter 51 - Human Capital Externalities in Cities. *Handbook of Regional and Urban Economics*. 2004, 4: 2243-2291.
Rauch, J. Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities. *Journal of Urban Economics*. November 1993, 34(3): 380-400.
- 5 Florida, Richard. "Where the Brains Are Going". *The Atlantic*. January 18, 2011.
- 6 Malamud, O and Wozniak, A. The Impact of College on Migration: Evidence from the Vietnam Generation. *The Journal of Human Resources*. Fall 2012. 47(4), 913-950.
- 7 Wozniak, A. Are college graduates more responsive to distant labor market opportunities? *Journal of Human Resources*. 2010, 45 (4): 944-970.
- 8 Davis, D and Dingel, J. The comparative advantage of cities. *Journal of International Economics*. March 2020, 123.
- 9 Glaeser, EL, Kolko, J, Saiz, A. Consumer City. *Journal of Economic Geography*. January 2001, 1 (1): 27-50.
- 10 Carlino, GA and Saiz, A. Beautiful city: Leisure amenities and urban growth. *Journal of Regional Science*. April 2019, 59(3): 369-408.
- 11 Falck, O, Fritsch, M, Heblich, S, Otto, A. Music in the air: estimating the social return of cultural amenities. *Journal of Cultural Economics*. 2018, 42: 365-391.
- 12 Diamond, R. The Determinants and Welfare Implications of US Workers' Diverging Location Choices by Skill: 1980-2000. *American Economic Review*. March 2016, 106(3): 479-524.
- 13 Couture, V, Gaubert, C, Handbury, J, Hurst, E. Income Growth and the Distributional Effects of Urban Spatial Sorting. NBER Working Paper 26142. 2019.
- 14 Aarssen, LW and Crimi, L. Legacy, Leisure and the 'Work Hard - Play Hard' Hypothesis. *The Open Psychology Journal*. May 2016, 9: 7-24.
- 15 It should be noted that Brigham Young University in Provo, Utah (ranked #79 in the US as of 2022) is just a 45-minute drive from Salt Lake City.
- 16 We define work from home jobs as the share of jobs with remote work potential by industry as defined in Dingel, J and Neiman, B. How many jobs can be done at home? NBER Working Paper 26948. April 2020.
- 17 Ramani, A and Bloom, N. The Donut Effect of Covid-19 on Cities. NBER Working Paper No. 28876. May 2021.
- 18 Williams, Annabelle. "JPMorgan CEO says that working remotely 'does not work' for young people and those who want to 'hustle'". *Business Insider*. May 4, 2021.
PwC. It's time to reimagine where and how work will get done. PwC's US Remote Work Survey. January 12, 2021.
- 19 Montgomery, David. "Bucking the Pandemic, Austin Is 'the Hottest Market in the Country'". *The New York Times*. August 31, 2021.



21ST CENTURY CITIES

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

Dr. Luis Quintero

Luis Quintero is an Assistant Professor at Johns Hopkins' Carey Business School, a research fellow at Johns Hopkins' 21st Century Cities Initiative (21CC), and a faculty member at the Johns Hopkins' Business of Health Initiative. Dr. Quintero's research focuses on urban dynamics, especially related to housing markets, agglomeration economies and policy-related issues like housing affordability. He also conducts research on determinants of growth and decline in cities in developed and developing economies. He is the current co-director of the Latin American and Caribbean Economic Association (LACEA). Dr. Quintero received his PhD in Economics and Public Policy and MS in Public Policy from Carnegie Mellon University.

leq@jhu.edu

Mac McComas

Mac is the Senior Program Manager of JHU's 21st Century Cities Initiative. His research focuses on access to capital for small businesses and minority entrepreneurs and neighborhood quality of life. He received his MA in Scottish History from the University of Edinburgh and his MLitt in Scottish Historical Studies from the University of St Andrews. He is the co-author (joint with Matthew Kahn) of *Unlocking the Potential of Post-Industrial Cities* (JHU Press 2021).

macmccomas@jhu.edu



RESEARCH SPONSOR

ALEX. BROWN REALTY, LLC

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. Since 1972, ABR sponsored investment programs have acquired nearly 400 properties at a total cost of approximately \$4.5 billion.

Debo Ayeni

Director of Research and Data Analytics
debo.ayeni@abrealty.com

Thomas Burton

Senior Managing Director/Chief Investment Officer
tom.burton@abrealty.com

The information contained in this report was obtained from sources deemed to be reliable. Every effort was made to obtain accurate and complete information; however, no representation, warranty or guaranty, express or implied, may be made as to the accuracy or reliability of the information contained herein. This is not intended to be a forecast of future events and this is not a guaranty regarding a future event. This is not intended to provide specific investment advice and should not be considered as investment advice.

FOR ADDITIONAL INFORMATION

DEBO AYENI

Director of Research and Data Analytics
Alex. Brown Realty, LLC
debo.ayeni@abrealty.com | 410.547.3032

ALEX. BROWN REALTY, LLC

300 East Lombard Street, Suite 1200
Baltimore, MD 21202
www.abrealty.com | 410.727.4083

© 2022 Alex. Brown Realty, LLC. All rights reserved.
© 2022 Johns Hopkins University. All rights reserved.