

December 2016

# 2016

## Best-Performing Cities

Where America's jobs are  
created and sustained



Ross DeVol, Joe Lee, and Minoli Ratnatunga



**MILKEN INSTITUTE**  
CENTER FOR JOBS AND HUMAN CAPITAL

December 2016

# 2016

## Best-Performing Cities

Where America's jobs are  
created and sustained

Ross DeVol, Joe Lee, and Minoli Ratnatunga



**MILKEN INSTITUTE**  
CENTER FOR JOBS AND HUMAN CAPITAL

## **ABOUT THE MILKEN INSTITUTE**

The Milken Institute is a nonprofit, nonpartisan think tank determined to increase global prosperity by advancing collaborative solutions that widen access to capital, create jobs, and improve health. We do this through independent, data-driven research, action-oriented meetings, and meaningful policy initiatives.

©2016 Milken Institute

This work is made available under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License, available at [creativecommons.org/licenses/by-nc-nd/3.0](https://creativecommons.org/licenses/by-nc-nd/3.0)

# Contents

|   |           |
|---|-----------|
| <b>Executive Summary.....</b>                                   | <b>1</b>  |
| <b>Introduction.....</b>  | <b>5</b>  |
| An Emphasis on Outcomes.....                                    | 6         |
| National Economic Conditions.....                               | 6         |
| Biggest Gainers.....  | 9         |
| Biggest Decliners.....  | 10        |
| <b>Top 25 Best-Performing Large Cities.....</b>                 | <b>12</b> |
| <b>Complete Results: 2015 Best-Performing Large Cities.....</b> | <b>29</b> |
| <b>Top 10 Best-Performing Small Cities.....</b>                 | <b>34</b> |
| <b>Complete Results: 2015 Best-Performing Small Cities.....</b> | <b>41</b> |
| <b>Endnotes.....</b>  | <b>46</b> |
| <b>About the Authors.....</b>                                   | <b>52</b> |



## ON THE WEB

For data on each city, go to [www.best-cities.org](http://www.best-cities.org)



# Executive Summary

Which factors are determining the divergence in economic performance of metropolitan areas around the nation? Why are some areas thriving while others fall back? The Milken Institute's Best-Performing Cities index provides an objective benchmark for examining the underlying factors and identifying unique characteristics of economic growth in metropolitan areas. Our index uses a fact-based set of metrics such as job creation, wage gains, and technology developments to evaluate the relative growth of metropolitan areas. While national and international patterns affect near-term performance, and to some extent are beyond a region's control, the top-performing metros have cohesive strategies that allow them to distinguish themselves from others. They offer important lessons that may be adaptable for other localities.

Here are highlights of the 2016 rankings:

- » **San Jose-Sunnyvale-Santa Clara, CA**, repeats as the top-performing large metro in the nation. At the core of the San Jose metro area's success is its ecosystem of innovation and entrepreneurship—premier in the world. Look no further than its wage growth during the latest five-year period for which data are available (2009-2014): It was first in the nation, and that's not even including exercised stock options.
- » Another noteworthy finding was the stability of the top performers compared with 2015. The Top 6 large metros in our 2016 rankings repeated from last year, and the most that any of them shifted was two places. All have major tech sector clusters and high rates of entrepreneurship. In all, 19 of last year's Top 25 metros made the cut in 2016.
- » California secured six of the Top 25 spots among large metros, led by four metros in the **San Francisco Bay Area**. Additionally, two Bay Area metros were in the Top 10 of small metros. This is the premier tech region in the world, with a diversity of industry clusters.
- » Despite Texas' exposure to declines in oil prices and exploration, it managed to have two metros, **Austin-Round Rock** and **Dallas-Plano-Irving**, in the Top 5 and three in the Top 25.
- » We are seeing the return of more traditional regional growth patterns in the wake of the Great Recession: Only one of the Top 25 large metros, No. 22, **Grand Rapids-Wyoming, MI**, was outside the Southeast, Southwest, or West.
- » **Bend-Redmond, OR**, became the top-performing small metro in the nation. A growing university presence is underpinning strong high-tech job growth, and the metro benefits from low costs and plenty of recreational opportunities. It is also being recognized for developing expertise in drone technology.

Changes in U.S. macroeconomic growth patterns and international developments are exerting a significant influence on metropolitan areas' economic fortunes. However, metros with competitive advantages in professional and technical services are experiencing the most robust advances. This includes a broad array of technology services sectors, such as scientific research and development; architecture and engineering; computer systems design and related services; specialized design; and technical consulting. Metros with a high concentration of these tech services and strong climates for entrepreneurship are among the leaders in our 2016 Best-Performing Cities.

A key source of weakness around the nation has been the sustained collapse in oil prices, which has caused a massive retrenchment in shale oil exploration activity and overall drilling investment. Regions that experienced a burst of economic growth from 2010 through 2014 amid high oil prices and shale oil drilling exploration have seen a dramatic deceleration since then, with several experiencing declines in employment. Even Houston, the top oil and gas cluster in the nation, while not a site of shale-related exploration, has experienced a significant economic slowdown because of the energy industry's high interdependence.

Fortunately, there are several countervailing sources of strength for the U.S. economy, among them accelerating housing and consumer markets, partly due to declining gasoline prices, low interest rates, strong job gains, and better wage growth. Housing market activity has experienced the most pronounced improvement over the past year. Stronger job and wage gains, continued low mortgage rates, and slower home price appreciation are aiding affordability. Housing starts are at the highest sustained level since October 2007, just prior to the financial crisis. Recent data confirm that the underlying trend is improving. Many metros in Florida, which were devastated by the housing foreclosure crisis, are experiencing an upturn in their economic fortunes, driven in part by a recovery in new home construction.

Consumers began to exercise the additional discretionary purchasing power afforded by lower gasoline prices in the second quarter of 2015. For the year overall, real consumption spending rose 3.2 percent, the highest advance in the recovery. Consumer durable spending has been growing about 5.5 percent on a sustained basis over the last 18 months. Much of that growth was attributable to light-vehicle sales hitting their highest levels since before the Great Recession as pent-up demand from postponed purchases was realized. Metropolitan areas with large automotive production operations have benefited. Consumer spending on services has been advancing at a stronger pace as well. Travel and tourism spending and a variety of other discretionary services are seeing better gains, supporting economic activity in many metros.

Other recent sources of weakness include the strong dollar, which has restrained growth in exports and caused a substitution of foreign-produced goods and services for domestic. Further, an economic slowdown in China and related weakness in commodity markets has harmed many other emerging markets and American producers of construction equipment and capital goods. Non-energy-related business investment in equipment and structures has been restrained by a slowdown in manufacturing output and weak corporate profit growth. Financial services have witnessed cutbacks in headcount and bonuses.

## 2016 BEST-PERFORMING LARGE CITY

---

**San Jose-Sunnyvale-Santa Clara, CA**, remained at the top of the best-performing large metros index. Silicon Valley is known for its high-quality university research and commercialization success at Stanford. Its large tech anchor firms invest a significant proportion of revenues back into research and development in an attempt to keep ahead of newly emerging competition that might disrupt their current lines of business. Many employees of the large tech firms go on to start their own enterprises, fostering an entrepreneurial culture. Research and development, patenting, tech transfer, angel investing, venture capitalists, talent, initial public offerings, market cap, and mergers and acquisitions are the cornerstones of the regional innovation ecosystem.

It is the softer side of tech that is propelling the Silicon Valley economy. Cloud computing, data processing and hosting services, 3-D printing, self-driving cars, Web design and applications, social media, and blockchain technology are keeping tech on an expansion path. According to one measure, the San Jose metro area recorded a 7.8 percent gain in technology jobs in 2015. By this metric, San Jose accounted for 1 in 8 new

tech jobs (25,300 out of 198,200) in the U.S. during 2015. The share it accounts for has moderated somewhat in 2016, but the previous rate wasn't sustainable. The broad category of professional, scientific, and technical services created 8,900 jobs in 2015, a growth rate of 6.7 percent. More impressively, over the last five years this industry category added 36,600 jobs, a leap of 35 percent during the period. Some analysts have been fretting that the San Jose metro area's growth must falter, as it is prone to booms followed by the inevitable bust. While the jury is still out, bubblenomics doesn't suggest a boom that is likely to be followed by an abrupt bust.

**TABLE 1. TOP 25 BEST-PERFORMING LARGE CITIES**

*Rank according to 2016 index*

| <b>Metropolitan statistical area (MSA) /<br/>metropolitan division (MD)</b> | <b>2016 rank</b> | <b>2015 rank</b> | <b>Change</b> |
|---|------------------|------------------|---------------|
| San Jose-Sunnyvale-Santa Clara, CA (MSA)                                    | 1                | 1                | 0             |
| Provo-Orem, UT (MSA)  | 2                | 3                | +1            |
| Austin-Round Rock, TX (MSA)   | 2                | 4                | +2            |
| San Francisco-Redwood City-South San Francisco, CA (MD)                     | 4                | 2                | -2            |
| Dallas-Plano-Irving, TX (MD)  | 5                | 5                | 0             |
| Raleigh, NC (MSA)   | 6                | 6                | 0             |
| Nashville-Davidson-Murfreesboro-Franklin, TN (MSA)                          | 7                | 18               | +11           |
| Fort Collins, CO (MSA)  | 8                | 14               | +6            |
| Orlando-Kissimmee-Sanford, FL (MSA)   | 9                | 28               | +19           |
| Seattle-Bellevue-Everett, WA (MD)   | 10               | 7                | -3            |
| Salt Lake City, UT (MSA)  | 11               | 11               | 0             |
| Charlotte-Concord-Gastonia, NC-SC (MSA)                                     | 12               | 13               | +1            |
| Denver-Aurora-Lakewood, CO (MSA)  | 13               | 16               | +3            |
| Portland-Vancouver-Hillsboro, OR-WA (MSA)                                   | 14               | 8                | -6            |
| Cape Coral-Fort Myers, FL (MSA)   | 15               | 40               | +25           |
| Charleston-North Charleston, SC (MSA)                                       | 16               | 17               | +1            |
| Naples-Immokalee-Marco Island, FL (MSA)                                     | 17               | 15               | -2            |
| Oakland-Hayward-Berkeley, CA (MD)   | 18               | 39               | +21           |
| Anaheim-Santa Ana-Irvine, CA (MD)   | 19               | 46               | +27           |
| Santa Rosa, CA (MSA)  | 20               | 25               | +5            |
| Atlanta-Sandy Springs-Roswell, GA (MSA)                                     | 21               | 27               | +6            |
| Grand Rapids-Wyoming, MI (MSA)  | 22               | 21               | -1            |
| Boise City, ID (MSA)  | 23               | 33               | +10           |
| San Antonio-New Braunfels, TX (MSA)   | 24               | 12               | -12           |
| San Luis Obispo-Paso Robles-Arroyo Grande, CA (MSA)                         | 25               | 10               | -15           |

Source: Milken Institute.



