ThinkWhy™

U.S. LABOR MARKET OUTLOOK

2020

AND FIVE-YEAR FORECAST

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ThinkWhy is helping companies navigate a new era of work by creating modern, human-centered solutions that drive alignment between labor economics and business strategy.

The 2020 Labor Market Outlook is intended to help businesses better understand economic impact, reduce risk and drive informed growth planning.

ThinkWhy's summary of the current state of the economy and our outlook is based on rigorous analysis of broad economic and fundamental market indicators, and the metrics that drive the labor market.

To help guide strategic business decisions, ThinkWhy covers key economic variables and their drivers.

- Job growth by industry
- Wage growth by industry
- Consumer sentiment
- Personal consumption expenditures (CPE)
- Corporate profit growth
- Household real estate equity
- Population changes by age
- Labor force participation by gender
- Birth rate and education

While the forecast for U.S. job growth sets the tone for the economy, industry job growth will impact businesses. Robust job growth indicates an expanding industry and can represent a tight labor market, and therefore, a reduced talent supply. Conversely, below average job growth typically represents a slowing industry and organizations may need to allocate resources toward training, upskilling and automating workflows.

The ThinkWhy 2020 Outlook provides job growth forecasts within specific industry sectors which will have impact on budgets and business hiring decisions. Consumer spending trends indicate the public's consumption confidence and provides early indicators as to the overall shape of the economy.

With the unemployment rate at an almost 50-year low, there could be impact on industry wage growth over the next five years. There are a few scenarios to consider as you plan and budget for 2020, including how salary increases compare to industry averages and the rate of payroll growth.

Economic Factors Impacting Trends

- Consumer Sentiment: Trending Down
- Personal Consumption Expenditures: Trending Down
- Corporate Profits Growth: Trending Down
- Household Real Estate Equity: Trending Down
- Older Workers Remaining in Workforce: Trending Up
- Female Labor Force Participation: Trending Up
- Fastest Job Growth: Leisure and Hospitality
- Slowest Job Growth: Government
- Fastest Wage Growth: Leisure and Hospitality
- Slowest Wage Growth: Other Services

In conclusion, ThinkWhy's five-year forecast indicates the U.S. will show moderate economic growth for the remainder of 2019 and 2020, bottom out in 2021, and then return to a period growth through 2025. Job growth will trend downward, moving from 1.5 percent in 2019 to 1.0 percent in 2020.

U.S. Labor Market Outlook 2020

The U.S. economy is in its 123rd month of economic growth (Gross Domestic Product), the longest in history, but a slowdown may be on the horizon as evidenced by slowing job growth, an occasional inverted yield curve, protracted trade uncertainty and weak global economies. Talk about the timing of the next recession is getting louder.

ThinkWhy™ It Matters

This outlook is based upon the basic indicators of the economy's strength: Gross Domestic Product (GDP) and job and wage growth by industry. To help guide your business decisions, we provide key economic variables and their drivers.

Economic Factors Impacting Trends

- Consumer sentiment and consumption, corporate profits and household real estate equity, average hourly earnings growth and fiscal policy
- Population shifts in age-based demographics, labor force participation rates by gender, birth rates among working mothers, and age of first marriage by gender
- Labor force education, job growth and income by education level

Measures of the U.S. Economy's Strength

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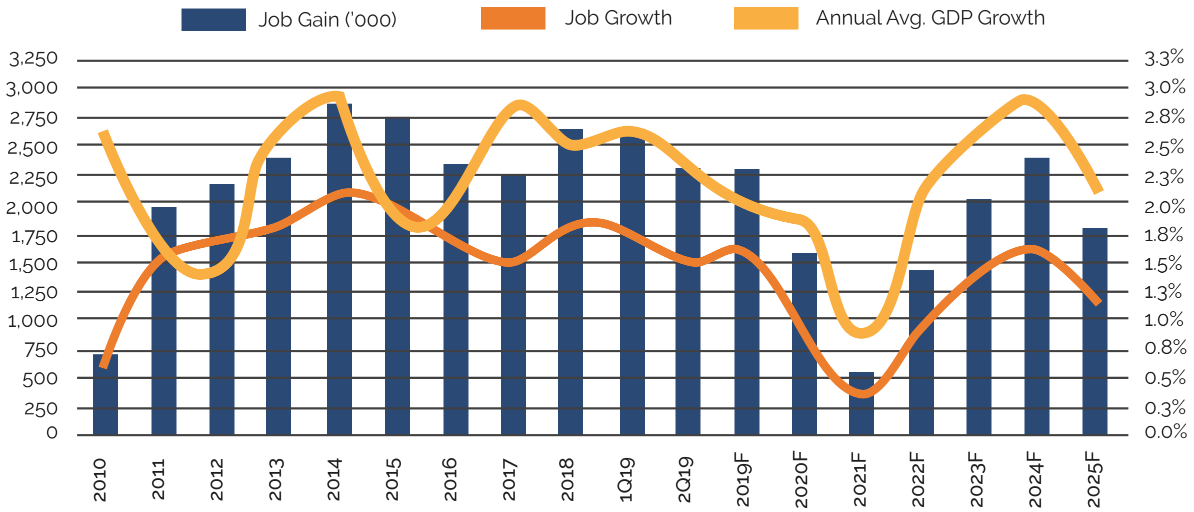
Over the next five years, ThinkWhy forecasts the U.S. economy will:

- Exhibit moderate economic growth in 2019 and 2020, bottom out in 2021, and return to a period of growth through 2025.
- Experience slower growth rates for jobs and GDP in the 2020 to 2025 measurement period.

U.S. Job and GDP Growth



Sources: ThinkWhy, BLS, BEA

▼ 0.5%

Job Growth

Trending downward in 2020, decreasing from 1.5 percent in 2019 to 1.0 percent in 2020

▼ 0.2%

Gross Domestic Product

Trending downward in 2020, slowing from 2.0 percent in 2019 to 1.8 percent in 2020

0.4% and 0.9%

Job Growth & GDP Trough

Look for these economic drivers to bottom out in 2021 at 0.4 percent and 0.9 percent, respectively

Job Growth

Industry and Sub-Sectors

The forecast for U.S. job growth sets the tone for the economy and may impact your business. Depending on your specific industry's economic conditions, your company growth could perform above or below the forecasted job growth average of 1.17 percent for the U.S.

Above average job growth indicates an expanding industry and can represent a tight labor market, and therefore, a reduced talent supply. Businesses should:

- Continue to offer competitive wages and strong benefits packages to recruit top talent.
- Consider strategies to implement alternative workforce employees.

Below average job growth typically represents a slowing industry and companies may need to:

- Reallocate resources to focus on workflow automation and process improvement.
- Budget for enhanced training, upskilling and use of freelance talent.

*A comprehensive description of each industry sector can be found **HERE**.*

Industries showing FASTER job growth than the U.S. average in 2020

Four super sectors, accounting for a 41.3 percent share of employment in 2019, are expected to grow faster than the one percent national average: Leisure and Hospitality (2.6%), Mining, Logging and Construction (1.9%), Professional and Business Services (1.5%) and Education and Health Services (1.3%).

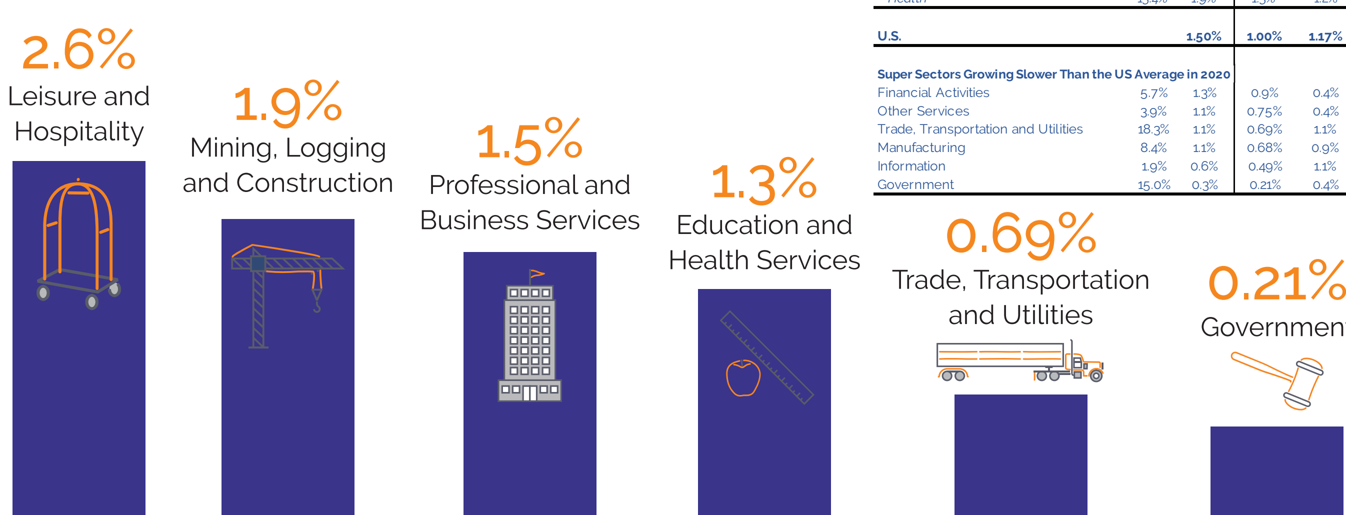
Industries showing SLOWER job growth than the U.S. average in 2020

The two largest super sectors with below average job growth in 2020 account for a 33.3 percent share of employment. These sectors and their forecasted job growth are: Trade, Transportation and Utilities (0.69%) and Government (0.21%).

Financial Activities, Other Services and Manufacturing, accounting for a smaller share of employment in 2019, are forecasted to grow at 0.9 percent, 0.75 percent and 0.68 percent, respectively.

Job Growth by Industry and Sub-Sectors

Industry Super and Sub-Sectors	Share	2019F	2020F	5-Year Forecast Average	Long-Term Trend
Super Sectors Growing Faster Than the US Average in 2020					
Leisure and Hospitality	11.2%	2.7%	2.6%	2.0%	Down
Mining, Logging, and Construction	5.5%	2.8%	1.9%	1.4%	Down
Mining and Logging	*0.5%*	*2.9%*	*1.9%*	1.5%	Down
Construction	*5.0%*	*2.8%*	*1.9%*	1.4%	Down
Professional and Business Services	14.2%	2.3%	1.5%	1.2%	Down
Professional, Scientific and Technical Serv.	*6.3%*	*2.3%*	*1.5%*	1.5%	Stable
Education and Health Services	15.9%	1.9%	1.3%	1.1%	Down
Education	*2.5%*	*1.7%*	*1.1%*	1.1%	Stable
Health	*13.4%*	*1.9%*	*1.3%*	1.2%	Down
U.S.		**1.50%**	**1.00%**	**1.17%**	**Up**
Super Sectors Growing Slower Than the US Average in 2020					
Financial Activities	5.7%	1.3%	0.9%	0.4%	Down
Other Services	3.9%	1.1%	0.75%	0.4%	Down
Trade, Transportation and Utilities	18.3%	1.1%	0.69%	1.1%	Up
Manufacturing	8.4%	1.1%	0.68%	0.9%	Up
Information	1.9%	0.6%	0.49%	1.1%	Up
Government	15.0%	0.3%	0.21%	0.4%	Up



Wage Growth

Industry and Sub-Sectors

Finding great talent is challenging. As of late, new talent is obtained by poaching candidates from another company. Without a competitive wage, your talent is more at risk for poaching, so retention becomes more important than ever.

With the unemployment rate at an almost 50-year low, at 3.5 percent in September 2019, there may be an impact on your industry's wage growth over the next five years. There are a few scenarios to consider as you plan and budget for 2020 and beyond, including how your salary increases compare to your industry's average and the rate of your payroll growth.

As a benchmark, we have calculated the weighted-average wage growth for all super sectors using share of employment in 2019 to evaluate each sector's forecasted performance.

Super Sectors showing FASTER wage growth than the All Super Sector Weighted Average in 2020

In 2020, four of the nine super sectors are forecasted to experience wage growth greater than 3.0 percent: Leisure and Hospitality (3.6%), Trade, Transportation and Utilities (3.3%), Information (3.3%) and Financial Activities (3.3%).

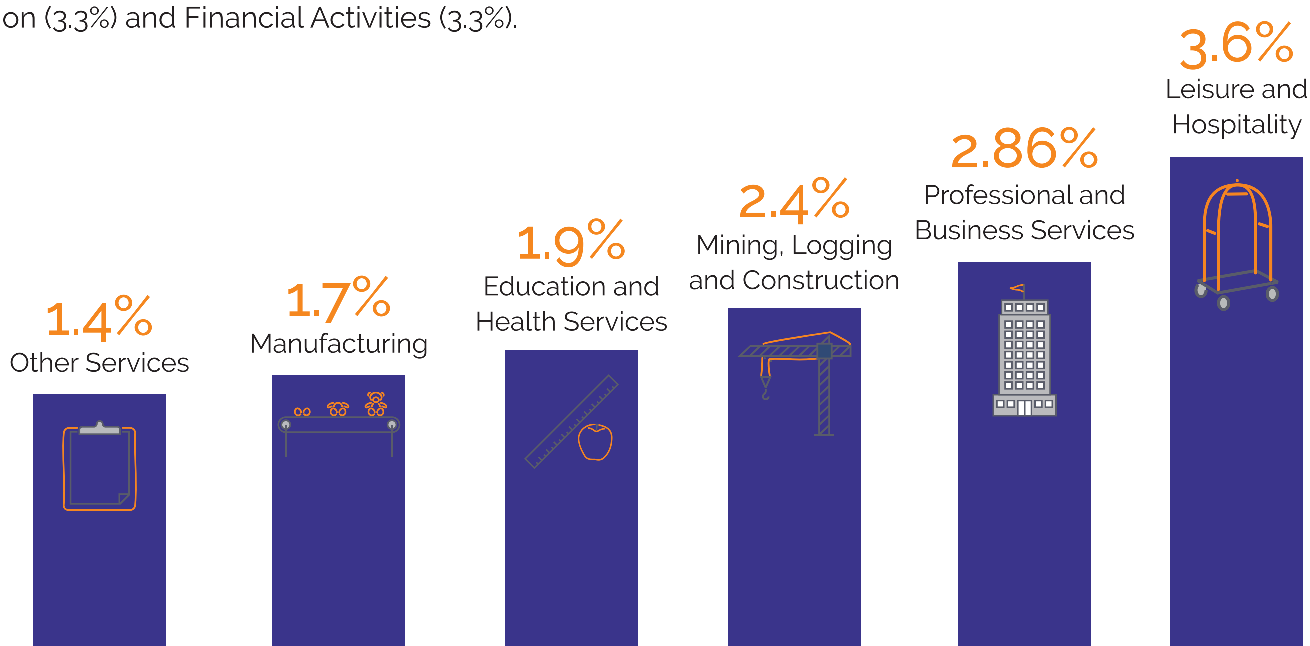
Super Sectors showing SLOWER wage growth than the All Super Sector WTD Average in 2020

The super sectors with the slowest 2020 wage growth forecast are Other Services (1.4%), Manufacturing (1.7%) and Education and Health Services (1.9%). Over the five-year forecast period, Professional and Business Services (2.3%), Construction (2.3) and Education and Health Services (2.2%) will lead this group.