## BIGGEST GAINERS

---

Metros witnessing the largest improvement in this year's rankings share some common characteristics driven by macroeconomic factors and similar structural underpinnings, but most have a unique tale that presents a twist to the generalized stories. For example, this year's biggest gainer, **Deltona-Daytona Beach-Ormond Beach, FL**, saw a dramatic increase in retirees migrating to the area after a lull caused by the financial and housing crisis. Several other Southeastern coastal communities found themselves in this situation, but they were aided by an expansion in domestic travel and tourism. Exposure to the auto sector has helped many on this list: In addition to **Detroit, Toledo, Dayton, Akron, OH**, and **Rockford, IL**; **Chattanooga** and **Knoxville, TN**, benefited as well. Other metros, such as **South Bend-Mishawaka, IN-MI**, which were devastated by the downturn in manufacturing during the Great Recession, are beginning to bounce back.

## 2016 BEST-PERFORMING SMALL CITY

---

**Bend-Redmond, OR**, tops the Best-Performing Small Cities index, rising from eighth in 2015. Bend improved in seven of the nine indicators. It ranks No. 1 in job growth from 2014 to 2015. Tourism and health care form the economic base of the local economy. The metro has fostered the development of a tech sector, with software and hardware development along with Facebook and Apple data centers in the area. With Oregon State University's Cascades campus now offering four-year degrees, the talent pool will continue to support this sector. There is a thriving light-aviation industry that includes names such as Epic Aircraft. The FAA has set up a drone testing site just north of Bend, and Central Oregon Community College has one of the few drone education programs on the West Coast. Capital for entrepreneurs can be locally sourced, thanks to firms such as Seven Peaks Ventures and Cascade Angels.



# Introduction

Which factors are determining the divergence in economic performance of metropolitan areas around the nation? Why are some areas thriving while others fall back? The Milken Institute's Best-Performing Cities index provides an objective benchmark for examining the underlying factors and identifying unique characteristics of economic growth in metropolitan areas.

Our index uses a fact-based set of metrics such as job creation, wage gains, and technology developments to evaluate the relative growth of metropolitan areas. While national and international patterns affect near-term performance, and to some extent are beyond a region's control, the top-performing metros have cohesive strategies that allow them to distinguish themselves from others. They offer important lessons that may be adaptable for other localities.

The goal of our Best-Performing Cities index is to help businesses, investors, industry associations, development agencies and government officials, academics, and public-policy groups monitor and evaluate how well their metro is promoting economic vitality relative to the rest of the country. The index also provides benchmarking data that can inform approaches to improving a region's performance. In addition, the index can serve as a tool for understanding consumer markets and business opportunities by indicating where employment is stable and expanding, wages and salaries are increasing, and economies and businesses are thriving.<sup>1</sup>

A shared understanding of their region's competitiveness will help communities create a strategic economic vision focused on industries with the capacity to stimulate sustained growth and prosperity. By targeting sectors where they have a robust competitive advantage, communities can seek to reduce the impact that future dips in the business cycle have on local employment and economic activity. Regions that can better link education and training programs to the workforce needs of employers will attract businesses and create more opportunities for residents. Developing new industries and companies will also require fostering entrepreneurship and innovation through research institutions, incubators, and funding programs.<sup>2</sup> The Best-Performing Cities index also forms the basis for the Milken Institute's "Regional Performance Over Time" research program, which takes a look at the regions that have outperformed their peers over the course of the business cycle and aims to understand the characteristics and strategies that support their resilience.<sup>3</sup>

This 2016 edition of the index applies the methodology used previously. We employ the geographic terms and definitions used by the Office of Management and Budget (OMB), most recently updated after the 2010 U.S. census. The OMB defines a metropolitan statistical area (MSA) as a region generally consisting of a large population nucleus and adjacent territory with a high degree of economic and social integration, as measured by community ties. With these parameters, the agency identifies 381 metropolitan statistical areas. County population growth accounts for the creation of new MSAs. If specific criteria are met, an MSA with a single nucleus and a population of 2.5 million or more is further divided into geographic areas called metropolitan divisions (MDs), of which there are currently 31 in the country. For example, the MSA of Philadelphia-Camden-Wilmington, PA-DE-MD-NJ, comprises three MDs (Camden, NJ; Philadelphia, PA; and Wilmington, DE). We include the smaller MDs in the index to reflect more detailed geographic growth patterns.

## AN EMPHASIS ON OUTCOMES

Table 2 shows the components used to calculate the Best-Performing Cities rankings. The index measures growth in jobs, wages, salaries, and technology output over five years (2010-2015 for jobs and technology output and 2009-2014 for wages and salaries) to adjust for extreme variations in business cycles. It also incorporates the latest available year's performance in these areas (2014-2015 for jobs and technology output and 2013-2014 for wages and salaries). In addition, it includes a measure of 12-month job growth (August 2015-August 2016) to capture recent momentum among metropolitan economies.<sup>4</sup>

**TABLE 2. COMPONENTS OF THE BEST-PERFORMING CITIES INDEX**

| Component   | Weight |
|---|--------|
| Job growth (I=2010)                                 | 0.143  |
| Job growth (I=2014)                                 | 0.143  |
| Wage and salary growth (I=2009)                     | 0.143  |
| Wage and salary growth (I=2013)                     | 0.143  |
| Short-term job growth (Aug. 2015-Aug. 2016)         | 0.143  |
| High-tech GDP growth (I=2010)                       | 0.071  |
| High-tech GDP growth (I=2014)                       | 0.071  |
| High-tech GDP location quotient (2015)              | 0.071  |
| Number of high-tech industries with GDP LQ>1 (2015) | 0.071  |

Note: I refers to the beginning year of the index. Weights do not add up to 1 due to rounding.  
Source: Milken Institute.

Employment growth is weighted more heavily because of its critical importance to community vitality, as is growth in wages and salaries, because it signals the quality of the jobs being created and retained. Other measures reflect the concentration and diversity of technology industries within the MSAs and MDs. High-tech location quotients (LQs), which measure the industry's concentration in a particular metro relative to the national average, are included to gauge an area's participation in the knowledge-based economy. We also measure the number of specific high-tech fields (out of a possible 19) whose concentrations in an MSA or MD are higher than the national average. Best-Performing Cities is solely an outcomes-based index. It does not incorporate input measures (business costs, cost-of-living components, and quality-of-life conditions, such as commute times or crime rates). These measures, although important, are prone to wide variations and can be highly subjective.

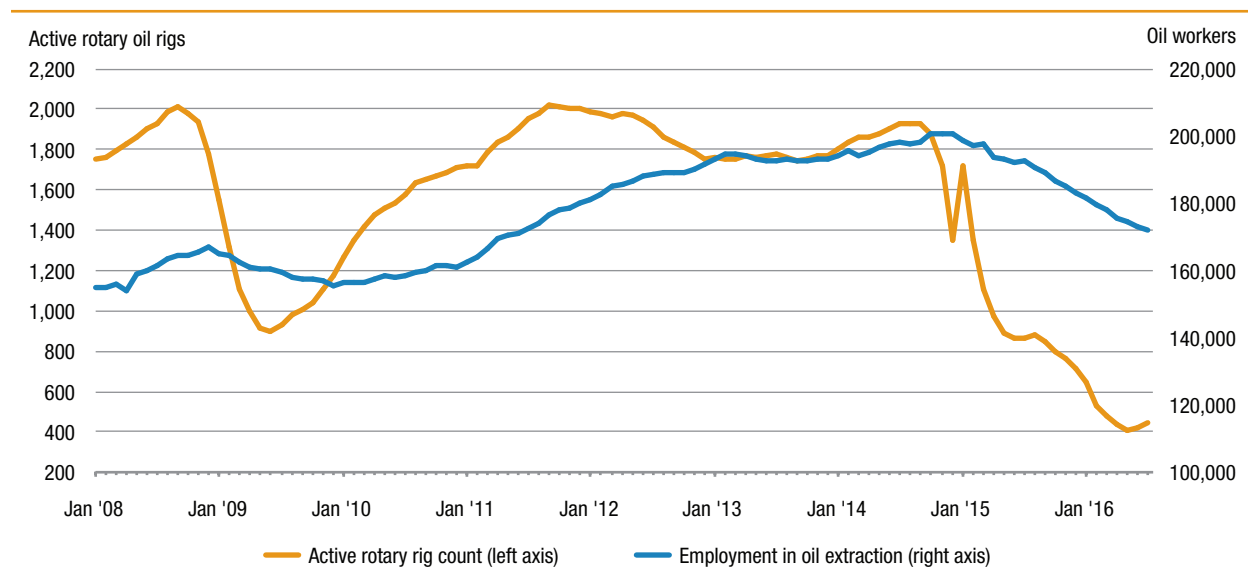
## NATIONAL ECONOMIC CONDITIONS

### Sources of Weakness

Shifts in U.S. macroeconomic growth patterns and international developments are exerting a significant influence on metropolitan areas' economic fortunes. The underlying structures of metropolitan area economies evolve slowly over the long term, leaving them somewhat dependent on external events in the near term. Look for no better example than how the sustained collapse in oil prices has caused a massive retrenchment in shale oil exploration activity and overall drilling investment. Regions that had experienced a burst of economic growth from 2010 through 2014, thanks to high oil prices and shale oil exploration, have seen a dramatic deceleration since then, with several experiencing declines in employment. As an

example, Houston, the top oil and gas cluster in the nation, while not a site of shale-related exploration, has experienced a significant economic slowdown because of the energy sector's high interdependence.

**FIGURE 1. ACTIVE ROTARY RIGS AND OIL INDUSTRY WORKERS, 2008-2015**



Sources: Energy Information Administration, Moody's Analytics, Milken Institute.