Wage Growth by Industry and Sub-Sectors

Industry Super and Sub-Sectors	Share	2019F	2020F	5-Year Forecast Average	Long-Term Trend
Super Sectors Growing FASTER than All Super Sectors WTD Average in 2020					
Leisure and Hospitality	11.2%	3.7%	3.6%	2.9%	Down
Trade, Transportation and Utilities	18.3%	3.5%	3.3%	2.7%	Down
Information	1.9%	3.5%	3.3%	3.0%	Down
Financial Activities	5.7%	3.5%	3.3%	2.7%	Down
All Super Sectors WTD Average by Share		**2.70%**	**2.88%**	**2.32%**	**Down**
Super Sectors Growing SLOWER than All Super Sectors WTD Average in 2020					
Professional and Business Services	14.2%	3.1%	2.86%	2.27%	Down
Professional, Scientific and Technical Se	*6.3%*	*2.9%*	*2.7%*	2.3%	Down
Mining, Logging, and Construction	5.5%	2.6%	2.4%	1.8%	Down
Mining and Logging	*0.5%*	*2.6%*	*2.5%*	1.8%	Down
Construction	*5.0%*	*3.1%*	*2.9%*	*2.3%*	Down
Education and Health Services	15.9%	1.9%	1.9%	*2.2%*	Up
Manufacturing	8.4%	2.0%	1.7%	*1.1%*	Down
Other Services	3.9%	1.6%	1.4%	1.8%	Up

Source: U.S. Bureau of Labor Statistics



Drivers of Job and GDP Growth

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Which economic factors are helping to drive growth in jobs and GDP? ThinkWhy analysts believe the following are key determinants:

- Consumer Sentiment
- Personal Consumption Expenditure
- Corporate Profits Growth
- Household Real Estate Equity

Consumer Sentiment Trending Downward

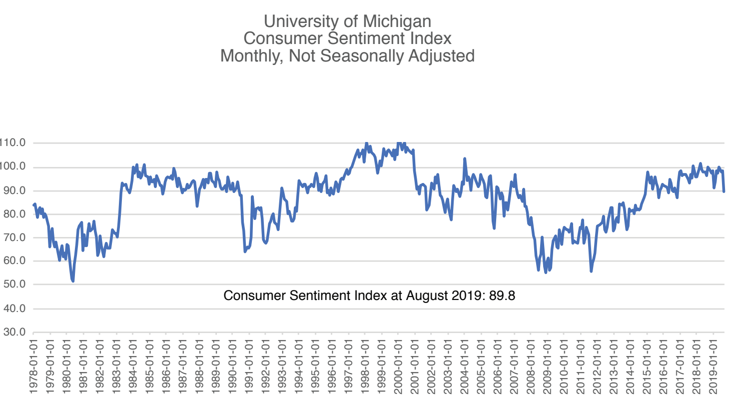
A major indicator of the strength and direction of the U.S. economy is detailed in the University of Michigan's monthly survey of consumer sentiment (UMCSENT). This data becomes a strategic business-planning resource as it captures consumers' feelings about their current financial situation, the economy and future opportunities. ThinkWhy recommends that you use this data to advise your strategic growth plans.

Trend: Down

Consumer confidence leads to increased spending, which boosts the economy. When consumers are uncertain about the future, they tend to prioritize saving and make fewer discretionary purchases. Pessimistic sentiment weakens demand for goods and services, which impacts corporate investment, the stock market and employment opportunities, among other things.

The chart below indicates consumer sentiment hit a peak in January 2004 at 103.8 and began declining until it reached 75.5 in December 2007, the start of the Great Recession. Then in June 2009, the index hit its low at 70.8 – the end of the recession. The Bureau of Economic Research (BER), which determines U.S. business cycles, did not announce the Great Recession until September 20, 2010, almost three years after its start. While BER data is useful to identify general trends, the University of Michigan's monthly consumer sentiment survey is much timelier, and therefore, more relevant for business planning.

As of August 2019, the UMCSENT index was at 89.8, its lowest since October 2016 (87.2). While one month does not make a trend, the index should be closely followed for the remainder of the year. After October 2016, the index went back up into the mid-90s and low 100s for 33 months or until the August 2019 reading.



Source: Surveys of Consumers, University of Michigan, University of Michigan: Consumer Sentiment © [UMCSENT], retrieved from FRED, Federal Reserve Bank of St. Louis (October 10, 2019)

Key Indicator

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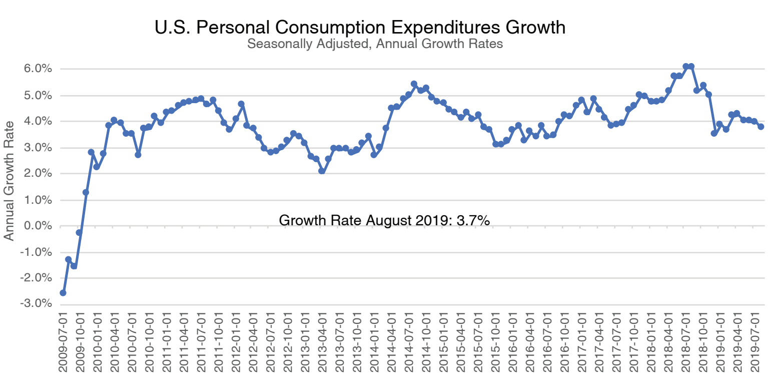
The UMCSENT index is timely and useful in planning for your business

Personal Consumption Expenditures Trending Downward

Consumer spending accounts for about 70 percent of the U.S. economy. Personal Consumption Expenditures (PCE), a measure of consumer spending, is published monthly by the Bureau of Economic Analysis (BEA). The BEA defines PCE as "the value of the goods and services purchased by, or on the behalf of, 'persons' who reside in the United States. Put simply, it tells us if consumers are spending more or less money than in the past. If so, the economy is growing; if not, the economy is declining. In addition to job and wage growth, PCE can provide additional insight into the economy's trajectory. Additionally, PCE figures are broken out further by goods, durable goods, non-durable goods and services, delivering a valuable tool for organizational planning.

The PCE in August 2019 was $14.658 trillion, a seasonally adjusted increase of 3.7 percent from one year ago. People are spending more money than they were in the year prior but at a decelerating rate.

The PCE growth rate is well below the August 2018 rate of 6.1 percent and the 2018 annual average rate of 5.2 percent, indicating that consumer spending in 2019 is slowing from 2018 and is expected to continue into 2020.



U.S. Bureau of Economic Analysis, Personal Consumption Expenditures [PCE]

Corporate Profits Growth Trending Downward

Corporate profits are an excellent indicator of the financial health of corporate America. These profits provide much of the funding for capital investments that raise productive capacity. By watching corporate profitability each quarter, you will have actionable intelligence about profit trends and how your company is performing against this benchmark.

Based upon the latest report of corporate profits after tax, 2Q 2019, released September 26, 2019, corporate profits after tax* growth is slowing. The magnitude of this slowdown is more evident when 1Q and 2Q 2019 growth is compared to that of the same periods a year ago.

Corporate Profits After Tax* Growth

	2018	2019	Absolute Change
1Q	10.3%	-2.9%	-13.2%
2Q	8.3%	-2.7%	-11%

*Growth in Corporate Profits After Tax with Inventory Valuation Adjustment (IVA) and Capital Consumption Adjustment (CCAdj), Quarterly, Seasonally Adjusted Annual Rate

Source: U.S. Bureau of Economic Analysis, Corporate Profits After Tax with IVA and CCAdj

Household Real Estate Equity Trending Downward

Each quarter, the Federal Reserve reports the value of the equity that households have in their real estate. This is an important variable to follow, especially if you have a business-to-consumer business. If household equity in real estate is growing, homeowners will be more confident in their current financial condition. If homeowners are more confident in their financial condition, they are more likely to continue spending.

Based upon the latest report for 2Q 2019 dated October 10, 2019, homeowners' equity in real estate reached $18.7 billion, up from $17.4 billion in 2Q 2018, an increase of 9.9 percent. While this increase is excellent, the rate of growth is trending downward from the 12.0 percent growth that occurred from 2Q 2017 to 2Q 2018. The downward trend is more obvious when you compare it to the 20.7 percent growth rate in 4Q 2013.

Households, Owners' Equity in Real Estate Equity

	2018	2019	Absolute Change
1Q	12.0%	11.2%	-0.8%
2Q	12.0%	9.9%	-2.1%

Source: Board of Governors of the Federal Reserve System (US), Households; owners' equity in real estate

Demographic Trends

Why are demographic trends important to a business? Companies and their markets are made up of people. The demographics of employees and customers can provide actionable data to positively impact corporate performance. Demographics can include age, sex, migration and immigration, education and income levels, marital status, occupation, ethnicity, birth and death rates, family and household characteristics, average age at marriage and many other characteristics. In the U.S., the Census Bureau conducts a census of the population every ten years, in addition to smaller surveys during the intervening years.

Change in Population by Age

By 2025, the greatest increase in the U.S. population will be in the 64-year-old and greater demographic. This age group will account for 18.1 percent of the population, up from 16.3 percent in 2019. However, the less than 18-year-old demographic will still comprise the largest share of the population in 2025, making up 21.3 percent. This decline is the result of very slow population growth of 0.4 percent from 2019 to 2025. The 25- to 54-year-old age group will account for a strong increase of 4.56 million people by 2025, but its share of the population drops from 39.1 percent in 2019 to 38.3 percent in 2025.

Generational Shift

The U.S. population is getting older and working longer. Businesses can use this trend to their advantage. For example, older employees with more work experience and institutional knowledge can be used to train younger workers. Also, older workers may prefer more flexible or part-time work schedules, allowing companies to get the benefit of their knowledge at a lower cost than retaining them full time.

Generation Z is on track to be the most educated and technologically advanced generation. According to the Pew Research Center, a person is considered part of Generation Z if they were born after 1997, with the oldest persons turning 22 in 2019. While in their teens, technological innovations, such as the smartphone, unlimited internet connectivity, social media platforms, on-demand entertainment and video gaming, were incorporated into their daily lives. Millennials and older generations have had to adapt to these innovations. Thus, persons in Generation Z may have better problem-solving skills earlier in their career, allowing them to fit into a broad range of functions at your company. Initiating a recruitment program targeting new college graduates, or Generation Z, is more of a necessity than ever before due to the historically low unemployment rate.

Female Labor Force Participation Rate Increases

The Labor Force Participation (LFP) rate among three groups of prime-age women rose to record highs in September 2019. The rate of change in LFP for these groups of women was far greater than those of men in the comparable age groups.

The LFP trend suggests that businesses have a strategy in place to attract women to their workforce. Women between 25-34 years of age had the largest gain in LFP at 3.4 percent, but the LFP rate for older female-age groups was still exceptional.

Labor Force Participation Rate by Age and Gender

	Age Group					
	Men			Women		
	25-34	35-44	45-54	25-34	35-44	45-54
2008	91.6%	92.3%	88.0%	75.2%	76.2%	76.1%
Low Rate	88.7%	90.3%	85.5%	73.4%	74.0%	73.4%
Date	2014	2015	2014	2015	2013	2015
Current Rate	88.9%	90.9%	87.4%	76.8%	76.2%	75.6%
Change	0.2%	0.6%	1.9%	3.4%	2.1%	2.2%

Change in Rate: September 2019 versus Lowest Rate
Lowest Rate is based upon the period from 2008 to September 2019

Birth Rates by Age of Mother

Prime working-age women also account for most births. In 2018, women aged 25-34 gave birth to 2.18 million children. Additionally, the age of first marriages for men and women was 30 and 28, respectively.

	Births		Birth Rate		Change		
					Births		Birth Rate
Age of Mother	2017	2018	2017	2018	Number	%	Number
All Ages	3,855,500	3,788,235	60.3	59.0	-67,265	-1.7%	-1.3
10-14	1,731	1,917	0.2	0.2	186	10.7%	0.0
15-19	194,377	179,607	18.8	17.4	-14,770	-7.6%	-1.4
20-24	764,780	725,157	71.0	67.9	-39,623	-5.2%	-3.1
25-29	1,123,577	1,098,330	98.0	95.2	-25,247	-2.2%	-2.8
30-34	1,091,917	1,089,980	100.3	99.6	-1,937	-0.2%	-0.7
35-39	554,796	566,519	52.3	52.6	11,723	2.1%	0.3
40-44	114,813	117,339	11.6	11.8	2,526	2.2%	0.2
45-54	9,323	9,572	0.9	0.9	249	2.7%	0.0

	Men's Age at First Marriage	Women's Age at First Marriage
2018	29.8	27.8
2017	29.5	27.4

Source: U.S. Bureau of Labor Statistics, ThinkWhy

The trends affecting women's participation in the labor force include:

- First marriage and childbirth at older ages
- Rising wages for women as companies try to close the gender pay gap
- Expansion of parental benefits by many companies
- Increases in women's skills and education levels; this trend is expected to continue as women outpace men in entering higher-education institutions
- Desire to make more money to pay off student loan debt and accumulate retirement savings

These trends suggest that businesses should continue to recruit prime-age women.

Education

Labor force education trends are important to the success of your company. The better educated your workforce, the better your company can take advantage of opportunities that arise.

There is an 85 percent correlation between enrollment in educational institutions and job growth. When the economy is good, people tend to enter the labor market. When the economy is receding, people tend to enter educational institutions to improve job skills or prepare for career changes.

Historical Education Highlights, 2010-2019

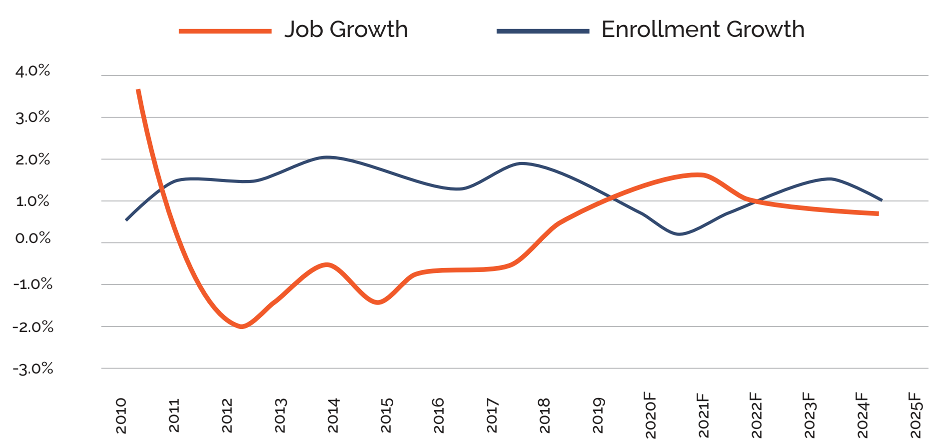
Enrollment in U.S. higher education institutions has been declining, with the strong job market attracting potential students. The rising cost of higher education is also negatively impacting enrollment.

Forecast Education Highlights, 2020-2025

2019 is likely the last year that enrollment growth will decelerate in this business cycle. With job growth slowing this year and forecasted to decrease in 2020 and 2021, enrollment may start to grow as job seekers enroll in educational programs to add to their skill set or change career paths.

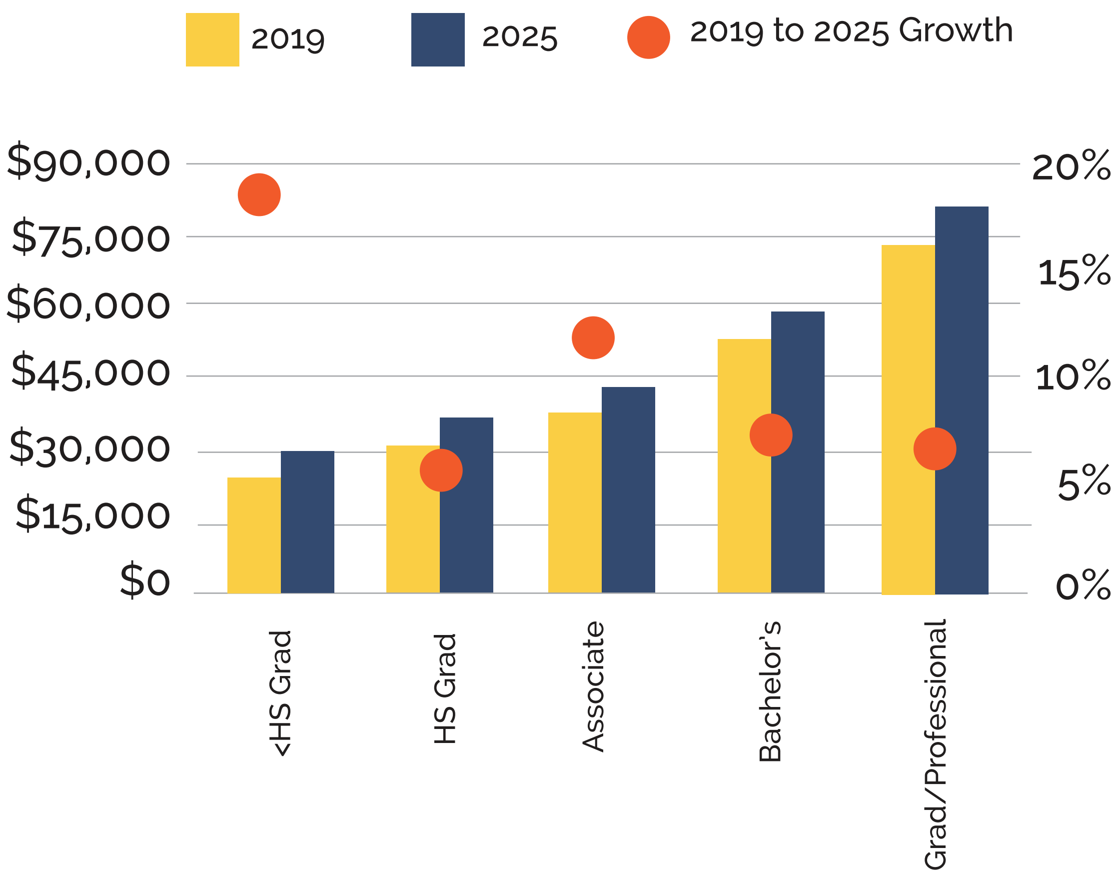
Income for those with and without a college degree differs by about $25,000 a year. This income spread is expected to remain level through 2025. The value of a college degree compared to the cost of attending is still a consideration for students and will put a strain on enrollment growth going forward.

Enrollment and Job Growth



ThinkWhy recommends that companies consider recruiting from skill-based alternative programs like General Assembly and other non-traditional platforms, particularly for tech jobs. The lower aggregate cost to learn a specific skill will drive students to these schools, particularly with wage growth slowing during the forecast period.

Income by Education



The Outlook At-A-Glance

- Long-term job growth is expected to slow meaningful starting late 2020 and will reach the trough during Q3 of 2021. As U.S. workers are saving more and have higher net worth, some due to the home-price growth, a slowdown or even a recession in 201 would be short-lived and less extensive than previous downturns.

- Expect Professional Business and Technical Services and Healthcare industries to continue to lead the job gain and growth in the U.S.

- Mining and Logging and Trade, Transportation and Utilities sectors will continue to struggle to add jobs in the near term.

- Expect gradual increases during late 2021, with the magnitude of growth expected to increase during 2022 and continue at a robust trajectory through 2024.

- After the expected low in 3 2021, availability of labor is expected to loosen up along with new workers joining the labor force.

- Excluding the Great Recession, historically low unemployment rates will force the U.S. economy into a skilled-labor shortage, creating a hurdle for higher nominal job gain despite healthy U.S. economic fundamentals.

Atlanta

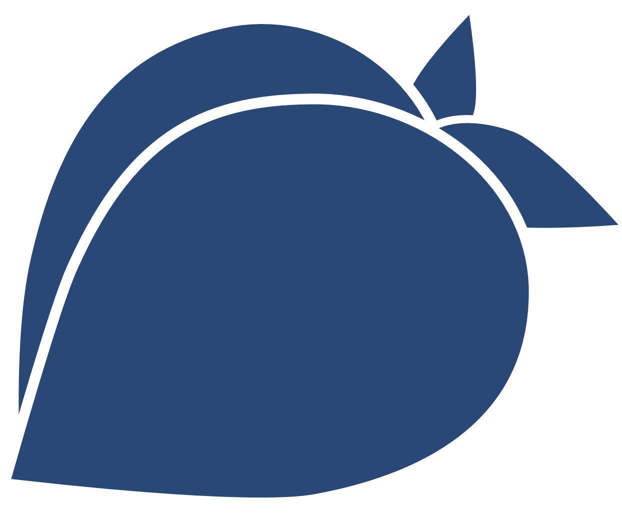
2020 Labor Market Outlook

Overview

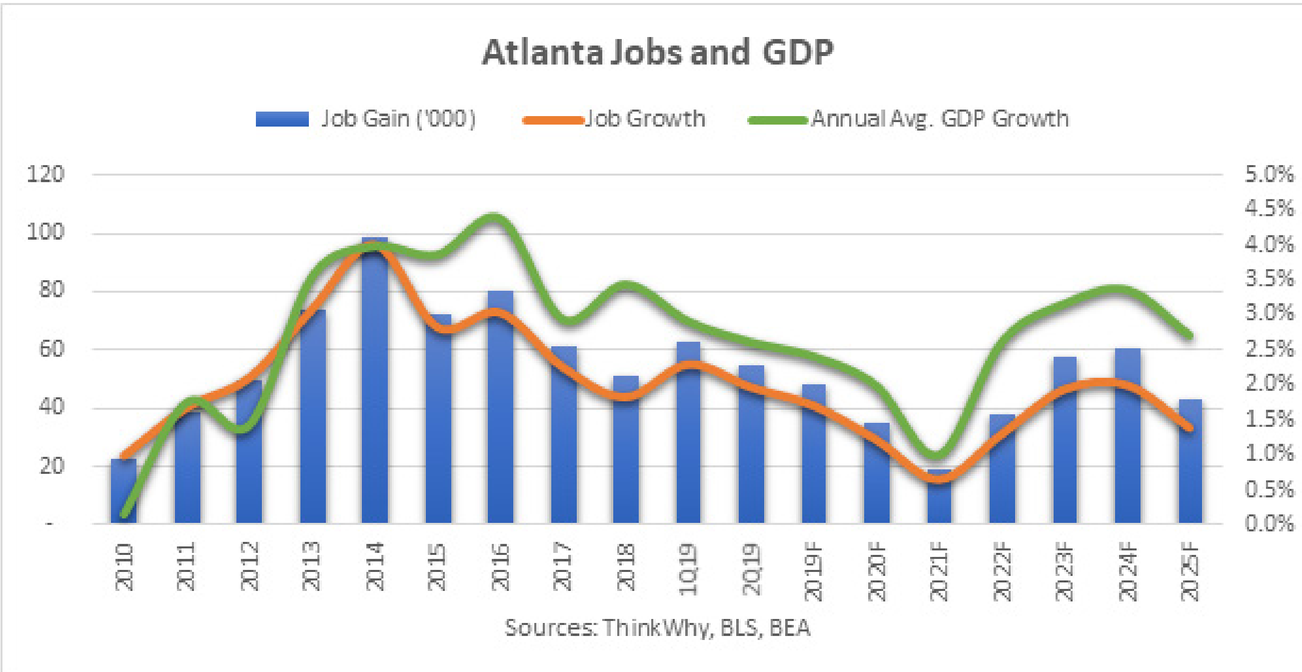
The Atlanta economy has been a quiet but dominant city that churns out top talent from area schools, while maintaining a low cost of living and conducting business.

Going forward, Atlanta will experience the same slowdown in 2021 as the rest of the nation, but its rebound is expected to be vibrant. Wage growth in the Professional and Finance sectors will continue to draw talent to the city.

With a sustained low cost of doing business, expect companies to continue finding their way to Atlanta, keeping Construction jobs plentiful. Cost of living will remain below the national average in the coming years, creating opportunity to recruit talent from more expensive locations.



Jobs and GDP



2010-2019 Historical Highlights

- Atlanta produced an average of 60,000 jobs annually from 2010 through Q2 2019.
- The unemployment rate averaged 6.0 percent during the same time period, with a low of 3.3 percent in Q2 2019.
- Compared to the last five years, job growth decreased by approximately 80 basis points in Q2 2019.
- Wage growth increased by 1.0 percent during the first half of 2019, which is 200 basis points lower than the historical average from 2014 to 2018.

2020-2025 Forecast: Job & Wage Growth

Atlanta job growth forecast:

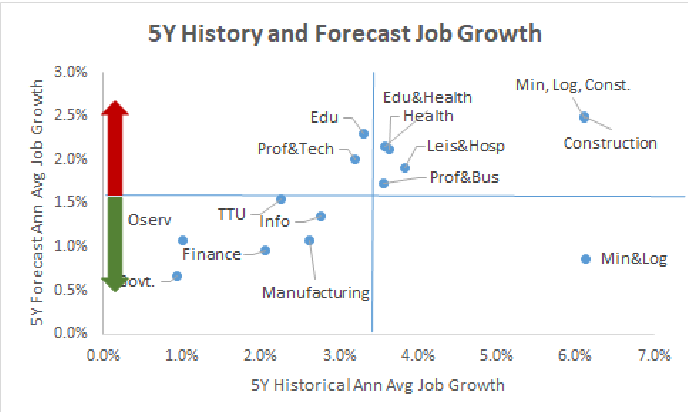
- **2020:** expect deceleration to 1.2 percent or 35,000 jobs
- **2021:** job growth will bottom out at 0.7 percent
- **2022-2025:** annual average job gains of 1.7 percent (50,000 jobs)

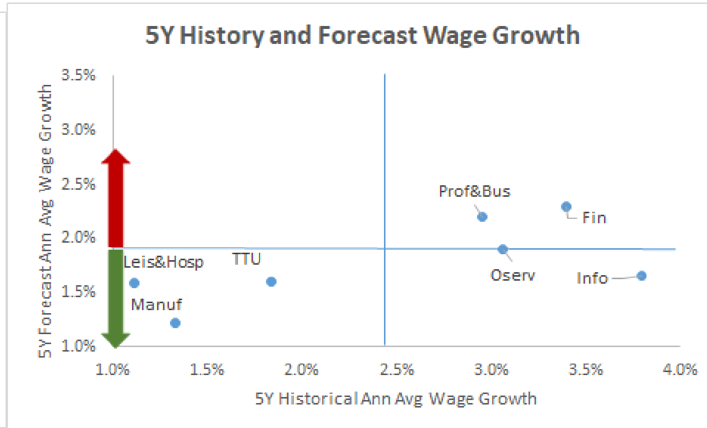
Atlanta wage growth forecast:

- **2020:** 2.6 percent on average, 130 basis points higher than that in 2019
- **2021:** wage growth will bottom out at 1.3 percent
- **2022-2025:** 2.9 percent on average

Industry

Job Growth and Wage Growth





2014-2019 Historical Highlights

- Trade, Transportation, and Utilities leads the share of jobs in Atlanta.
- Mining, Logging and Construction led job growth during the last five years, with 6.9 percent job growth.
- Professional and Business Services and Education and Health Services produced 3.6 percent job growth during the last five years.
- Wage growth in these sectors beat the metro's annual average wage growth during the last five years:
  - Professional and Business Services
  - Finance
  - Information
  - Other Services

2020-2025 Forecast: Industry Growth

Expect five-year annual average job growth to remain above the metro annual average in Professional and Business Services, Education and Health Services, Leisure and Hospitality, and Mining, Logging and Construction.