Another source of weakness in 2015, and continuing through 2016, is the strong dollar, which caused export growth to moderate as the relative price of U.S. goods and services rose in foreign currency terms. Additionally, a substitution of imports for domestically produced goods and services is sapping growth in many regional economies. U.S. manufacturers and commodity producers are feeling the brunt of a slowdown in economic growth in emerging markets, especially from China as it shifts from export- and investment-led growth to consumption- and domestic-based service-sector expansions. Many nations that were major commodity exporters to China have witnessed recessions or dramatically slower growth. (Think of Brazil, Australia, and many sub-Saharan African nations.) These countries, in turn, cut imports of U.S. heavy construction and mining equipment from producers such as Caterpillar, with effects that rippled through American communities. Low oil prices cut exports to our two largest trading partners, Mexico and Canada, because of their strong dependence on oil production.

Business investment in equipment and structures outside of mining-related cuts have been subsequently negatively affected. As demand for manufacturing output fell, capacity utilization began to wane and weighed heavily on firms' willingness to invest. Metropolitan areas with heavy reliance on capital-goods-producing firms saw economic gains moderate. Another source of macroeconomic weakness was the decline in earnings at S&P 500 firms. First, profits from international operations translated into fewer dollars when they were repatriated to the U.S. Additionally, approximately half of earnings for a majority of S&P firms came from exports, whose slowing growth further restrained the financial ability to invest in domestic operations and suppressed gains in equity valuations.

The fall in stock markets, lower debt instrument issuances, and an abundance of other challenges in the first quarter of 2016 caused many financial services firms to cut headcount. This harmed regional economies with large concentrations of financial services, such as northern New Jersey. However, New York and Chicago had sufficient momentum in other sectors to offset much of the drag from financial services.

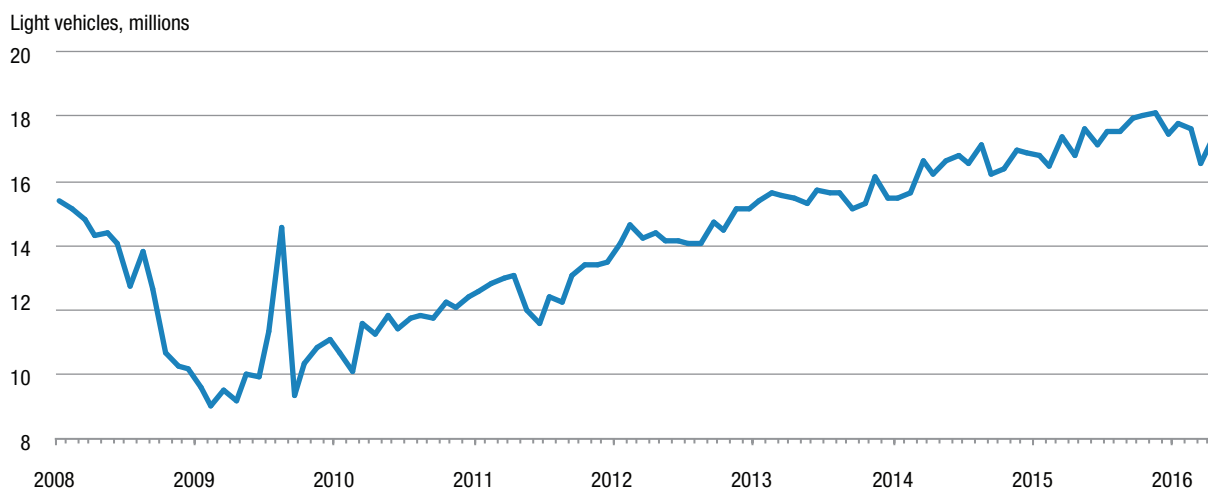
Another key source of weakness beginning in late 2015, and especially curtailing growth in 2016, was a decline in inventory investment. As domestic and foreign final demand began to fall in the middle of 2015, firms didn't adjust production commensurately, and inventories built up. For example, inventory investment cut 1.2 percentage points from real GDP growth in the second quarter of 2016. If inventories had remained neutral, real GDP would have risen at an annual rate of 2.6 percent rather than 1.4 percent. Overall, the inventory correction will knock 0.8 percentage point from real GDP growth in 2016, hurting many manufacturing- and commodity-dependent regions.

## Sources of Strength

Fortunately, there are several countervailing sources of strength for the U.S. economy, among them accelerating consumer and housing markets, partly due to declining gasoline prices, low interest rates, strong job gains, and better wage growth. These macro underpinnings are having a differential impact on metropolitan growth patterns as well.

Consumers began to exercise the additional discretionary purchasing power afforded by lower gasoline prices in the second quarter of 2015. It usually takes six months or so of lower prices before consumers no longer see them as transitory. Consumer spending advanced at an annual rate of 3.6 percent in the second quarter and 3.0 percent in the third quarter of last year. For 2015 overall, real consumption spending rose 3.2 percent, the highest advance in the recovery. Consumer durable spending has been growing at about 5.5 percent on a sustained basis over the last 18 months. Much of that growth was attributable to light-vehicle sales hitting the highest levels since before the Great Recession as pent-up demand from postponed purchases was realized. Metropolitan areas with large automotive production operations have benefited. Look to Toledo, Ohio, or Detroit, MI, for evidence. Consumer spending on services has been advancing at a stronger pace as well. Travel and tourism spending and a variety of other discretionary services are seeing better gains.

**FIGURE 2. LIGHT-VEHICLE SALES, 2008-2015**



Sources: Federal Reserve Bank of St. Louis, Milken Institute.

Housing market activity has experienced the most pronounced improvement over the past year. Stronger job and wage gains, continued low mortgage rates, and slower home price appreciation are aiding affordability. Housing starts are at the highest sustained level since October 2007, just prior to the financial crisis. Recent data confirm that the underlying trend is improving. Additionally, single-family starts are accounting for a

greater share of the market, which has broader ripple effects on the supply chain, including lumber and concrete. The multifamily market has experienced a stronger rate of recovery during this cycle overall, but it doesn't add as much economic growth as the single-family market. Many metros in Florida, which were devastated by the housing foreclosure crisis, are experiencing an upturn in their economic fortunes, driven in part by a recovery in new home construction.

Labor markets are improving despite the slowdown in real GDP growth over the past few quarters. The U.S. economy added 156,000 jobs in September 2016 and the unemployment rate edged up to 5.0 percent. Year to date through September, the economy has added an average of 178,000 jobs per month. That's a slowdown from the 200,000 monthly average in 2015, but to be expected as the economy approaches full employment. The good news is that more people are rejoining the labor market, which increases the economy's long-term growth potential.

Construction employment in September rose 3.4 percent from the same month in 2015, the largest of any major category. Close behind was professional and technical services, which experienced a 3.3 percent gain over the same period. This includes a broad array of technology services sectors such as scientific research and development, architectural and engineering, computer systems design and related services, specialized design, and technical consulting. Metros with a high concentration of these tech services and a strong entrepreneurial ecosystem are among the leaders in our 2016 Best-Performing Cities index.

Other business services such as legal, accounting and bookkeeping, advertising, and other professional services saw strong gains as well. These are well-compensated sectors that are augmenting the quality of overall wage gains. Health services experienced job growth of 2.9 percent over the 12-month period. Leisure and hospitality added jobs at a 2.4 percent clip. In contrast, manufacturing employment slipped by 0.4 percent over the period. The largest year-over-year decline in employment in September was in mining, which saw a decrease of 14.5 percent.

Firms providing software application services are hiring at a rapid clip, compensating their employees, soaking up office space, and purchasing a variety of other inputs. The production side of the economy is witnessing these gains and the metropolitan areas that specialize in cloud computing, data processing and hosting services, 3-D printing, self-driving cars, Web design and applications, social media, e-commerce, and blockchain technology software and other digital content are experiencing the most rapid growth.

## BIGGEST GAINERS

---

Metros witnessing the largest improvement in this year's rankings share some common characteristics driven by macroeconomic factors and similar structural underpinnings, but most have a unique tale that presents a twist to the generalized stories. For example, this year's biggest gainer, **Deltona-Daytona Beach-Ormond Beach, FL**, saw a dramatic increase in retirees migrating to the area after a lull caused by the financial and housing crisis. Many Northeastern retirees decided to stay put for a while as the value of their properties declined, but their migration was merely delayed. When they eventually did migrate, they helped revive local housing markets and caused a surge in demand for health-care services and a batch of related hiring. **Jacksonville, FL**, benefited from retiree migration but was also aided by a burst of planning and port-construction-related activity. **Port St. Lucie, FL**, fits here as well and, like other Southeastern coastal communities, benefited from a recovery in domestic travel and tourism.

Exposure to the auto sector has assisted many on this list; in addition to Detroit and Toledo, **Dayton** and **Akron, OH; Rockford, IL;** and **Chattanooga** and **Knoxville, TN**, benefited as well. Other metros such as South Bend-Mishawaka, IN-MI, which were devastated by the downturn in manufacturing during the Great Recession, have experienced some recovery, and the five-year employment performance no longer includes 2009, which contained a large decline. **New York-Jersey City-White Plains, NY-NJ**, advanced, thanks to the recovery in financial services over the past five years and the high wages associated with these positions. The wage data run only through 2014, making it a favorable comparison. Other metros on the list have been aided by a general recovery in housing markets after substantial declines.