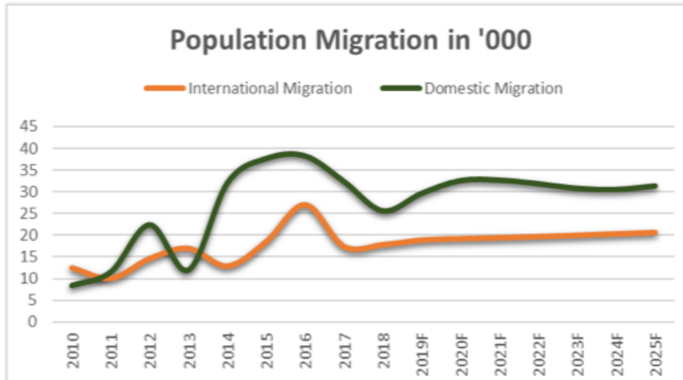
For wage growth, expect Professional and Business Services and Finance to beat the metro average during the five-year forecast period.

- Tech jobs are forecasted to produce average annual job growth of 2.0 percent.
- The Leisure and Hospitality and Construction industries are forecasted to lead the job growth category with 1.9 percent and 2.5 percent growth, respectively.
- In the wage growth category, all industries in the metro area will see growth, but a deceleration of over 210 basis points is expected in the Information industry.

Net Migration and Population Growth

Population Change by Age Group

	2019F	2025F	Change in Share
<18	24.3%	22.8%	-1.5%
18-24	8.9%	8.5%	-0.4%
25-34	14.1%	14.0%	-0.1%
35-44	13.8%	13.0%	-0.8%
45-54	14.2%	13.9%	-0.3%
55-64	12.2%	13.4%	1.2%
>64	12.5%	14.4%	1.9%



Sources: ThinkWhy, Census

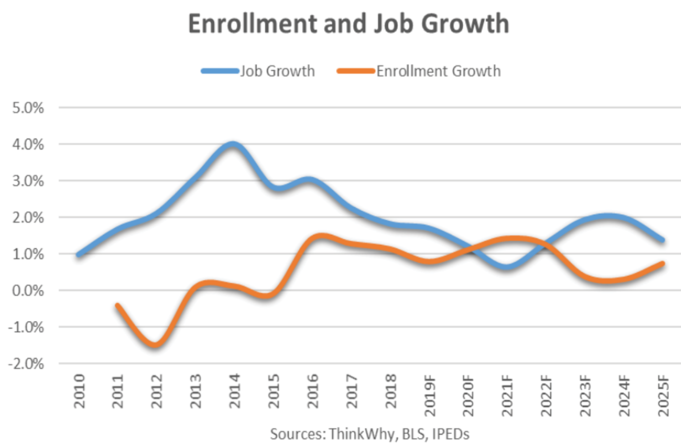
2010-2019 Historical Highlights

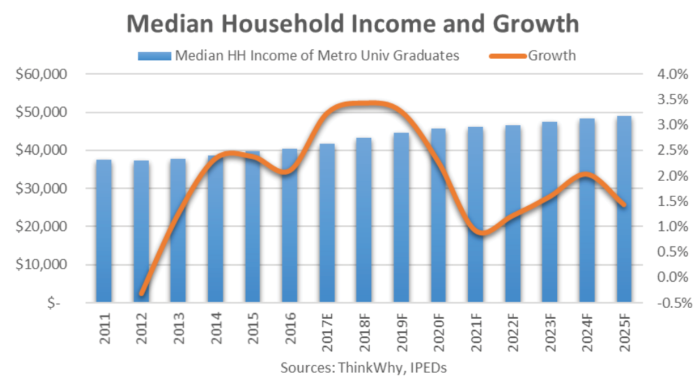
- In 2014, Atlanta job growth peaked at 4.0 percent, with mainly net domestic migration to the area driving this growth.
- Domestic and international migration have accounted for over 57 percent of Atlanta's overall population growth in 2018; moving to Atlanta for employment has been a popular trend.
- The population of 25- to 54-year-olds grew by an average of 1.0 percent annually from 2014 to2018.

2020-2025 Forecast: Net Migration

- Expect 1.3 percent population growth through 2025, which will come from net domestic migration from rural and high-cost metropolitan areas and international migration.
- Recruiting from high-cost cities will prove to be a wise strategy for Atlanta businesses. For businesses that must recruit locally, Atlanta's university talent is also a good option.
- Following the national trend, Atlanta's percentage share of working age population growth is decelerating, and older populations are increasing. Strategies to incorporate older workers into businesses, alongside university talent, will be beneficial for business productivity and knowledge transfer.

Education





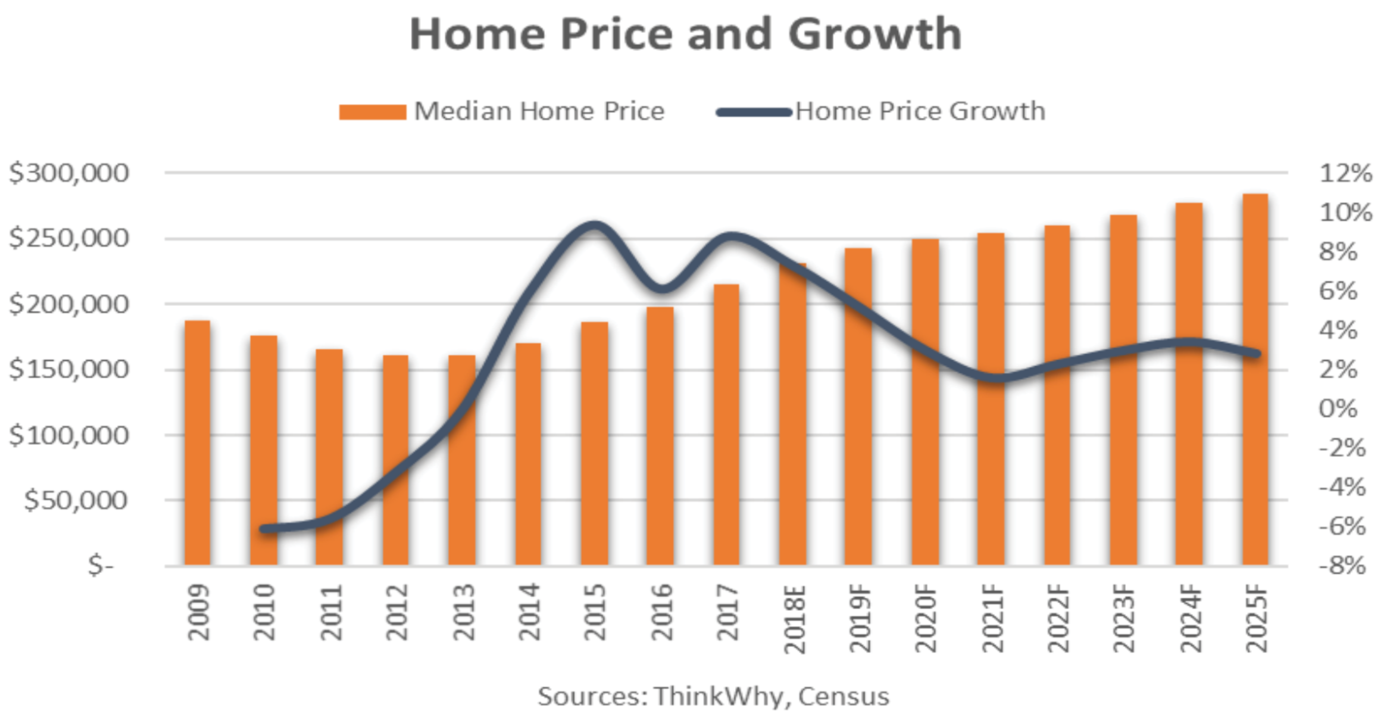
2010-2019 Historical Highlights

- Residents with a bachelor's degree or higher are expected to reach 34.6 percent in 2019.
- Annual average enrollment growth has slowed for the area. Enrollment growth was only 0.3 percent from 2011 to 2018 due to robust job growth. However, enrollment growth started to increase by 1.3 percent from 2016 to 2018. During the remainder of 2019, expect the growth rate to slow to 0.8 percent.
- Median household income for area graduates was a little higher than $43,000 in 2018. Within this population, expect a 3.3 percent growth in 2019.

2020-2025 Forecast: Education

- Enrollment growth is expected to increase by 0.9 percent from 2020 to 2025. During this time, area universities will provide close to 180,000 people with associate degrees or higher.
- For graduates of Atlanta's higher education institutions, expect an annual average growth of 1.6 percent from 2020 to 2025, with median household income reaching just over $49,000.
- Businesses can expect reasonably affordable talent from universities in Atlanta, which are known for their top engineering and STEM graduates.

Cost of Living



Atlanta's home price growth outpaced the national rate by 170 basis points during the last five years. As the metro area becomes more attractive, home affordability will decrease. Employers will find it easier to attract workers from more expensive cities, rather than those from less-expensive suburbs.

- Atlanta is still one of the most affordable metros in the country. The low cost of living remains a competitive advantage for companies that seek to recruit workers.
- Employees in the area enjoy lower costs for housing, groceries, transportation and healthcare. The region's relatively low housing prices provide a strong incentive for employees to migrate to the area.
- Home prices are expected to grow by an annual average of 2.7 percent from 2020 to 2025, reaching close to $285,000.

Area Callouts

- Atlanta ranks number one for 2019 in Metro Area for Economic Growth Potential (among large metro areas), according to Business Facilities magazine.
- WalletHub ranks Atlanta number two for Highest Quality Engineering Universities, number one for Highest Availability of Internships and number seven for STEM Jobs and Professional Opportunities.
- CBRE (Coldwell Banker Richard Ellis) ranks Atlanta the number seven market for Tech Labor Pool Growth Rate.

Chicago

2020 Labor Market Outlook

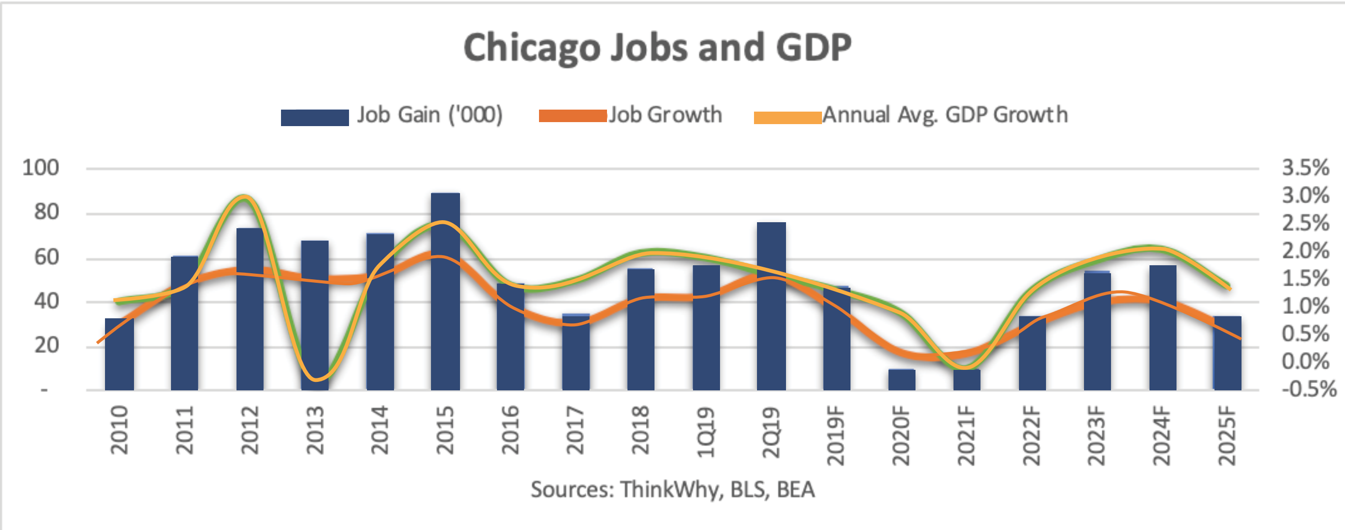
Overview

Despite concern over crime rates and its share of political turmoil, the job gain trend in Chicago is healthy.

The city leads many other major metropolitan areas in job gains and all industries are reporting short-term increases. The long-term outlook for Chicago will involve deceleration of job growth in 2020 and 2021.

Due to the city's sheer size and industry diversity, a rebound will be strong from 2022 to 2025. With large net migration losses in the area, employers will be well-served to target new graduates from the area's universities.

Jobs and GDP



2010-2019 Historical Highlights

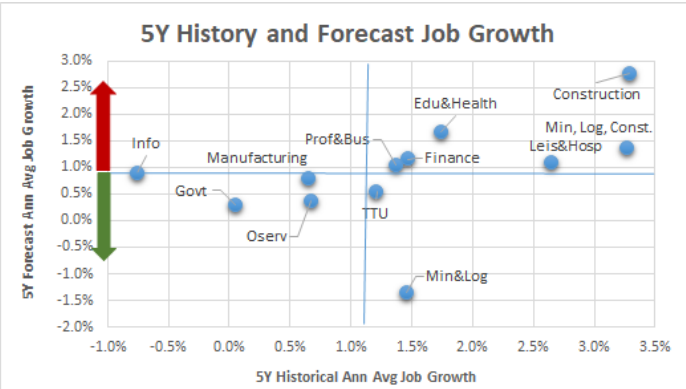
- Chicago produced an average of 61,000 jobs annually from 2010 through Q2 2019.
- The metro area's unemployment rate averaged 6.3 percent from 2010 through Q2 2019.
- Compared to the last five years, job growth in Chicago increased 30 basis points in Q2 2019.
- Chicago's wage growth increased by 3.1 percent during the first half of 2019, which is 50 basis points higher than the historical average.