**TABLE 3. BIGGEST GAINERS AMONG LARGE MSAS/MDS (BASED ON CHANGE IN RANKINGS)**

| <b>Metropolitan statistical area (MSA) / metropolitan division (MD)</b> | <b>2016 rank</b> | <b>2015 rank</b> | <b>Change</b> |
|---|------------------|------------------|---------------|
| Deltona-Daytona Beach-Ormond Beach, FL (MSA)                            | 69               | 137              | +68           |
| Richmond, VA (MSA)  | 83               | 147              | +64           |
| Toledo, OH (MSA)  | 99               | 162              | +63           |
| Chattanooga, TN-GA (MSA)  | 101              | 154              | +53           |
| Rockford, IL (MSA)  | 125              | 176              | +51           |
| New York-Jersey City-White Plains, NY-NJ (MD)                           | 40               | 90               | +50           |
| Manchester-Nashua, NH (MSA)   | 63               | 109              | +46           |
| Dayton, OH (MSA)  | 129              | 174              | +45           |
| Detroit-Dearborn-Livonia, MI (MD)                                       | 111              | 155              | +44           |
| Akron, OH (MSA)   | 124              | 168              | +44           |
| Jacksonville, FL (MSA)  | 39               | 82               | +43           |
| Fort Wayne, IN (MSA)  | 115              | 157              | +42           |
| St. Louis, MO-IL (MSA)  | 128              | 170              | +42           |
| Salisbury, MD-DE (MSA)  | 109              | 148              | +39           |
| Reno, NV (MSA)  | 61               | 99               | +38           |
| Waco, TX (MSA)  | 70               | 105              | +35           |
| Chicago-Naperville-Arlington Heights, IL (MD)                           | 88               | 122              | +34           |
| Memphis, TN-MS-AR (MSA)   | 149              | 182              | +33           |
| Sacramento-Roseville-Arden-Arcade, CA (MSA)                             | 52               | 84               | +32           |
| Columbia, SC (MSA)  | 75               | 107              | +32           |
| Knoxville, TN (MSA)   | 80               | 112              | +32           |
| Montgomery County-Bucks County-Chester County, PA (MD)                  | 120              | 151              | +31           |
| Port St. Lucie, FL (MSA)  | 50               | 80               | +30           |
| Camden, NJ (MD)   | 139              | 169              | +30           |
| South Bend-Mishawaka, IN-MI (MSA)                                       | 141              | 171              | +30           |

Source: Milken Institute.

## BIGGEST DECLINERS

Metros falling the most in this year's rankings include those with a large dependence on oil and gas drilling and its supply chain. Houston is the prime example, where the contraction in energy-related activity spilled throughout its economy. **Anchorage, AK,** and **Baton Rouge, LA,** while not having direct exposure to

the industry, were impacted by lower severance tax payments and lower oil-related tax collections and associated cutbacks in state government employment. **Canton-Massillon, OH**, and **Pittsburgh, PA**, both had extensive supply chain exposure to oil and gas fracking activity. Many small metros with a high concentration of oil and gas drilling also fell in the rankings this year.

Reductions in international trade harmed the fortunes of several metros. **Tacoma-Lakewood, WA**, the biggest decliner, with a drop of 70 places, highlights the exposure. Much of its economy is tied to its port, and a broad decline in trade, especially with China and Asia—the bulk of its international trade—restrained its economic advance. **Newark, NJ-PA**, was hit by a decline in trade with Europe because of the strong dollar. Another group was hurt by the downturn in commodities trade and the fall in prices. Here, think of **Green Bay, WI, and Olympia, WA**, among others. Weakness in capital spending has impacted manufacturing in metros such as **Lexington-Fayette, KY; Little Rock-North Little Rock-Conway, AR; and Indianapolis-Carmel-Anderson, IN**. Another group of metros from the California Central Valley has suffered from drought-induced cutbacks in agriculture production and weak prices, epitomized by the city of **Salinas**.

**TABLE 4. BIGGEST DECLINERS AMONG LARGE MSAS/MDS (BASED ON CHANGE IN RANKINGS)**

| <b>Metropolitan statistical area (MSA) / metropolitan division (MD)</b> | <b>2016 rank</b> | <b>2015 rank</b> | <b>Change</b> |
|---|------------------|------------------|---------------|
| Tacoma-Lakewood, WA (MD)  | 131              | 61               | -70           |
| Salinas, CA (MSA)   | 116              | 56               | -60           |
| Columbus, GA-AL (MSA)   | 190              | 130              | -60           |
| Madison, WI (MSA)   | 76               | 20               | -56           |
| Albany-Schenectady-Troy, NY (MSA)                                       | 152              | 97               | -55           |
| Lexington-Fayette, KY (MSA)   | 95               | 42               | -53           |
| Green Bay, WI (MSA)   | 157              | 104              | -53           |
| Olympia-Tumwater, WA (MSA)  | 113              | 63               | -50           |
| Kennewick-Richland, WA (MSA)  | 127              | 83               | -44           |
| Houston-The Woodlands-Sugar Land, TX (MSA)                              | 68               | 26               | -42           |
| Worcester, MA-CT (MSA)  | 79               | 37               | -42           |
| Merced, CA (MSA)  | 89               | 47               | -42           |
| Augusta-Richmond County, GA-SC (MSA)                                    | 164              | 123              | -41           |
| Urban Honolulu, HI (MSA)  | 159              | 119              | -40           |
| Little Rock-North Little Rock-Conway, AR (MSA)                          | 168              | 128              | -40           |
| Indianapolis-Carmel-Anderson, IN (MSA)                                  | 87               | 48               | -39           |
| Jackson, MS (MSA)   | 163              | 124              | -39           |
| Anchorage, AK (MSA)   | 171              | 132              | -39           |
| Vallejo-Fairfield, CA (MSA)   | 67               | 29               | -38           |
| Baton Rouge, LA (MSA)   | 81               | 43               | -38           |
| Pittsburgh, PA (MSA)  | 150              | 113              | -37           |
| New Haven-Milford, CT (MSA)   | 186              | 149              | -37           |
| Newark, NJ-PA (MD)  | 170              | 134              | -36           |
| Pensacola-Ferry Pass-Brent, FL (MSA)                                    | 160              | 125              | -35           |
| Canton-Massillon, OH (MSA)  | 161              | 127              | -34           |

Source: Milken Institute.





# TOP 25 Best-Performing Large Cities



## San Jose-Sunnyvale-Santa Clara, CA

*(Held steady)*

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 7TH  |
| JOB GROWTH (2014-2015)                        | 11TH |
| WAGE GROWTH (2009-2014)                       | 1ST  |
| WAGE GROWTH (2013-2014)                       | 2ND  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 25TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 3RD  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 16TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 1ST  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 2ND  |

### ASSETS

- » At the core of the San Jose metro area's success is its ecosystem of innovation and entrepreneurship—premier in the world.
- » Cloud computing, data processing and hosting services, 3-D printing, self-driving cars, Web design and applications, social media, and blockchain technology are keeping tech on an expansion path.

### LIABILITIES

- » Many naysayers have been fretting that the San Jose metro area's growth must falter, as it is prone to booms followed by the inevitable bust.

**San Jose-Sunnyvale-Santa Clara, CA**, maintained its 2015 position as the No. 1 best-performing large metro in the nation. The region's economic growth has been remarkable over the past five years. Look no further than the fact that wage growth during that period was first in the nation. San Jose's wage growth slipped to second only in 2014, the most recent year for which data are available. This is attributable to the high-paying jobs being created, driven by its innovation economy—the leader in the world. Nevertheless, many analysts have been fretting that the San Jose metro area's growth must falter because it is prone to booms, followed by the inevitable bust. While naysayers can point to short-term job growth over the 12 months ending in August 2016 falling to 25th in the nation and to several large tech employers announcing layoffs, a broad range of indicators signal continuing expansion at a sturdy rate. Some are now hypothesizing that slower growth lies ahead, and the boom-and-bust worry cycle has been eliminated or at least tamed.<sup>5</sup> The argument is that Silicon Valley has become the global capital of technology, media, and innovation. While the jury is still out, bubblicomics doesn't suggest a boom that is likely to be followed by an abrupt bust.

In the first quarter of 2016, as tech company market caps plunged along with the Nasdaq, venture capital funding slowed, IPOs came to a halt, and unicorns appeared to be an endangered species. But as tech equity valuations recovered later in the year, Twilio, a cloud communications firm, broke the tech IPO drought in June. It is the softer side of tech that is propelling the Silicon Valley economy. Cloud computing, data processing and hosting services, 3-D printing, self-driving cars, Web design and applications, social media, and blockchain technology are keeping tech on an expansion path. According to one measure, the San Jose metro area recorded a 7.8 percent gain in technology jobs in 2015. By this metric, the region accounted for 1 in 8 new tech jobs (25,300 out of 198,200) in the U.S. during 2015!<sup>6</sup> The share it accounts for has moderated somewhat in 2016, but the previous growth rate wasn't sustainable.

The broad category of professional, scientific, and technical services created 8,900 jobs in 2015, a growth rate of 6.7 percent. More impressively, over the last five years this industry category added 36,600 jobs, a leap of 35 percent over the period. Other information services witnessed an addition of 6,500 jobs in 2015, a surge of 19.5 percent. Over the past five years, employment in this category more than doubled, growing by 21,900. Data processing, hosting, and related services witnessed job growth of 13.9 percent in 2015. Silicon Valley didn't yet exist when Joseph Schumpeter came up with his phrase “creative destruction,” but it is the best example of what he meant. Despite layoffs at Intel, Cisco, HP, Yahoo, and others, Facebook, Apple, Alphabet (Google), and many startups are adding jobs at a rate substantially more than sufficient to keep the tech expansion sailing ahead.<sup>7</sup> Even Microsoft has entered the Silicon Valley ecosystem with its acquisition of LinkedIn. All of these firms are pursuing expansion in the region by leasing existing office space or building their own facilities. Apple has stated that it has 25,000 employees in the metro area.<sup>8</sup>

At the core of the San Jose metro area's success is its ecosystem of innovation and entrepreneurship. Silicon Valley is known for its high-quality university research and commercialization success at Stanford. Its tech anchor firms invest a large proportion of their revenues back into R&D in an attempt to keep ahead of newly emerging competition that might disrupt their current lines of business. Many employees of the large tech firms go on to start their own enterprises, fostering an entrepreneurial culture. R&D, patenting, tech transfer, angel investing, VCs, talent, IPOs, market capitalization, and M&A are the cornerstones of the regional innovation ecosystem.<sup>9</sup>

Apple and Alphabet had the largest market capitalization in the world in 2015, at \$725 billion and \$375 billion, respectively.<sup>10</sup> Whereas 10 to 15 years ago VCs used to tout the fact that they were often traveling abroad looking for attractive investment opportunities, many now hold the view that staying within a 50-mile radius of Sand Hill Road is a more efficient use of their time.<sup>11</sup> Talent and investment in human capital fuel this growth. Based on Census Bureau data for 2014, 48 percent of the region's residents 25 or older have graduated from college. Even more astonishing, 22 percent hold an advanced degree, compared with just 11 percent in the U.S. population overall. Much of this technical talent comes from overseas, particularly Asia.