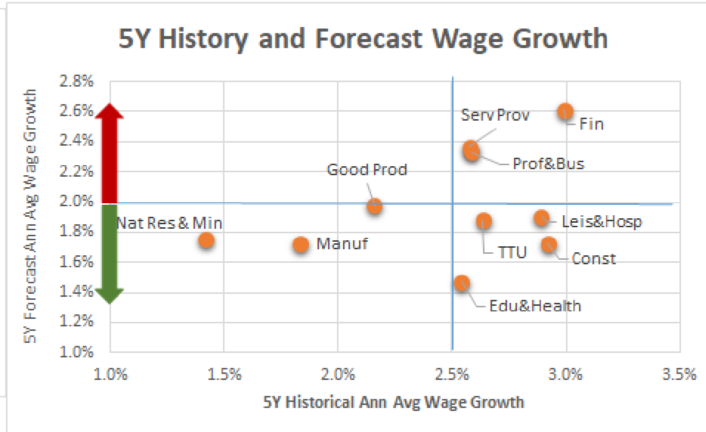
2020-2025 Forecast: Industry Growth

- **Chicago job growth forecast:**
  - **2020:** deceleration to 0.2 percent
  - **2021:** job growth will hold at 0.2 percent
  - **2022-2025:** annual average job gains of 0.9 percent (45,000 jobs)
- **Chicago wage growth forecast:**
  - **2020:** 3.1 percent, on average
  - **2021:** wage growth will bottom out at 1.8 percent
  - **2022-2025:** 2.6 percent, on average

Industry

Job Growth and Wage Growth





2010-2019 Historical Highlights

- Trade, Transportation and Utilities leads the share of jobs in the metro area.
- Leading the metro area for the past five years, Construction had job growth of 3.3 percent.
- The Information industry has job loss of -0.8 percent.
- The Mining, Logging and Construction and Leisure and Hospitality industries contributed to job growth in the metro area with 3.3 percent and 2.6 percent job growth, respectively, during the last five years.
- Wage growth in Finance increased 3.0 percent over the past five years

2020-2025 Forecast: Industry Growth

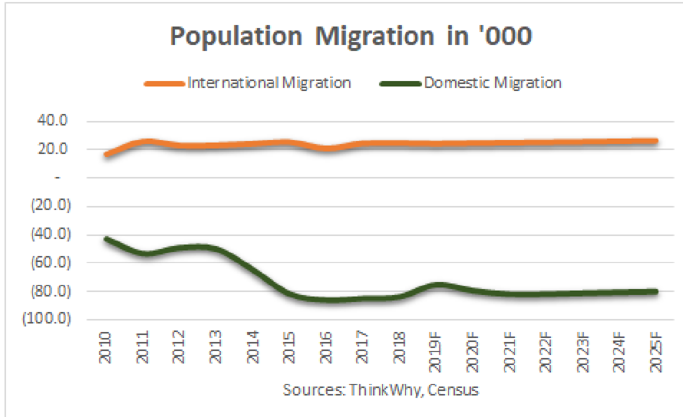
Expect five-year annual average job growth to remain above the city's average in Construction and Education and Health. For wage growth, expect Finance and Professional and Business Services to beat the area average during the five-year forecast period.

- Average growth in the white-collar job sector will be nominal at 1.0, which is on pace with national job growth.
- Construction is forecasted to lead in blue-collar job growth at 2.8 percent.
- Mining and Logging will see job loss of 1.3 percent over the next five years.
- Industries expected to see mild growth, albeit slower than the national average, in the coming five years are:
  - Information: 0.9%
  - Manufacturing: 0.8%
  - Trade, Transportation and Utilities: 0.5%
  - Other Services: 0.4%
  - Government: 0.3

Net Migration and Population Growth

Population Change by Age Group

	2019F	2025F		Change in Share
<18	22.5%	21.5%	↓	-1.0%
18-24	8.8%	8.4%	↓	-0.4%
25-34	14.4%	14.3%	↓	-0.1%
35-44	13.1%	12.8%	↓	-0.4%
45-54	13.0%	12.6%	↓	-0.5%
55-64	12.9%	13.2%	→	0.3%
>64	15.2%	17.2%	↑	2.0%



2010-2019 Historical Highlights

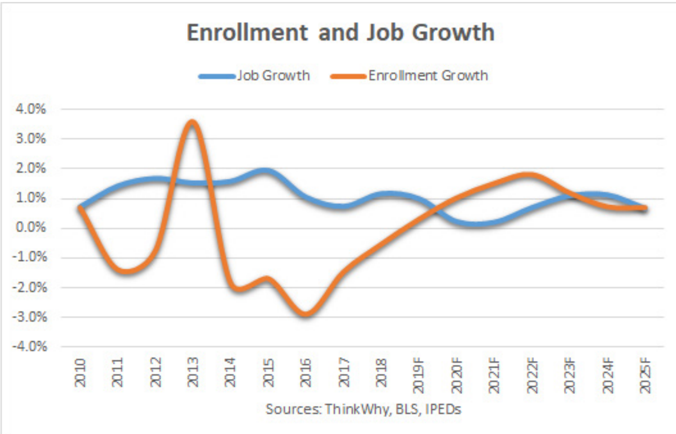
- From 2010 to 2018, the only population growth to occur was with 55 to 64- and >64-year-olds.
- Domestic migration in Chicago has been negative since 2017, losing 22,000 residents from 2017 to 2018, the largest population loss when compared to the 10 largest cities in the U.S. (For comparison, Los Angeles lost approximately 7,000 residents.)

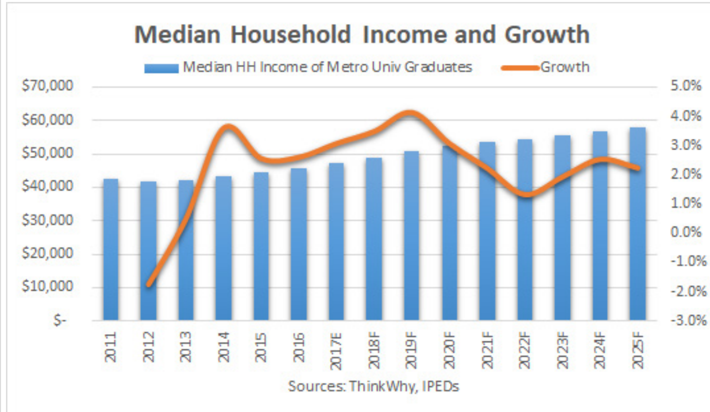
2020-2025 Forecast: Net Migration and Population Growth

The majority of overall population growth will come from international migration. Decreases in domestic migration to the city will increase hiring challenges as prime age workers leave the area.

- Companies will likely need to use strong recruiting tactics to bring talent into the city, particularly prime-aged workers.
- Unemployed males will outpace unemployed females in the city. Expect 5.4 percent average unemployment among males in the city, compared to the national average of 3.9 percent.

Education





2010-2019 Historical Highlights

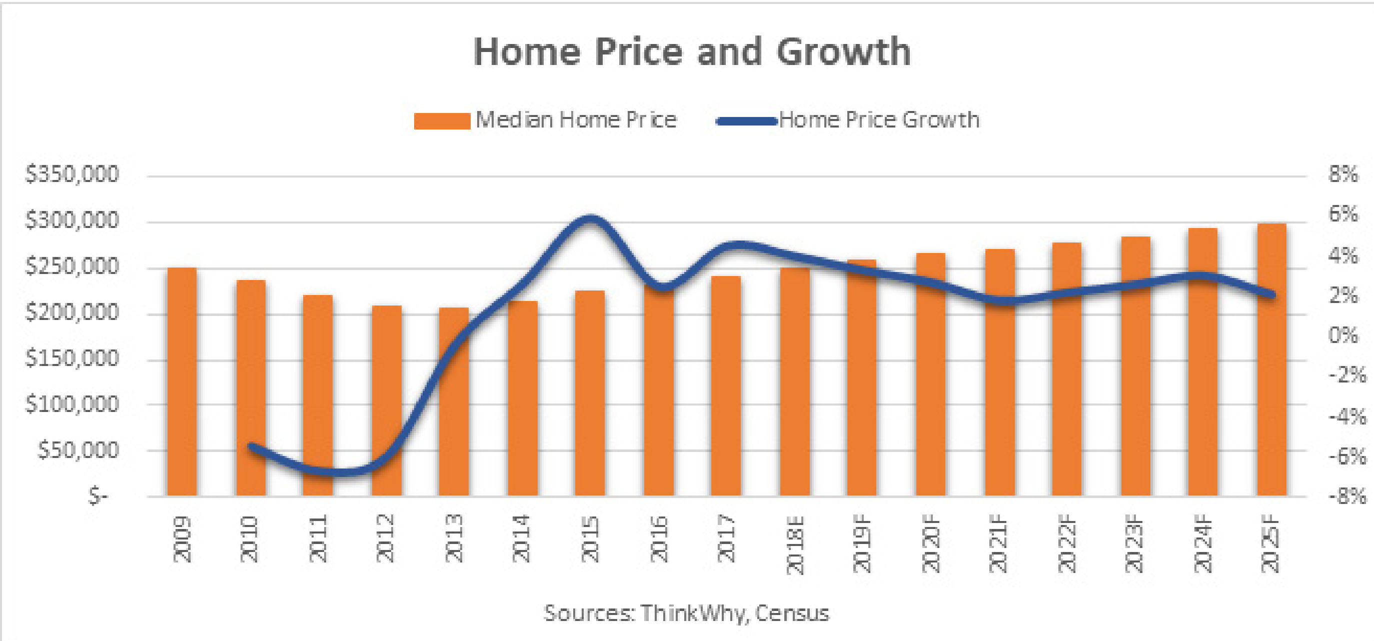
- Chicago's residents with a bachelor's degree or higher are expected to reach 35 percent in 2019.
- Annual average enrollment growth in higher educational institutions dropped 0.7 percent from 2010 to 2018. During 2019, expect the growth rate to increase 0.3 percent.
- Median household income of the area's graduates was approximately $52,000.

2020-2025 Forecast: Net Migration

As net migration and job growth slows, expect enrollment growth to increase. With top-rated schools in the area, companies should consider working with universities to source talent directly from schools.

- Enrollment growth is expected to increase by 1.2 percent from 2020 to 2025.
- Expect an annual average growth rate of 2.0 percent from 2020 to 2025, with median household income reaching approximately $57,000.

Cost of Living



Home prices in Chicago have remained relatively flat for the past several years. Annual average home prices from 2010 to 2014 dropped 3.2 percent. Annual average home prices from 2015 to 2018 rebounded with 4.2 percent growth.

- For a large metropolitan area, Chicago is still considered an affordable city. Estimated median home prices in 2025 are expected to reach $297,000.
- The Housing Affordability Index (AHI) for Chicago is 168.1, indicating a family earning a median income has adequate income to afford a median-priced home.

Area Callouts

- University of Chicago and Northwestern University were listed among the top 10 universities in the country by U.S. News & World Report
- The 20-acre Obama Presidential Center will open in 2021, on the south side of Chicago, for which thousands of jobs will be in demand to construct and manage the facilities.

Dallas

2020 Labor Market Outlook

Overview

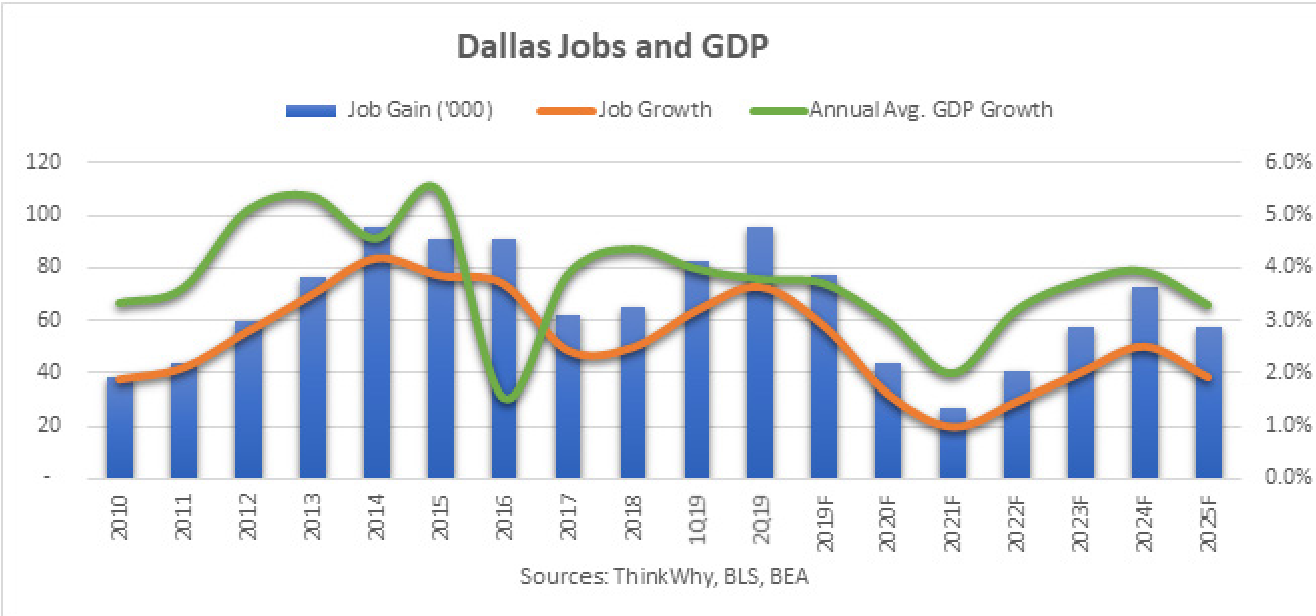
Since the Great Recession, the Dallas economy has been booming as a top five job-producing metro. The lower cost of living and conducting business attracts companies and people to the area.

The Dallas job market has become exceptionally tight over the past few years, with strong job growth and as unemployment rates surpass record lows. The tight market has increased workers' bargaining power, which combined with inflated labor costs, has reduced companies' abilities to expand.

When labor scarcity becomes prevalent across industries, it can constrain economic growth. It can also provide a stronger incentive for businesses to boost investments in labor-saving technologies.

The management of a worker shortage is the biggest hurdle the Dallas job market faces.

Jobs and GDP



2010-2019 Historical Highlights

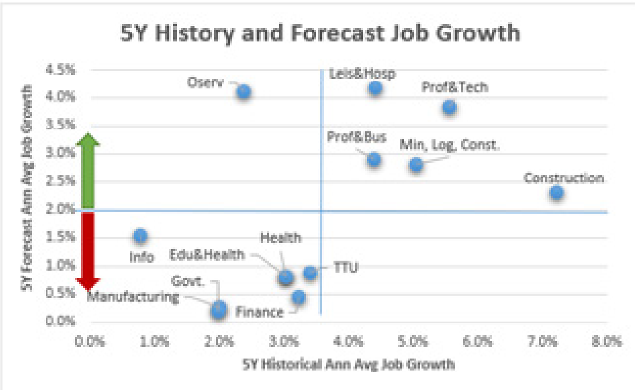
- Dallas produced an average of 73,000 jobs annually from 2010 through Q2 2019.
- The Dallas unemployment rate averaged 4.7 percent, with its lowest rate of 2.9 percent seen in Q2 2019.
- Compared to the last five years, job growth in Dallas increased by 40 basis points in Q2 2019.
- As a result of historically low unemployment, Dallas wage growth increased by 3.0 percent during the first half of 2019, which is 20 basis points higher than the historical average.