Despite many of the challenges faced by semiconductor and computer firms such as Intel and HP, manufacturing is transforming itself into an industry that specializes in innovation and customization of products. Manufacturing employment in the region has fallen over the past two decades, but the jobs that remain require higher skills and command better pay. Manufacturing workers today must master the operation of digital or other advanced processes to produce medical devices, biotechnology therapies, robots, 3-D printers, cutting-edge monitors, and electric vehicles.<sup>12</sup> As an example of the newfound confidence, Trammell Crow is developing a 1.1-million-square-foot project for advanced manufacturing and clean-tech firms in north San Jose. Machinery manufacturing has expanded employment by 25 percent, fabricated metal product manufacturing jobs grew by 11 percent, and computer and electronic product manufacturing added 8,500 jobs—an 8 percent gain—over the last five years.

The spillover effects—both positive and negative—of this tech growth have been exceptional. Strong job and wage growth are propelling housing and consumer markets. But amid modest new residential construction, housing prices are now more than 30 percent above the previous peak, pricing an increasing proportion of potential buyers out of the market. More multifamily rental units are coming on the market, but many are not close to where people work, adding to traffic congestion. Health care, leisure and travel, and many other service sectors are witnessing strong job growth. A slowdown in growth from its torrid pace may give this vibrant region an opportunity to address some emerging challenges.



## Provo-Orem, UT (Tie)

(Gained 1 place)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 2ND  |
| JOB GROWTH (2014-2015)                        | 2ND  |
| WAGE GROWTH (2009-2014)                       | 6TH  |
| WAGE GROWTH (2013-2014)                       | 32ND |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 9TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 10TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 1ST  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 13TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 16TH |

### ASSETS

- » Has developed one of the most vibrant tech entrepreneurial hotbeds in the nation relative to its size.
- » Attracts highly trained millennial talent from both the East and West coasts thanks to its lower housing costs and recreation-rich environment.

### LIABILITIES

- » Has diversified its technology base, but the IT hardware sector still leaves it exposed to volatility from global and market forces beyond its control.

**Provo-Orem, UT**, nearly eclipsed Silicon Valley for the top spot, tying for second in the 2016 Best-Performing Cities index. Provo is in the middle of Utah's self-proclaimed "Silicon Slopes," which stretches from Ogden-Clearfield (No. 29) through Salt Lake City (No. 11) and, unlike many other places, appears worthy of the Silicon copycat moniker. Technology has been the primary source of the entire region's stellar economic performance. Provo was first in the nation in our measure of high-tech GDP growth in 2015, with broad-based gains ranging from software to computer systems design. While Provo has its share of established firms, such as Adobe and IM Flash Technologies, it has also developed one of the most vibrant tech entrepreneurial hotbeds in the nation relative to its size. Many VCs, some based in Silicon Valley, have found it an appealing ecosystem in which to invest.<sup>13</sup> Highly trained millennial talent from both the East and West coasts is attracted to Provo for its lower housing costs and recreation-rich environment.

Another appealing feature of Provo's performance is its consistency. For example, Provo ranks second in the rate of job creation both over the latest five-year period and in 2015. To place this in perspective, job growth in Provo has been more than three times stronger than in the U.S. overall over the past five years. While its ninth position in short-term job growth over the 12 months ending in August 2016 might be suggestive of a deceleration, Provo's startup scene hasn't exhibited any signs of sputtering. Wages are advancing at a strong rate, supporting gains in consumer spending. In addition to tech, health care and financial services are driving growth in the region. Provo has witnessed strong growth in enrollees of the Affordable Care Act, and an expansion in state Medicaid support could promote more job growth in health care.<sup>14</sup>

The Provo metro area has undertaken efforts to build and strengthen its entrepreneurial infrastructure. Provo's mayor, John Curtis, has long been an advocate of promoting startup activity in economic development. One missing piece of the startup scene was the absence of a university-related incubator. Plumtree Plaza is being redeveloped by Westport Capital Partners as The Mix and will have substantial space devoted to incubating startups from Brigham Young University (BYU) and Utah Valley University.<sup>15</sup> There may be more opportunities to commercialize intellectual property coming out of these two

universities as returning Mormon missionaries enroll as students. Several years ago, the minimum age for missionary work was reduced from 19 to 18 for men and from 21 to 19 for women. Many decided to undertake their missionary responsibilities prior to enrolling in a university.<sup>16</sup> The National Federation of Independent Businesses recently released a survey naming Provo as the second-best location for starting a business, just after Austin, TX.<sup>17</sup> A number of "Shark Tank" participants call Provo home.

The Provo metro area is also home to half a dozen unicorns (Domo, Vivint, Ancestry.com, et al.). Many proclaim there are plenty more "sooniercorns" about to cross the \$1 billion valuation threshold. One of them might be Qualtrics, a software firm that provides sophisticated research tools for business. It was started by BYU professor Scott Smith in 2002 and has grown from a few family employees to almost 1,200 employees, and it recently cut the ribbon on a new 151,000-square-foot headquarters.<sup>18</sup> Entrada Software is another firm undergoing rapid growth. It just announced another expansion, which will bring its headcount to 1,400. Vivint, a provider of smart home technology, received a \$100 million equity investment co-led by Peter Thiel, a well-known early stage tech investor.<sup>19</sup> Despite this success, many point out that software pioneer Novell doesn't exist as an independent firm any longer after being acquired by U.K.-based Micro Focus last year. However, Micro Focus may provide the necessary capital and expertise to expand operations over the long term.

One measure of the area's tech success can be found in the expansion of professional, scientific, and technical services jobs. This category has grown 46 percent over the most recent five-year period. Non-store retailers witnessed job growth of 229 percent over the same period. Multifamily housing construction has more than quadrupled since 2010, and single-family construction has risen nearly threefold. This demand has resulted in the addition of 6,500 jobs in special trade contractors since 2010, a jump of 87 percent. Strong population growth of around 2 percent will support economic expansion as well. Provo needs labor force gains, as its unemployment rate was down to 3.1 percent in August 2016. With the dramatic increase in university enrollment, more talent is in the pipeline, which should keep Provo's Silicon Slopes nickname apt.



## Austin-Round Rock, TX (Tie)

(Gained 2 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 4TH  |
| JOB GROWTH (2014-2015)                        | 7TH  |
| WAGE GROWTH (2009-2014)                       | 4TH  |
| WAGE GROWTH (2013-2014)                       | 7TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 26TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 12TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 14TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 9TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 11TH |

### ASSETS

- » Offers entrepreneurs and young knowledge workers a less-costly alternative to build firms and apply their skills to meaningful endeavors.
- » Provides a fertile environment for recruiting firms to expand or relocate, while at the same time providing a thriving platform for local tech startups.

### LIABILITIES

- » Tax revenue declines from low oil prices could become more severe, and the area remains exposed to high-tech manufacturing cyclicality.

**Austin-Round Rock, TX**, is rapidly gaining an international reputation as a model worthy of emulation in tech-based economic development policy. Austin's tie for second place in our 2016 Best Performing Cities index attests to the validity of that notion. The metro brings together a diverse set of strengths that few places can rival. While it may not be Silicon Valley, nor should it be, Austin offers entrepreneurs and young knowledge workers a less-costly alternative to build firms and apply their skills to meaningful endeavors. Austin has the University of Texas and a diverse set of innovative firms performing research similar to that in Silicon Valley, but it adds in a more regulatory-friendly approach with lower housing costs and tax rates.

Further, tech workers can afford to buy a house in Austin, whereas the same earnings might allow them to rent a two-bedroom apartment at one of the tech hubs on the West or East coast—if they are lucky enough to secure it before someone else does. For example, Austin pays the highest tech salaries in the nation when adjusted for the cost of housing. The average Austin tech worker spends just 23 percent of wages on rent; in San Francisco, a similar tech worker spends 37 percent. A recent study suggests that Austin's tech salaries are the highest in the country among all tech centers when adjusting for the cost of living.<sup>20</sup> But it's not just technology that is an engine of long-term economic growth. Mix in health care, medical research, and travel and tourism, then throw in culture, arts, and a thriving music scene, and you have a diverse, more stable growth model for the long haul.

A prime reflection of this is the fact that Austin ranks fourth in job growth among the 200 largest metros in the nation over the last five years, and that even with the decline in shale oil exploration in 2015 as lower prices dealt a blow to Texas' economy and state tax revenues, Austin managed to be seventh in job growth last year. State government employment did falter, but that is more attributable to Gov. Greg Abbott's desire to bring it below the level of other large states, such as California, New York, and Illinois, on a per-capita basis. Further, despite additional cuts in drilling activity in 2016, job growth in August was 3.2 percent compared with the same month in 2015—26th in the nation. Maintaining its five-year pace of job growth of 4.2 percent would have been difficult with its unemployment rate down to just 3.5 percent, despite the highest rate of in-migration among major metros in the nation. Net migration of 40,700 based on Census Bureau data for 2014 translates into

an in-migration rate of 2.1 percent relative to the population. When you add in births minus deaths, total population growth was 3.1 percent in 2014 and was estimated at 3.0 percent in 2015. High net in-migration drives other key sectors, such as housing, services, retail trade, and demand for infrastructure.

Austin provides a fertile environment for recruiting firms to expand or relocate, while at the same time providing a thriving platform for local tech startups. Apple established operations in Austin 24 years ago, manufacturing and assembling computers. But its recent and planned expansions are on a different scale. Since 2012, Apple has created more than 2,000 jobs, bringing its total to 5,102 as of December 31, 2015. A seven-building Apple operations center is under construction and scheduled to be completed in 2017. It will include operations, sales, finance, engineering, online store, and customer support. Apple received tax incentives from the Texas Enterprise Fund that are scheduled to total \$21 million over a decade if the company creates the jobs and wages stipulated.<sup>21</sup> Homegrown company Dell is undergoing a massive restructuring, acquiring firms in the mobile communications space and repositioning itself for growth, but it still employs nearly 14,000 people in the Austin metro region. Chip companies such as Samsung Austin Semiconductor, Freescale, Advanced Micro Devices, and Applied Materials continue to provide high-paying jobs for thousands.

It is difficult to overstate the importance of entrepreneurship in determining regional economic growth. Austin had the highest startup rate among large metro areas in the nation.<sup>22</sup> Entrepreneurs aren't just in the tech space, but that is where the biggest impacts are found. Moreover, 2.25 percent of firms in Austin grew to employ more than 50 people, more than double the national rate. Another assessment concluded that Austin had the best environment for small businesses and saw small business growth of 9.7 percent over the most recent three years, almost 3 percentage points higher than any other metro.<sup>23</sup> In 2014, the Greater Austin Chamber of Commerce estimated that there were 5,000 tech companies employing 120,700 in the region, a gain of 5,440 jobs from 2013. Austin has witnessed rapid growth in its app-economy jobs—app developers and staff who build, support, or maintain mobile apps—with 22,000 employed in the sector.<sup>24</sup> These positions regularly earn more than \$125,000 a year. Clean tech, the life sciences, cloud computing, and many other tech areas are creating jobs at a rapid clip.



## San Francisco-Redwood City-South San Francisco, CA

(Fell 2 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 5TH  |
| JOB GROWTH (2014-2015)                        | 5TH  |
| WAGE GROWTH (2009-2014)                       | 2ND  |
| WAGE GROWTH (2013-2014)                       | 6TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 66TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 1ST  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 2ND  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 7TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 11TH |

### ASSETS

- » A high proportion of tech gains have been fueled by startups, with a number of unicorns developing within the metro's rich ecosystem of entrepreneurship.
- » The service-based tech sector is leading the advance in areas such as cloud-based software, mobile applications, social media, Internet publishing, cloud-based storage, gaming, and digital media.

### LIABILITIES

- » Many fear that a "Tech Bubble 2.0" is about to burst. However, the current batch of startups have revenues, and some even have profits, to support their valuations.

San Francisco-Redwood City-South San Francisco, CA, remains among the top expanding economies in the country, coming in at No. 4 on this year's ranking. Tech growth over the past five years has accounted for a greater proportion of overall economic gains than in any other metro in the country. A high proportion of tech gains has been fueled by startups, with a number of unicorns developing within the metro's rich ecosystem of entrepreneurship. While some of these unicorns may have been valued too highly by investors, most seem poised for longer-term success, unlike their dot-com predecessors of the early 2000s. Nevertheless, tech giants such as Salesforce, Oracle, Facebook, and biotech stalwart Genentech are creating jobs at a rapid pace and soaking up commercial office space at a prodigious rate. The average office rent of \$75 per square foot in downtown San Francisco is the highest in the nation.<sup>25</sup> Strong job growth and limited new supply have driven up residential rents and housing prices, with the median home price hitting \$1.38 million in April 2016.<sup>26</sup> There are clear signs that job creation in the tech sector is slowing, as evidenced by short-term job growth over the latest 12 months falling to 66th overall, down from fifth in 2015.

Based on our measure of high-tech GDP growth, San Francisco led the nation over the past five years and was second in 2015. The service-based tech sector has been leading the advance, in areas such as cloud-based software, mobile applications, social media, Internet publishing, cloud-based storage, gaming, and digital media. The professional, scientific, and technical services category records much of the job creation in these sectors. From 2010 to 2015, employment increased by 58,900 in the category—a breathtaking gain of 53 percent. This translates into average annual increases of 10 percent over the five-year period. Professional, scientific, and technical services saw job growth of 9.3 percent in 2015. This category also includes other high-paying professional business services occupations such as lawyers and accountants. Over the latest five years, other information services witnessed job growth of 276 percent, while data processing, hosting, and related services more than doubled employment, two other areas where these jobs are recorded. Non-store retailers expanded employment by similar amounts.

These sectors' high wages create large ripple effects on the broader economy and pushed San Francisco's job creation rate to fifth in the nation over the latest five years, a noteworthy feat for a densely populated urban area.

The expansion plans of many unicorns'—think Airbnb, Twitter, Dropbox, Zynga—have been slowed or halted by the challenges in public equity markets during the first half of 2016. IPO exits nearly vanished and caused a retrenchment in the availability of follow-on VC rounds for most unicorns. Even firms such as Lending Club that made it through the IPO window have witnessed dramatic declines in their valuations. However, many privately held firms that conserved cash have taken advantage of the office space that became available.<sup>27</sup> Many fears that a "Tech Bubble 2.0" is about to burst seem misplaced.<sup>28</sup> The current batch of startups have revenues, and some even have profits, to support their valuations. Some may go the route of being acquired by larger firms, but will still have marketplace value. In another sign that San Francisco remains a hot tech hub, software development collaboration company Atlassian has acquired Denver-based StatusPage, which provides software that allows firms to communicate with their customers when computer systems are down. StatusPage employees will be relocating to San Francisco.<sup>29</sup> The biotech-led expansion in the Mission Bay district will assist in avoiding any significant retrenchment in economic activity.

Slowing tech expansion and moderating job gains, along with new residential rental supply slated to hit the market, appear to have halted the double-digit increases in rents. Given that the average rent for a one-bedroom apartment is \$3,400 a month, this moderation may be to the advantage of the region over the long term. Housing costs have priced longtime residents out of the market and made it more difficult to attract millennial talent. Fortunately, a movement to place a tax on tech employers in an attempt to force them to pay for the negative externalities from the rapid growth was dropped due to a lack of majority support on the Board of Supervisors.<sup>30</sup> Job growth close to 2.0 percent over the next several years could be the pause that refreshes.



## Dallas-Plano-Irving, TX

(Held steady)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 12TH |
| JOB GROWTH (2014-2015)                        | 6TH  |
| WAGE GROWTH (2009-2014)                       | 15TH |
| WAGE GROWTH (2013-2014)                       | 24TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 10TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 28TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 47TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 27TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 21ST |

### ASSETS

- » Well-positioned as a central location for logistics and distribution operations and becoming a hub for regional financial services.
- » Important concentrations in several tech fields, including semiconductors and electronic instruments, telecommunication services, data processing, hosting, and related services.

### LIABILITIES

- » Sustained low oil prices may cause oil services supply firms to reduce headcount more aggressively and could restrain economic growth more broadly.

**Dallas-Plano-Irving, TX**, is thriving while many other Texas metros have witnessed substantially weaker growth over the past year. The Dallas area has a diverse economy that shields it from problems in any one sector, such as the plunge in oil prices over the last two years and the drastic reduction in oil exploration activity. It has important concentrations in several tech fields, including semiconductors and electronic instruments, telecommunication services, data processing, hosting, and related services. It is a major corporate headquarters location, home to such firms as AT&T's domestic and international operations. More important for recent growth, it has become a regional banking headquarters. Financial services represent 9.3 percent of private-sector jobs in Dallas, a much higher proportion than they account for in the New York metro area.<sup>31</sup> While Dallas may not have the highflying hedge fund managers, it excels in the more pedestrian traditional banking areas of mortgages and car loans. Many professional positions in the sector pay high wages.

Dallas continues to create jobs at an exceptional rate. After recording job growth of 4.5 percent in 2015, its job growth in the 12 months through August moderated to a still-robust 4.2 percent—placing it 10th among the largest 200 metros in the nation. To put this in context, Dallas' job creation rate was more than twice the national average. Furthermore, Dallas is creating a better mix of higher-paying jobs, as its wage growth accelerated to sixth in the nation during 2014 and signs suggest that it performed even better on this measure in 2015. The combination of strong job growth and the highest in-migration rate of any large metro in the nation have resulted in population growth averaging 2.1 percent over the past five years. The addition of highly paid professionals has caused a strong expansion in single-family home construction. Although housing prices are no longer growing at a double-digit clip, existing home prices rose 8.9 percent in July 2016 from where they were in July 2015. Moreover, new permits for single-family homes are roughly 15 percent below the 2004-2007 boom period.<sup>32</sup>

The contribution of financial services to Dallas' growth in recent years has been significant. Since 2010, the metro has gained over 50,000 jobs in the sector. In 2015, job growth in financial services was 4.7 percent, more than double the national growth rate. These are strong middle-class jobs, with the average compensation over \$78,000 in 2015, exceeding the Dallas average for all occupations by more than 50 percent. In addition to other recent announcements of major financial services firms (JPMorgan Chase, Liberty Mutual, State Farm) expanding in Dallas, Charles Schwab just announced expansion plans.

Professional and business services are growing faster than financial services. Since 2010, more than 120,000 jobs have been added in this category. Dallas is a tech hub as well. Based on our definition of high-tech GDP, Dallas has the ninth-highest total in the nation. Tech employment is estimated to have grown by 7,700 in 2015.<sup>33</sup> Dallas's startup scene may not be as vibrant as Austin's, but it is beginning to display signs of becoming an important spot. Dallas still excels in attracting operations of major tech players located elsewhere. The latest: Pasadena, CA-based Jacobs Engineering is considering moving some of its corporate functions to Dallas. These are the type of jobs any community would covet.<sup>34</sup> Another example is San Francisco-based Revel Systems—an iPad-based point-of-sale system for retail stores and restaurants—which is planning to open an office in Dallas to serve growth in Texas. Additionally, Dallas is becoming a major location for data centers. Among the many being constructed, RagingWire Data Centers is one of the most recent.<sup>35</sup>



## Raleigh, NC

*(Held steady)*

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 18TH |
| JOB GROWTH (2014-2015)                        | 17TH |
| WAGE GROWTH (2009-2014)                       | 12TH |
| WAGE GROWTH (2013-2014)                       | 44TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 48TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 22ND |
| HIGH-TECH GDP GROWTH (2014-2015)              | 12TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 10TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 2ND  |

### ASSETS

- » Competitive business climate is attractive to companies looking to expand or relocate operations.
- » Large proportion of economy in high-tech attracts skilled workforce and innovative firms to the Research Triangle.

### LIABILITIES

- » Political opposition to the Trans-Pacific Partnership (TPP) trade agreement may affect advanced manufacturing exports' access to international markets.

**Raleigh, NC**, held steady in sixth place. The region repeated its strong performance in one- and five-year job growth and improved in five-year wage growth, gaining one place to rank 12th. Raleigh's high-tech industry contributed to its stable position in the top tier; it represents a large share of the local economy and is growing much faster than the national average. Raleigh is tied with metros including San Jose-Sunnyvale-Santa Clara, CA, as the second-most diverse high-tech sector.