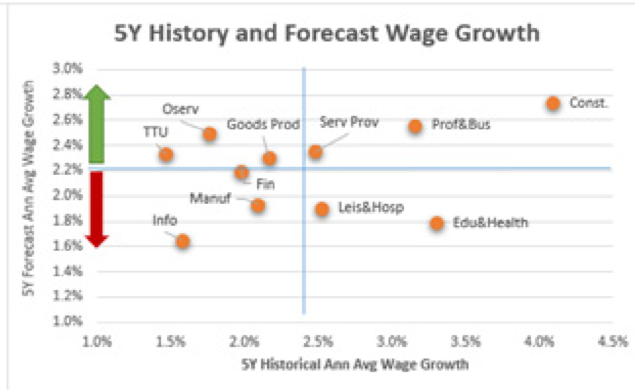
2020-2025 Forecast: Job & Wage Growth

- **Dallas job growth forecast:**
  - **2020:** expect deceleration
  - **2021:** job growth will bottom out at 1 percent
  - **2022-2025:** annual average job gains of 2 percent (57,000 jobs)
- **Dallas wage growth forecast:**
  - **2021:** 3.0 percent on average
  - **2021:** wage growth will bottom out at 1.7 percent
  - **2022-2025:** 2.5 percent on average

Industry

Job Growth and Wage Growth





2010-2019 Historical Highlights

- Professional and Business Services leads the total share of white-collar jobs in Dallas.
- Tech jobs have led job growth for the past five years, growing 5.6 percent.
- Information was the slowest sector to produce jobs during the last five years.
- Mining, Logging and Construction and Leisure and Hospitality contributed to blue-collar job growth in Dallas, with five-year historical growth averages of 5.1 percent and 4.4 percent, respectively.
- Wage growth in Construction, Education and Healthcare Services and Professional and Business Services beat overall national wage growth during the last five years.

2020-2025 Forecast: Industry Growth

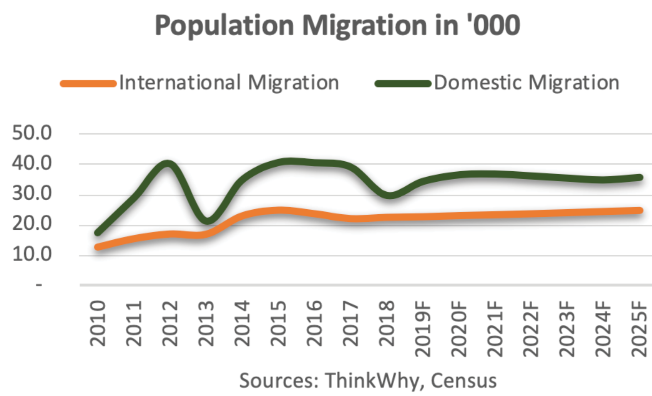
Expect five-year annual average job growth to remain above the national average in Professional and Business Services, Leisure and Hospitality and Construction. Expect five-year annual average wage growth to remain above the national average in Information, Leisure and Hospitality and Finance.

- Tech jobs are expected to continue driving area growth during the next five years, producing average annual job growth of 3.8 percent.
- Leisure and Hospitality and Construction are forecasted to lead blue collar industries with 4.2 percent and 2.3 percent job growth, respectively. Although Construction is expected to grow, it will see the largest magnitude of job growth deceleration (490 basis points) followed by Finance (280 basis points) and Trade, Transportation and Utilities (225 basis points) during the next five years.
- The magnitude of growth for the Information industry is expected to increase during the next five years by 70 basis points.
- Tech sector annual average wage growth is forecasted to be 2.4 percent during the five-year outlook, slightly below the national average

Net Migration and Population Growth

Population Change by Age Group

	2019F	2025F		Change in Share
<18	25.7%	24.3%	↓	-1.4%
18-24	8.9%	8.4%	↓	-0.5%
25-34	15.1%	15.1%	→	0.1%
35-44	14.2%	13.7%	↓	-0.5%
45-54	13.4%	13.0%	↓	-0.4%
55-64	11.4%	12.3%	↑	0.9%
>64	11.3%	13.2%	↑	1.9%



2010-2019 Historical Highlights

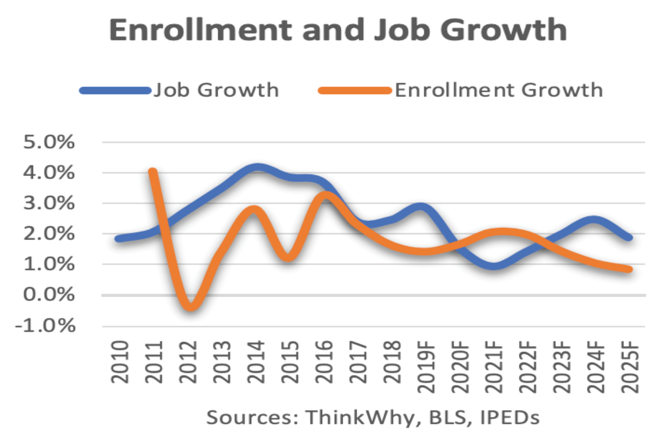
- In 2014, Dallas exceeded its pre-recession employment peak, with migration to the area driving growth.
- Domestic and international migration have accounted for nearly half of overall Dallas population growth in 2018, reflecting the trend of moving to Dallas for employment reasons.
- The population of 25- to 54-year-olds grew by an average of 1.8 percent annually from 2014-2018, increasing the supply of prime-age workers.

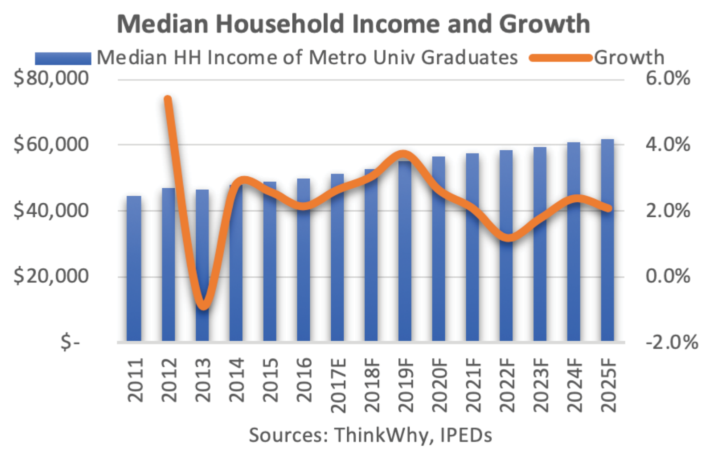
2020-2025 Forecast: Net Migration

Data from the Texas Demographic Center suggest that through 2030, most of the state's overall population growth will come from a combination of domestic and international migration. As a driver of population growth in the U.S., natural increase (the number of births relative to deaths) is in decline, and Dallas will not escape this trend.

- Net domestic and international migration in Dallas is expected to slow compared to that in recent history. Employers will largely recruit from existing talent pools.
- The need for job seekers to incur the costs of moving to Dallas for work has diminished with the rise of healthy employment opportunities throughout the U.S. This trend may reduce the local talent supply and increase the need to entertain remote opportunities.
- Expect 2.0 percent population growth through 2025 to come from domestic and international migration, specifically in older populations. Consider older workers to fill roles more quickly.

Education





2010-2019 Historical Highlights

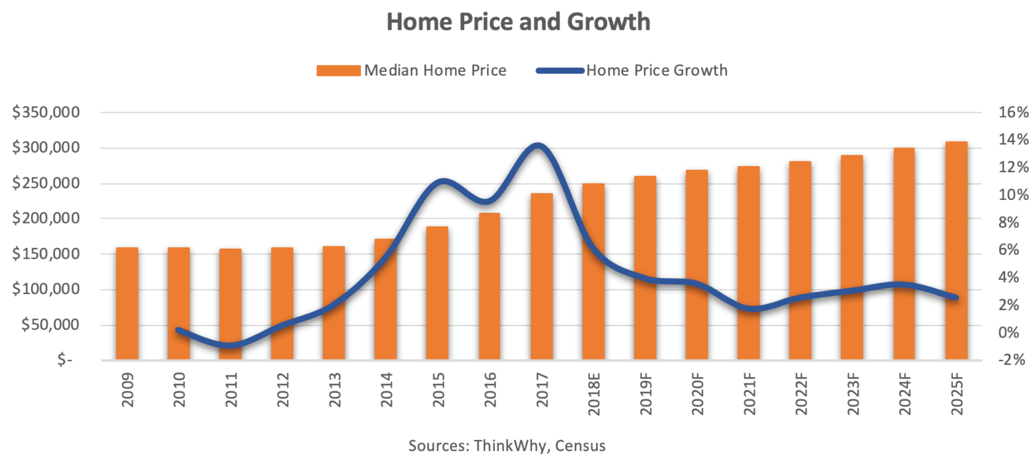
- Educated residents with a bachelor's degree or higher should reach 34 percent in 2019.
- Annual average enrollment growth in higher educational institutions grew by 2.1 percent from 2011 to 2018. During 2019, expect the growth rate to simmer down to 1.4 percent.
- Median household income of the area's graduates was approximately $53,000. Within this population, expect a 3.8 percent growth rate in 2019.

2020-2025 Forecast: Education

In recent years, the importance of a college degree has been re-evaluated. Companies are increasingly hiring from alternative programs and self-taught talent pools. However, unemployment and wage-level differences between those with and without a college degree still tilts in the favor of those with a college degree.

- Enrollment growth is expected to increase by 1.5 percent from 2020 to 2025. As job growth slows, expect acceleration in enrollment as some students forego entering the job market. Consider building recruitment relationships with universities in the metro area.
- Expect an annual average enrollment growth of 2.0 percent from 2020 to 2025, with median household income of university graduates reaching approximately $62,000.

Cost of Living



Due to the affordability of homes in Dallas, home-price growth during the last five years has outpaced the national growth rate by 230 basis points. As the area becomes more attractive, home affordability will continue to decrease. Going forward, businesses must keep an eye on area costs if they want to continue attracting workers.

- Dallas is still one of the most affordable major metropolitan cities in the country. The low cost of living remains a competitive advantage for companies as they seek to recruit workers.
- The Housing Affordability Index (HAI) for Dallas is 157.9, indicating families earning the median income can adequately afford a median-priced home.
- Employees in the area enjoy lower costs for housing, groceries, transportation and healthcare. The region's relatively low housing prices—approximately 50 percent lower than that of many other major metropolitan areas—provide a strong incentive for employees to migrate to Dallas.

Area Callouts

- Dallas's central location allows it to function as a logistics and distribution hub, giving businesses an edge by putting key markets within easy reach of both truck and rail shipping.
- According to Forbes, Texas ranks third as a top state for businesses.
- Employment, income and economic forecasts for the Lone Star State all rate among the top four in the nation. Texas is also a leader in startup activity and venture capital investment, according to Forbes.
- Texas has been the number one state for corporate relocations and expansions for six straight years, according to Site Selection magazine.

Denver

2020 Labor Market Outlook

Overview

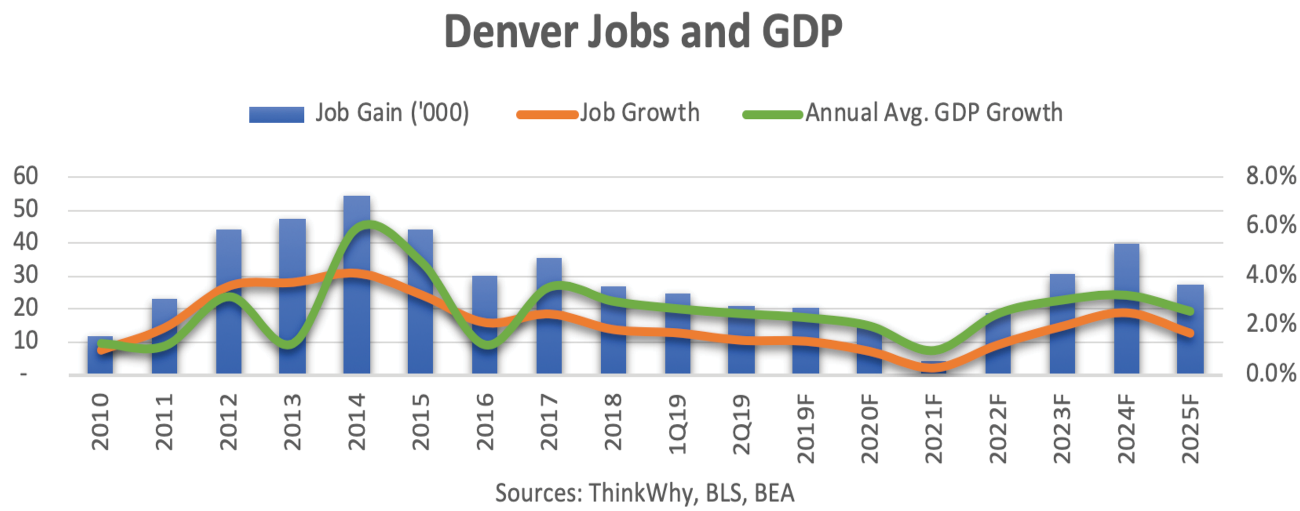
In recent years, Denver has moved from growth mode to stabilization. As with Los Angeles, higher wages are becoming the norm for employers and higher costs of living for employees.

Costs for talent is increasing in the area, indicative of a skill shortage.

Denver remains one of the most educated areas of the country, which aligns with the needs of employers. Denver is filled with industries that require higher skill levels, including Aviation, Bioscience, Energy and IT.

To keep employees, area employers can aim to retain talent through education stipends and housing-related incentives.