Raleigh is part of the Research Triangle and is home to North Carolina State University. The university hosts a number of federally supported research centers, including the National Science Foundation-funded Center for Advanced Self-Powered Systems of Integrated Sensors and Technologies (ASSIST), which focuses on nanotechnology for use in the health field,<sup>36</sup> and the Department of Energy-funded PowerAmerica Institute, a public-private partnership that aims to speed up the commercial use of advanced semiconductor technology by reducing costs and increasing the reliability of wide-bandgap semiconductors.<sup>37</sup> Private-sector R&D activity is attracted to the Research Triangle by the high-quality academics at the universities, the skilled workforce they train, and the proximity to other innovative firms. Close to 50,000 people work in professional, scientific, and technical services jobs in the region, more than in any other industry sector.

In addition to research and development, advanced manufacturing is an important driver of the Raleigh economy. The computer and electronic product manufacturing sector added 2,500 jobs in the region in 2015, more than in any of the other 400 U.S. metros. Over the past five years, the sector has added 5,600 jobs, doubling employment at a time when employment in the sector declined in the majority of metros. However, layoffs announced at Cisco in August 2016 may indicate an end to this momentum.<sup>38</sup>



## Nashville-Davidson-Murfreesboro-Franklin, TN

*(Gained 11 places)*

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 8TH   |
| JOB GROWTH (2014-2015)                        | 20TH  |
| WAGE GROWTH (2009-2014)                       | 9TH   |
| WAGE GROWTH (2013-2014)                       | 27TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 20TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 24TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 8TH   |
| HIGH-TECH GDP CONCENTRATION (2015)            | 117TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 48TH  |

### ASSETS

- » Low cost of doing business makes regional firms competitive.
- » Rising wages fuel consumer spending, bolstering growth in the service sector.

### LIABILITIES

- » Fast pace of growth requires careful management.

**Nashville-Davidson-Murfreesboro-Franklin, TN**, ranks seventh in this year's index, having shot up 11 places to enter the Top 10. Employment in the metro rose 10 percent faster than the national average from 2010 to 2015, and this explosive growth earned the region eighth place on the five-year job growth measure. The metro also earned eighth place in one-year high-tech GDP growth, but this was off a small base since high tech represents a much smaller share of the regional economy than it does in the national economy. However, despite not having the high-wage high-tech industries that have driven growth in the majority of the Top 25 best-performing cities, the Nashville-Davidson-Murfreesboro-Franklin metro has experienced significant wage growth in recent years as the local labor market tightened, ranking 27th on the one-year measure and ninth on the five-year metric.

Transportation equipment manufacturing, which includes auto manufacturing, has been a major contributor to the metro economy, with 900 jobs added in 2015. The 10,000 jobs added since 2010 have more than made up for jobs lost during the recession. Despite cooling national demand, the region's major manufacturers have announced multimillion-dollar investments in their local facilities, including \$160 million pledged by Nissan to build a supplier park adjacent to its factory in Smyrna<sup>39</sup> and GM's investing of more than \$900 million in its plant in Spring Hill. With recent announcements of 650 new hires to staff a third shift to start in January 2017, GM clearly expects demand for its Cadillac XT5 and GMC Acadia lines to remain high.<sup>40</sup>

Strong demand for office space and housing fueled by the growth of white-collar jobs and in-migration has stimulated growth in the construction sector. Employment for specialty trade contractors and in the construction of buildings combined rose by 3,750 in 2015.



## Fort Collins, CO

(Gained 6 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 21ST  |
| JOB GROWTH (2014-2015)                        | 16TH  |
| WAGE GROWTH (2009-2014)                       | 19TH  |
| WAGE GROWTH (2013-2014)                       | 5TH   |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 34TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 123RD |
| HIGH-TECH GDP GROWTH (2014-2015)              | 72ND  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 29TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 21ST  |

### ASSETS

- » Rising disposable incomes nationwide are boosting tourism and leisure spending in the region.
- » Tight labor market is fueling immigration and higher wages.

### LIABILITIES

- » High-tech industry isn't keeping pace with national trends.

**Fort Collins, CO**, placed eighth this year, continuing its steady climb up the rankings. The region ranked fifth overall for one-year wage increases, and it experienced strong job growth over the one- and five- year periods. Fort Collins has a well-developed high-tech industry, ranking 29th on our measure of high-tech concentration, although it has not been able to match the nation's high-tech expansion in recent years. From 2010 to 2015, Fort Collins' tech sector grew more slowly than the national average and underperformed every other metro in our Top 25 on this measure. However, the high-tech sector remains relatively diverse, and momentum in health care and professional services has helped keep the regional economy humming.

Colorado State University (CSU), based in Fort Collins, provides the regional economy with a stable economic base thanks to the more than 32,000 students and their spending power.<sup>41</sup> State employment in the region, which includes those employed at the university, increased by 12 percent from 2010 to 2015. Together, these groups helped support the 900 new jobs in bars and restaurants created in 2015 and 3,200 new jobs in the last five years. CSU has been on a construction tear, with seven academic and sports buildings underway in 2016, representing more than \$550 million in investments in its central campus.<sup>42</sup>

The university and the region's high quality of life both act as magnets for high-tech companies with an interest in innovation and attracting and retaining a skilled workforce. Tolmar, a Fort Collins-based manufacturer of pharmaceutical products, has grown to 600 employees locally, and it chose to expand within the metro, most recently in Windsor, for the reasons mentioned.<sup>43</sup>



## Orlando-Kissimmee-Sanford, FL

(Gained 19 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 17TH |
| JOB GROWTH (2014-2015)                        | 10TH |
| WAGE GROWTH (2009-2014)                       | 40TH |
| WAGE GROWTH (2013-2014)                       | 21ST |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 3RD  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 95TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 62ND |
| HIGH-TECH GDP CONCENTRATION (2015)            | 89TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 48TH |

### ASSETS

- » Service job opportunities are attracting young in-migrants.
- » Higher industrial diversity than other tourism-focused metros helps economic stability.

### LIABILITIES

- » Dependence of leisure-related spending on consumer confidence can create volatility.

**Orlando-Kissimmee-Sanford, FL**, ascends 19 spots to ninth. Dramatic job growth, improving over the five-, one-, and most recent 12-month periods, indicates that the metro may repeat its strong performance next year. For the 12 months ending in August 2016, the rate of expansion of employment in the region was surpassed by only two, much smaller metros on the large-cities index. High-tech sectors are less important to the Orlando-Kissimmee-Sanford metro than for the nation on average, but after lagging the nation in the past five years, high-tech GDP growth in the metro kept pace with the U.S. in 2015.

Tourism is a cornerstone of the metro economy, and the amusement, gambling and recreation sector accounted for 12,600 new jobs created from 2010 to 2015, more than in any other metro. The 23 percent increase in accommodation-related employment over the same five years was also the highest in the nation, accounting for more than 10,000 new jobs. Many of the jobs in these industries are filled by young people who are drawn to the metro, and their spending in turn helps boost employment in other tourism-related sectors, including at restaurants and bars (19,700 new jobs added from 2010 to 2015) and a variety of retail establishments, such as clothing (4,200 new jobs), electronics, and sporting goods stores (approximately 1,500 new jobs each).

Employment in the construction sectors is picking up but is still well below 2007 levels. Ongoing construction at the large theme parks,<sup>44</sup> including at Universal's Volcano Bay and Disney's Star Wars attractions, contribute to building trades employment, as well as bolster the region's appeal to visitors.





## Seattle-Bellevue-Everett, WA

(Fell 3 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 29TH  |
| JOB GROWTH (2014-2015)                        | 46TH  |
| WAGE GROWTH (2009-2014)                       | 7TH   |
| WAGE GROWTH (2013-2014)                       | 8TH   |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 18TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 54TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 167TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 3RD   |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 37TH  |

### ASSETS

- » Among the world leaders in cloud computing, artificial intelligence, and data visualization and in the Top 10 of life science clusters in the United States.
- » Some Silicon Valley tech leaders are expanding or opening operations in greater Seattle, among them Oracle, Google, and Facebook.

### LIABILITIES

- » Boeing has been facing intense competitive pressure from Airbus, and despite strong orders for its new aircraft, has pushed hard to cut headcount and costs.

**Seattle-Bellevue-Everett, WA**, remains among our top performers this year despite headwinds from job cuts at Boeing, coming in at 10th, down from seventh last year. The area is one of the world's most innovative regions. Much of that comes from the area's Top 3 private-sector employers: Boeing, Microsoft, and Amazon. However, the University of Washington is a major contributor. It was the top recipient of federal research dollars among public universities and ranked fourth in National Institutes of Health funding in 2014.<sup>45</sup>

Seattle's ports handle the third-highest container trade in the United States and support a vast array of businesses in the region. Seattle is a leader in cloud computing, artificial intelligence, and data visualization. It also is one of the Top 10 life science clusters in the U.S.<sup>46</sup>

Boeing, facing competition from Airbus, eliminated 4,000 jobs in the metro this year despite strong orders.<sup>47</sup> The cost-cutting caused ripple effects in the region's supply chain, which supports an estimated 132,000 jobs. However, Seattle's high-tech services economy is on a tear, with Amazon.com and Microsoft capturing a rising share of the growing market for cloud-based storage. Combined, they are spending billions to lease and acquire data centers and are hiring thousands of engineers. Amazon Web Services was one of the Top 20 U.S. firms in R&D spending in 2014.<sup>48</sup> Biotech has been expanding as well. Seattle Genetics, a pioneer in Hodgkin's lymphoma treatment with its new drug Adcetris, is the Pacific Northwest's largest biotech company by market capitalization and is also developing 12 new therapies for cancer.<sup>49</sup> Visualization software firm Tableau is a leader in its field. Net migration, estimated at 30,000 in 2015, has made Seattle one of the nation's strongest housing markets. Add a rich startup scene and you have the ingredients for an economy with sustainable growth.



## Salt Lake City, UT

(Held steady)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 25TH |
| JOB GROWTH (2014-2015)                        | 32ND |
| WAGE GROWTH (2009-2014)                       | 26TH |
| WAGE GROWTH (2013-2014)                       | 57TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 42ND |
| HIGH-TECH GDP GROWTH (2010-2015)              | 67TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 23RD |
| HIGH-TECH GDP CONCENTRATION (2015)            | 46TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 11TH |

### ASSETS

- » Strong performance in fellow Silicon Slopes metro Provo-Orem is creating a recognized Utah hub for investment.
- » Diverse high-tech sector reduces exposure to individual sector shocks.