Jobs and GDP



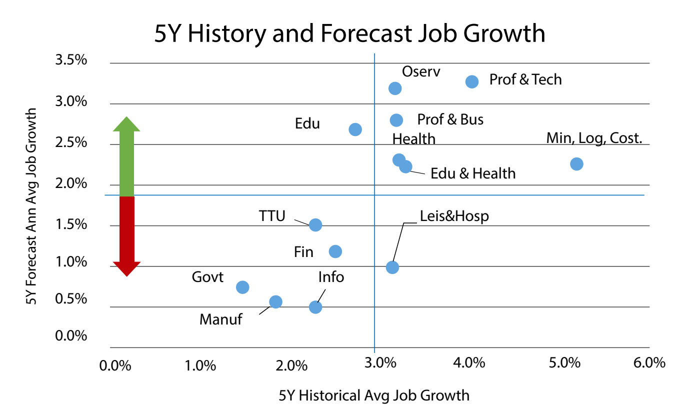
2010-2019 Historical Highlights

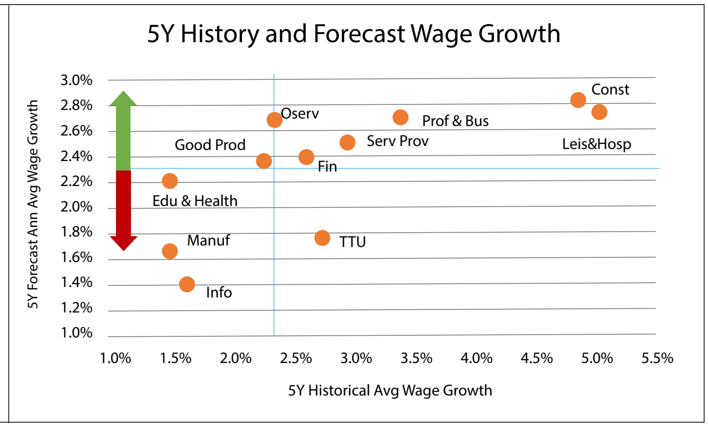
- Denver produced an average of 33,000 jobs annually from 2010 through Q2 2019, with job growth of 1.3 percent.
- The metro area unemployment rate remained low at 4.7 percent during the same time period, with a period low of 2.9 percent in Q2 2019.
- Compared to the last five years, job growth in the Denver metro area decreased by approximately 130 basis points in Q2 2019.
- Wage growth increased 8.2 percent during the first half of 2019, higher than the historical average.

2020-2025 Forecast: Industry Growth

- **Denver job growth forecast:**
  - **2020:** expect deceleration
  - **2021:** job growth will bottom out at 0.3 percent
  - **2022-2025:** annual average job gains of 1.8 percent (29,000 jobs)
- **Denver wage growth forecast:**
  - **2020:** 3.1 percent on average
  - **2021:** wage growth will bottom out at 1.8 percent
  - **2022-2025:** 2.7 percent on average

Industry
Job Growth and Wage Growth





2010-2019 Historical Highlights

- Professional and Business Services leads the share of white-collar jobs in Denver.
- Tech jobs have led white-collar job growth for the past five years, growing 4.0 percent.
- Mining, Logging and Construction led blue-collar job growth for the past five years, with gains of 5.1 percent.
- Construction and Leisure and Hospitality wage growth beat area-average wage growth during the last five years.

2020-2025 Forecast: Industry Growth

Expect five-year annual average job growth to remain above the national average in Professional and Business Services, Education and Health and Other Services. Expect five-year annual average wage growth to remain above the national average in Construction and Leisure and Hospitality.

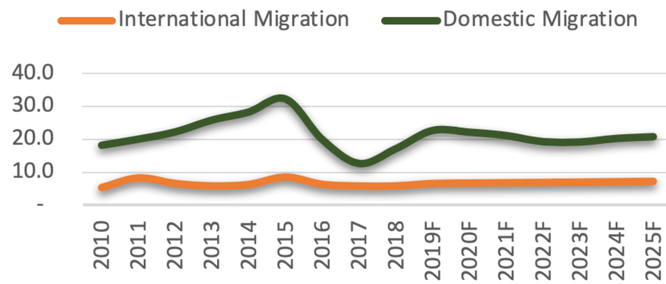
- Tech jobs are expected to continue driving area growth during the next five years, producing average annual job growth of 3.3 percent.
- Manufacturing and Leisure and Hospitality will see the slowest job growth, producing growth of 0.5 percent and 0.9 percent, respectively.
- Government will continue to be the slowest job-producing sector in the area.
- Manufacturing is expected to see the largest magnitude of decline (290 basis points), followed by Leisure and Hospitality (220 basis points) and Information (180 basis points) during the next five years. Despite the slowdown, job growth in these industries is expected to remain positive during the forecast period.
- Construction will see the largest forecasted wage growth at 2.9 percent, followed closely by Other Services and Professional and Business Services, both at 2.7 percent growth.

Net Migration and Population Growth

Population Change by Age Group

	2019F	2025F		Change in Share
<18	22.1%	20.5%	↓	-1.6%
18-24	7.7%	7.5%	→	-0.2%
25-34	17.1%	18.1%	↑	1.0%
35-44	14.8%	14.8%	→	0.0%
45-54	13.0%	12.3%	↓	-0.7%
55-64	12.1%	12.0%	→	-0.1%
<64	13.2%	14.7%	↑	1.6%

Population Migration in '000



Sources: ThinkWhy, Census

2010-2019 Historical Highlights

The main source of change in the area's population is domestic and international migration. Each year between 2011 and 2016, approximately 64,000 people moved into Colorado, consisting largely of adults aged 20-29 years old.

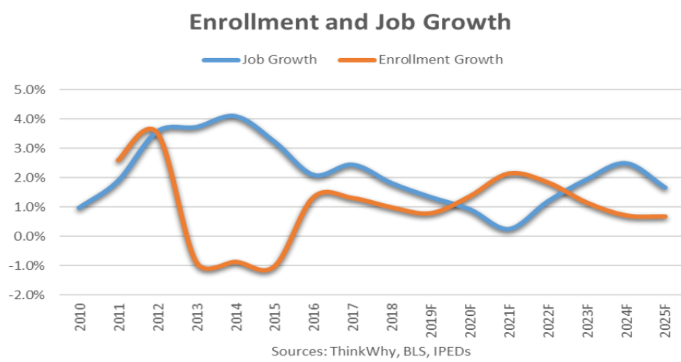
- Historical population growth in the >64 age range averaged 4.4 percent annually.
- The population of 25- to 54-year-olds, which constitutes prime working-age adults, grew by an average of 1.8 percent annually from 2014-2018.

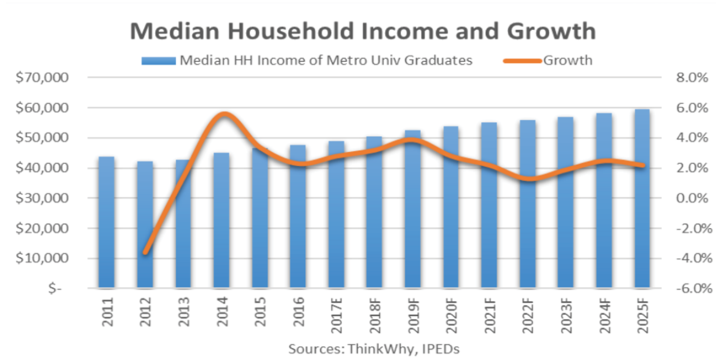
2020-2025 Forecast: Net Migration and Population Growth

Colorado's population is continuing to age. As the >64 demographic moves in and baby boomers continue to retire in the area, housing, labor and spending will change. There will be a greater number of retirees inserting money into goods, services and housing. An aging population will impact labor demand in the Healthcare sector as well.

- Net domestic and international migration in Denver is expected to increase compared to the most recent five-year period.
- Expect 1.7 percent population growth through 2025, which will come from net domestic and international migration.

Education





2010-2019 Historical Highlights

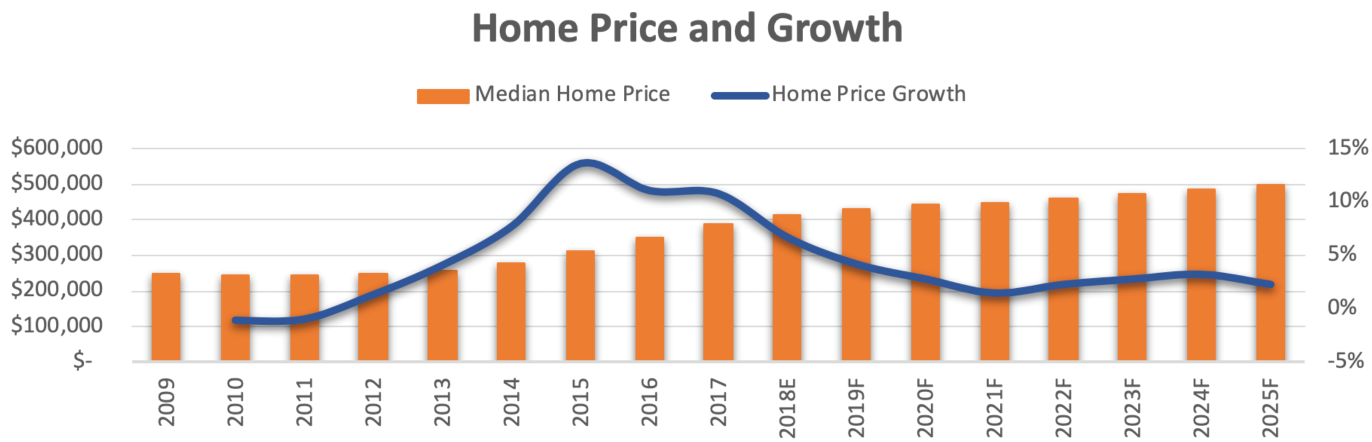
- Residents with a bachelor's degree or higher are expected to reach close to 41.0 percent in 2019, one of the highest in the country.
- Average annual enrollment growth in Denver grew by 0.9 percent from 2011 to 2018. During 2019, expect the growth rate to remain flat at 0.8 percent.
- Median household income for area graduates was approximately $53,000. Within this population, expect 3.8 percent wage growth in 2019.

2020-2025 Forecast: Education

In recent years, the importance of a college degree has been re-evaluated. Companies are increasingly hiring from alternative programs, several of which are located in Denver, increasing the number of educated workers in the area.

- Enrollment growth is expected to increase at an average annual rate of 1.3 percent from 2020 to 2025.
- By 2025, average annual earnings for Denver's educated population will rise to approximately $63,000 and $83,000 for respective bachelor's and graduate degree holders.

Cost of Living



Sources: ThinkWhy, Census

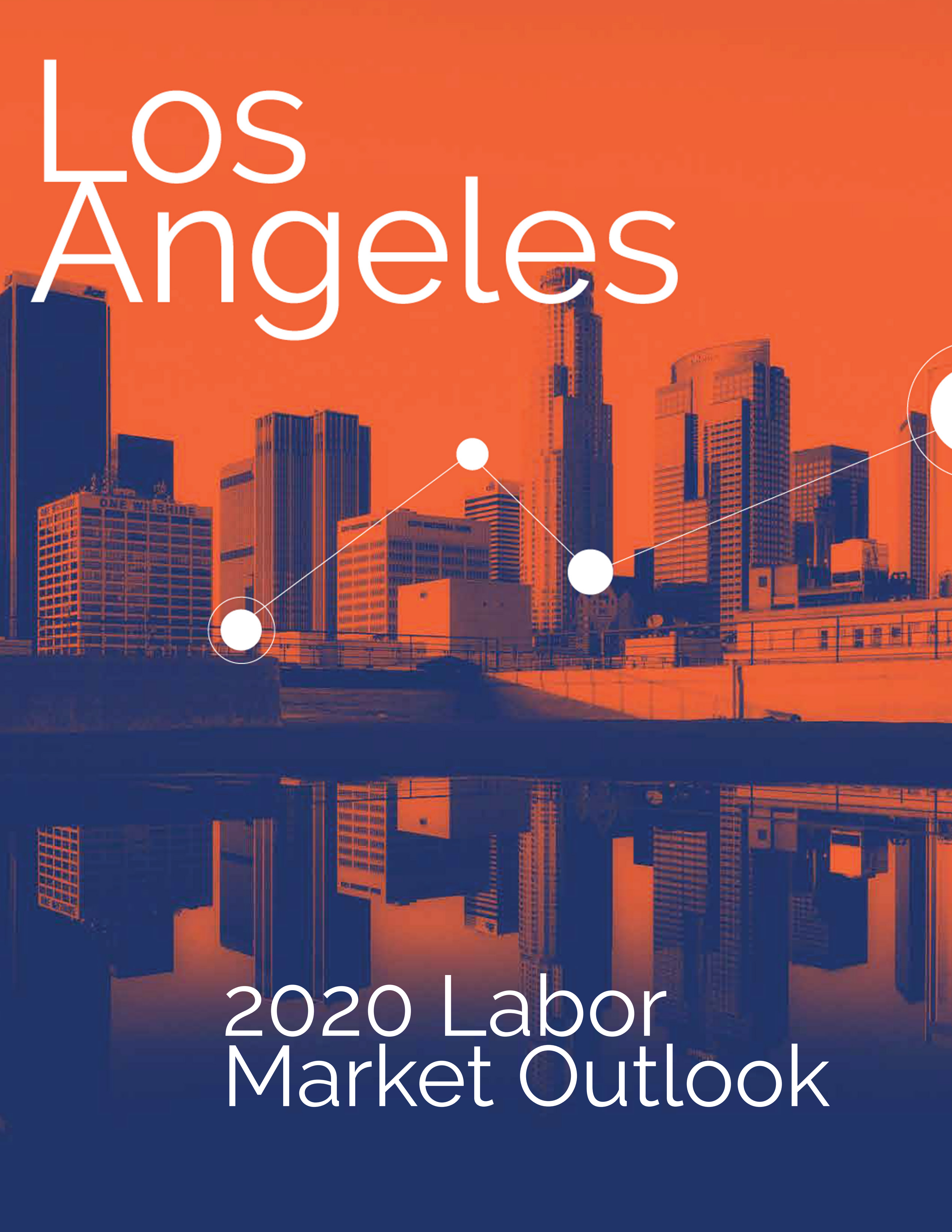
Denver home price growth during the last five years has outpaced the national average. The median price for homes is $400,000, which is relatively unaffordable for the 20- to 29-year-olds moving into the area. Businesses may want to offer alternative benefits, such as down payment assistance, to recruit and retain young talent wanting to put down roots in the area.

- Median home prices in Denver will hover around the $500,000 mark by 2025. Recruiting executive talent may involve challenging housing cost conversations, given the high prices.
- Although grocery, utility and healthcare costs tend to be reasonable, transportation and housing costs tend to outpace those of the nation. This may keep potential employees from coming into the city. Employees from nearby, less costly cities may look to travel into Denver for work.
- The Housing Affordability Index (HAI) for Denver is 109.2, which means a family earning the median income has just enough to afford a median-priced home.

Area Callouts

- Denver ranks as the number one place for business and careers, according to Forbes.
- Denver ranks as the number two place to live according to U.S. News & World Report.
- Denver is 75 minutes from six different ski areas and one of the country's largest national parks, increasing the lifestyle draw for potential employees.

Los Angeles



2020 Labor Market Outlook

Overview

The Los Angeles job market has become exceptionally tight over the past few years as unemployment rates surpass record lows. As a major port and hub for international migration, Los Angeles is a strong city with a weakening economy.

Los Angeles will experience faster deceleration and positive job gains will occur during a slowdown in 2021.

The next five years will be challenging for businesses in the metro area. To combat steep housing costs, compensation packages will remain the biggest hurdle for this job market.

L.A. will continue to lose businesses and population to other smaller metro areas due to high taxes, regulations and cost of living. However, as a larger international hub, and a city with two major ports and diverse industries, Los Angeles is well-equipped for a strong rebound, if companies can weather the next slowdown.

Jobs and GDP

2010-2019 Historical Highlights

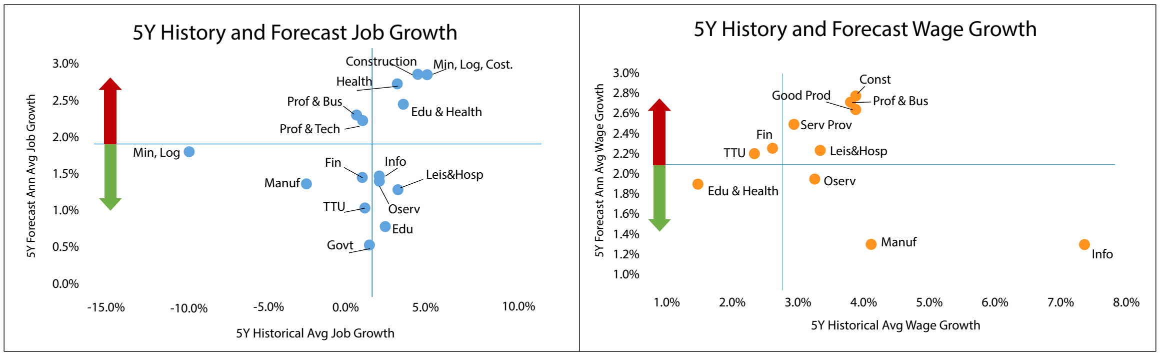
- Los Angeles produced an average of 64,000 jobs annually from 2010 through Q2 2019.
- The unemployment rate remained moderately low at 7.2 percent as the area has a naturally high rate of unemployment.
- Compared to the last five years, job growth decreased by approximately 40 basis points in Q2 2019.
- Area wage growth increased by a robust 8.1 percent during the first half of 2019, which is 500 basis points higher than the historical average from 2014-20218.

2020-2025 Forecast: Job & Wage Growth

- **Los Angeles job growth forecast:**
  - **2020:** expect deceleration to annual average job growth of 0.5 percent or 23,000 jobs
  - **2021:** job growth will bottom out at 0.3 percent or 14,000 jobs
  - **2022-2025:** expect annual average job growth of 1.3 percent or 62,000 jobs
- **Los Angeles wage growth forecast:**
  - **2020:** 3.5 percent on average, 280 basis points lower than 2019
  - **2021:** wage growth will bottom out at 1.9 percent
  - **2022-2025:** 2.7 percent on average, similar to the historical average

Industry

Job Growth and Wage Growth



2010-2019 Historical Highlights

- Education and Healthcare Services led in share of jobs (18.5 percent), which is dominated by Healthcare Services (15.6 percent).
- Healthcare jobs led the white-collar job growth category and grew by an annual average of 3.2 percent over the last five years.
- Information had a five-year annual average of 2.0 percent job growth but shed jobs by 3.9 percent during the first half of 2019.
- In the white-collar job category, wage growth during the last five years was led by:
  - Information (+7.3%)
  - Professional and Business Services (+4.0%)
  - Finance (+2.7%)
- In the blue-collar job category, wage growth during the last five years was led by:
  - Construction (+4.0%)
  - Leisure and Hospitality (+3.3%)
  - Other Services (+3.1%)

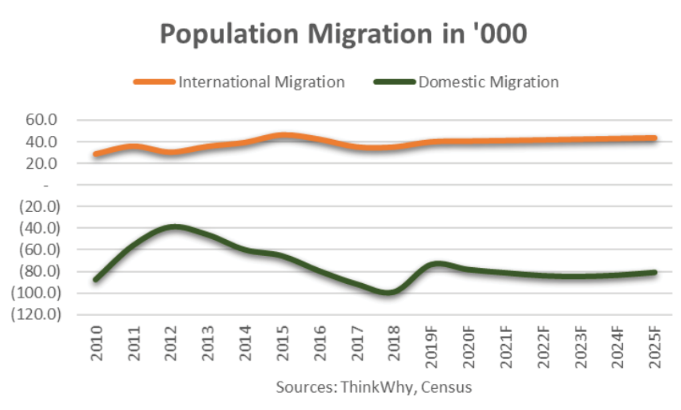
2020-2025 Forecast: Industry Growth

- Construction is expected to lead all industries with 2.8 percent job growth during the next five years.
- Manufacturing is expected to rebound with annual average job growth of 1.4 percent over the next five years.
- Professional and Business Services and Finance are forecasted to lead the job growth category.
- The Leisure and Hospitality and Construction industries are expected to see the biggest deceleration in job growth during the next five years, compared to the preceding five years' growth of 230 and 220 basis points, respectively.
- Among white-collar jobs, wage growth for the Professional and Business Services and Finance industries is expected to beat the metro annual average during the next five years.
- Among blue-collar jobs, the Leisure and Hospitality, Construction and Trade, Transportation and Utilities industries are expected to outperform the metro average wage growth during the next five years.

Net Migration and Population Growth

Population Change by Age Group

	2019F	2025F		Change in Share
<18	21.3%	19.6%	↓	-1.7%
18-24	9.3%	8.9%	→	-0.4%
25-34	16.5%	17.3%	↑	-0.9%
35-44	13.6%	13.1%	→	-0.5%
45-54	13.3%	12.8%	→	-0.5%
55-64	12.1%	12.7%	↑	0.6%
>64	13.8%	15.5%	↑	1.7%



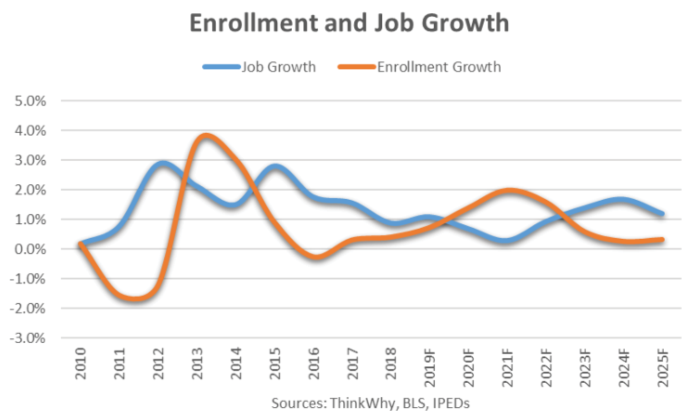
2010-2019 Historical Highlights

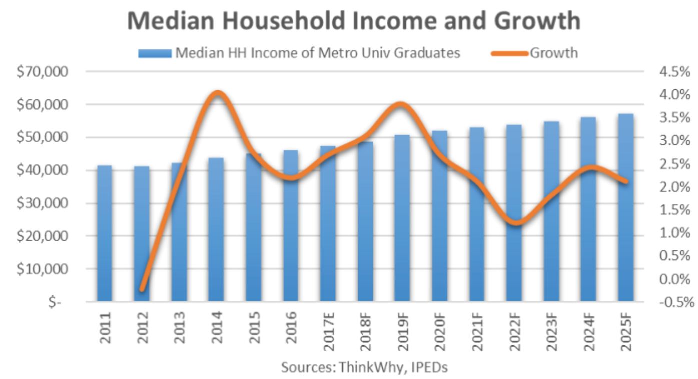
- The unemployment rate hit a record high during the Great Recession years, averaging 10.2 percent from 2010 to 2014.
- From 2014 through 2018, the labor supply was supported by international migration as net domestic migration to the metro area has been negative since 2010.
- The higher cost of living deters many domestic migrants from moving to the city, especially those with lower paying blue-collar jobs.
- The population of 25- to 34-year-olds, a major labor force group, grew by an average of 1.5 percent annually from 2014 to 2018.

2020-2025 Forecast: Net Migration and Population Growth

- Net international migration in Los Angeles is expected to remain healthy at an annual average gain of just over 42,000 people from 2020 to 2025. However, net domestic migration to the metro area is expected to decrease by an annual average of close to 83,000 people during the same period.
- Expect 0.3 percent population growth through 2025 to come from natural increases and international migration.
- Due to the large population base, the loss of population each year has made little impact on economic growth, but if this trend continues and the magnitude of losses increases, the area economy will start seeing the impact.

Education





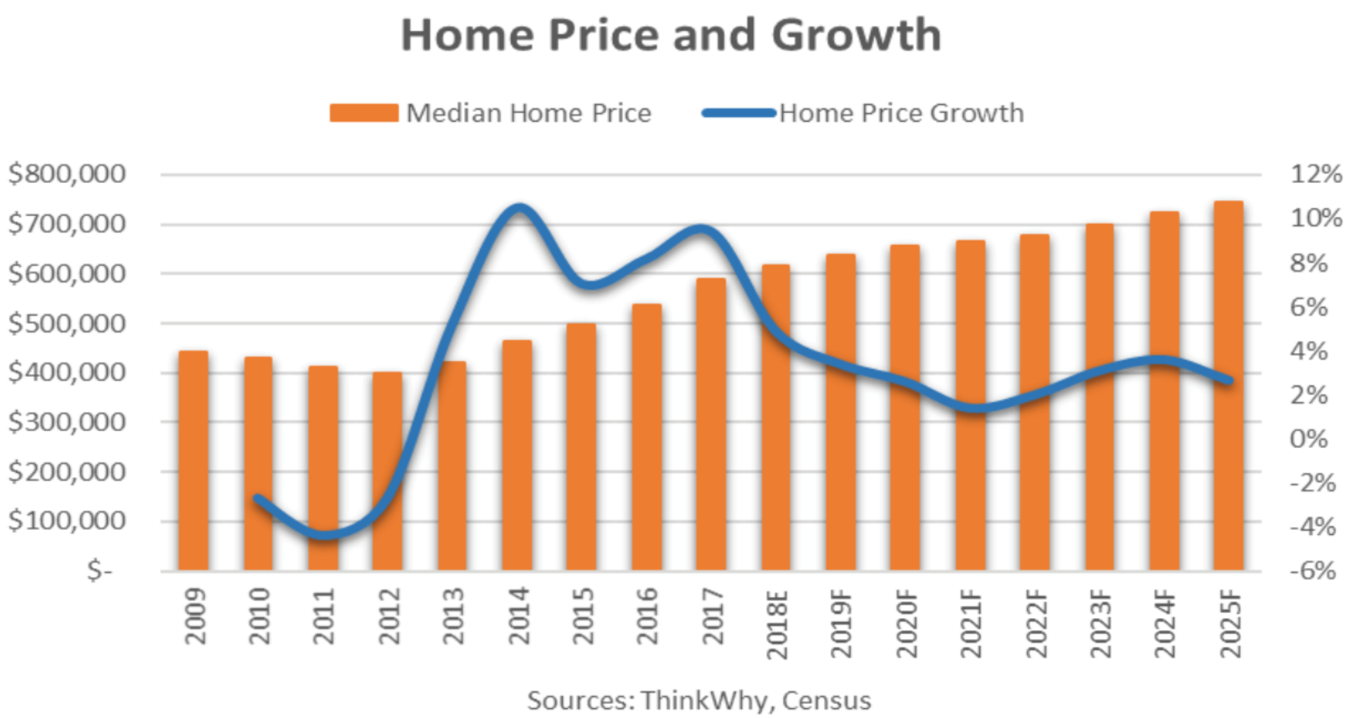
2010-2019 Historical Highlights

- Enrollment and job growth are inversely related. Due to the moderately high job growth since the Great Recession, enrollment growth in the metro area has been flat, averaging 0.6 percent from 2010 to 2018.
- Enrollment growth was robust during 2013 and 2014, averaging 3.3 percent, but flattened out in later years, averaging only 0.3 percent from 2015 to 2018. Expect slightly better enrollment growth of 0.7 percent in 2019.
- The median household income of those graduating from the metro area's universities was close to $49,000 in 2018. Within this population, expect a 3.8 percent growth in 2019.

2020-2025 Forecast: Education

- Enrollment is expected to increase by an annual average of 1.0 percent from 2020 to 2025, picking up especially between 2020 and 2022 as the labor market slows.
- Metro-area universities will provide close to 880,000 people with an associate degree or higher during the same time period.
- For graduates of Los Angeles's higher education institutions, expect an annual average median household income growth of 2.1 percent from 2020 to 2025, reaching just over $57,000 by 2025.

Cost of Living



With Los Angeles's high cost of living, home price growth during the last five years was 220 basis points higher than the national average. Though home prices are lower in Northern California, they are still relatively higher than other metros in the U.S. Going forward, businesses must keep an eye on area cost of living if they want to attract workers.

Area Callouts

- Los Angeles is one of the most unaffordable metros in the country. The high cost of living remains a hurdle for companies that seek to recruit workers.
- Employees in the area enjoy comparatively higher wages, but higher costs for housing, groceries, transportation and healthcare take up a large share of their income. Job seekers should factor in the cost of living when considering compensation packages from prospective employers.
- Average home prices surpassed $617,000 in 2018 and are expected to grow by an annual average rate of 2.6 percent from 2020 to 2025, reaching just over $743,000 by 2025.