### LIABILITIES

- » Home prices are rising faster than in neighboring communities and the nation, which may erode cost-of-living advantages.

**Salt Lake City, UT**, holds steady in 11th place. The expansion of the metro's diverse high-tech sector has picked up speed, ranking 23rd in 2015 and outpacing the national average. Job growth from 2010 to 2015 was almost 6 percent higher than the national average, ranking 25th, although it has slowed recently.

High-value-added service jobs are a major part of the metro's strong performance, thanks to a well-educated workforce and relatively lower wages and business costs than in comparable cities. Approximately 50,000 people worked in the professional, scientific, and technical services field in 2015, up 2,700 from the previous year. Employment in the finance sector, anchored by firms like Goldman Sachs, was also up in the last year, with the credit intermediation and related activities category extending its recent upward trend by adding 1,400 positions, supplemented by another 900 new jobs in the insurance industry in 2015. This growth supports new jobs in the administrative and support services sector, which has added 1,700 jobs in 2015 and more than 11,000 since 2010.

Medical device manufacturing continues to be a strength for the Salt Lake City metro economy, with 400 new jobs added in the industry category that includes medical devices in 2015. Utah has deployed tax rebates to facilitate this growth, using them to help attract Colorado-based Eldon James, a manufacturer of medical device accessories, which announced it would be creating 115 jobs at a new facility in Salt Lake County between 2015 and 2021.<sup>50</sup>



## Charlotte-Concord-Gastonia, NC-SC

(Gained 1 place)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 23RD |
| JOB GROWTH (2014-2015)                        | 25TH |
| WAGE GROWTH (2009-2014)                       | 11TH |
| WAGE GROWTH (2013-2014)                       | 20TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 51ST |
| HIGH-TECH GDP GROWTH (2010-2015)              | 62ND |
| HIGH-TECH GDP GROWTH (2014-2015)              | 33RD |
| HIGH-TECH GDP CONCENTRATION (2015)            | 94TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 63RD |

### ASSETS

- » Attractive business climate helps region attract, retain, and grow businesses.
- » Recent hiring in professional services points to expansion from back-office jobs to more highly compensated positions.

### LIABILITIES

- » Controversy about state policies may dissuade multinational firms from investing in the region.

**Charlotte-Concord-Gastonia, NC-SC**, inched up one spot to 12th this year, bolstered by strong job and wage growth. With one of the leading banking sectors in the nation, the metro ranked 11th for wage growth on our five-year measure and 20th on the one-year measure. New jobs have fueled most of this increase, with the region expanding employment 6.5 percent faster than the national average from 2010 to 2015, ranking 23rd. This pace has slowed more recently, with 12-month job growth ranking 51st.

The Charlotte-Concord-Gastonia metro is less concentrated in the high-tech sectors than most of the regions in the Top 25, and its economic vitality has been driven by other sectors. Back-office jobs, categorized as administrative and support services, have grown by 26 percent in the latest five years, adding 16,600 jobs. Included in these numbers are expansions of local firms; for example, a new call center opened in the region by Coca-Cola Bottling in October 2015 added more than 100 jobs.<sup>51</sup>

In 2015, more than 10 times as many jobs were added in the higher-wage, higher-skill professional, scientific, and technical services sector (5,900 new jobs) than in the administrative sector, contributing to the rising incomes in the metro and shifting the economy up the value chain. Firms such as cloud-tech Velocity Technology Solutions have chosen to expand in Charlotte, citing access to a skilled workforce and attractive business climate as motivating factors.<sup>52</sup> However, controversy about state policies has led some multinational firms to freeze plans to expand in the state, including PayPal, which planned to add 400 jobs in Charlotte before the contentious Public Facilities Privacy & Security Act was signed into law.<sup>53</sup>



## Denver-Aurora-Lakewood, CO

(Gained 3 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 16TH  |
| JOB GROWTH (2014-2015)                        | 24TH  |
| WAGE GROWTH (2009-2014)                       | 22ND  |
| WAGE GROWTH (2013-2014)                       | 10TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 23RD  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 120TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 164TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 28TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 16TH  |

### ASSETS

- » Investments in place-making and transportation infrastructure are creating an attractive place to live and visit.
- » Strong regional cooperation contributes to cohesive development plans.<sup>54</sup>

### LIABILITIES

- » Growth of high-tech sector lags peers.

**Denver-Aurora-Lakewood, CO**, gains three places to rank 13th. The metro has a large and diverse high-tech sector that has been growing more slowly than the national average in recent years, but overall job and wage growth remain strong. From 2010 to 2015, the region ranked 16th for job growth and claimed a spot in the Top 10 for one-year wage growth.

The professional, scientific, and technical services category added 5,400 jobs in 2015 and has grown by 25 percent since 2010, creating more than 25,000 net new jobs in the sector. This was the 11th-highest number of new jobs created in this expanding sector among the 401 metros evaluated. The educated workforce and business climate help to position the Denver metro as a destination for innovative firms. Panasonic Enterprise Solutions, a subsidiary of Panasonic Corp. focused on technology and solar power, selected Denver as its new headquarters in December 2014,<sup>55</sup> and opened its first smart building in 2016.<sup>56</sup> The firm chose to locate near Denver International Airport and is collaborating with the city to implement energy, technology, and transportation solutions to enhance sustainability and create a more connected, smart city.<sup>57</sup>

Cultural and arts amenities also add to the region's appeal. To support key regional assets, the Denver metro established the Scientific and Cultural Facilities District in 1989, supported by a sales and use tax. In addition to enriching the quality of life for residents, these assets attract tourists, who spent \$367 million in 2015, according to the biannual report by the Colorado Business Committee for the Arts.<sup>58</sup> The reputation as a future-facing metro, with innovative industry, cultural amenities, and expanding public transportation systems,<sup>59</sup> contributes to the influx of new residents to the region. This growth is creating upward pressure on housing costs, and the city of Denver has established a Mayor's Housing Advisory Committee to try to guide affordable-housing investments.<sup>60</sup>



## Portland-Vancouver-Hillsboro, OR-WA

(Fell 6 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 36TH  |
| JOB GROWTH (2014-2015)                        | 31ST  |
| WAGE GROWTH (2009-2014)                       | 23RD  |
| WAGE GROWTH (2013-2014)                       | 29TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 59TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 108TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 27TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 2ND   |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 37TH  |

### ASSETS

- » Tech hub success is based predominantly on its ability to grow and attract talent to the area, making it appealing to large tech companies with headquarters in Silicon Valley and elsewhere.
- » Wide range of software startups is underway, addressing a series of vertical markets

### LIABILITIES

- » Intel, the region's largest employer, has been hurt by weak PC sales, as most of its processor production is tied to that market, causing it to cut 800 jobs so far.

**Portland-Vancouver-Hillsboro, OR-WA**, placed 14th, remaining one of the best performers despite dropping six positions. Its success as a tech hub is based predominantly on a talented workforce that appeals to large tech companies based in Silicon Valley and elsewhere. However, the tech expansion has supported strong wage gains, contributing to one of the strongest housing markets in the country, with prices rising in the low double digits. Construction jobs were up 6.3 percent in the 12 months ending in August 2016.

Intel, the region's largest employer, has been hurt by weak PC sales, as most of its processor production is tied to that market.<sup>61</sup> Nevertheless, its Hillsboro-based operations house much of its most advanced engineering and research. Intel, which hasn't really pursued contract manufacturing, is making computer smartphone chips in Hillsboro based on designs from competitor ARM Holdings. This provides an opportunity to acquire expertise and, potentially, enter the market itself. Google has opened an engineering office in downtown Portland.<sup>62</sup>

The city's nascent software sector also is growing. For example, San Francisco-based software analytics firm New Relic established operations in Portland, hiring more than 300 people, many of them highly skilled software developers. Motor Vehicle Software Corp. also set up shop.<sup>63</sup> The growth spans a wide range of software startups, leading to the Venture Hall initiative to aid entrepreneurs. Even biotech firms such as AbSci are growing. Nike, in a major commitment to its corporate home, is expanding the factory that makes the small air pillows used in its shoes.<sup>64</sup> Professional, business and information services are growing rapidly. Overall, jobs—largely high-paying positions—advanced 7.2 percent in the 12 months through August.



## Cape Coral-Fort Myers, FL

(Gained 25 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 3RD   |
| JOB GROWTH (2014-2015)                        | 1ST   |
| WAGE GROWTH (2009-2014)                       | 29TH  |
| WAGE GROWTH (2013-2014)                       | 4TH   |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 28TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 8TH   |
| HIGH-TECH GDP GROWTH (2014-2015)              | 34TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 184TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 177TH |

### ASSETS

- » Climate and natural beauty attracting record numbers of tourists to the region.
- » Job and wage growth supports consumer spending and attracts new residents.

### LIABILITIES

- » Lowest high-tech concentration in the Top 25 limits potential gains from knowledge economy.

**Cape Coral-Fort Myers, FL**, leaps 25 places into 15th. With the highest job growth in 2015 and third-highest in the latest five years, the region has been outperforming the national economy, expanding employment 14 percent faster than the U.S. average from 2010 to 2015. The pace has slackened slightly in 2016, with recent 12-month job growth ranking 28th.

Tourism to the South Florida region rose in 2015, aided by the chilly winter farther up the East Coast.<sup>65</sup> This has supported the impressive expansion in employment in the metro. Restaurants and bars added 1,700 people to their staffs in 2015, and the combination of local operators in Cape Coral Parkway and chains in the Del Prado area of Cape Coral offer a variety of options to residents and tourists.<sup>66</sup> Concerns over algae blooms, which can kill fish and sicken beachgoers, may prove a deterrent to tourism if they persist.<sup>67</sup>

With its large share of older residents stimulating demand for health-care services, the region has seen major investments in hospitals. Work is underway on the expansion of the Gulf Coast Medical Center, which represents \$327 million in investment over the next five years.<sup>68</sup> Employment in the sector has risen, with approximately 4,000 jobs added in health care and social assistance in the past five years.

Increases in construction activity have contributed to this growth, with the number of workers in the construction of buildings category up 72 percent (1,750 jobs) from 2010 to 2015. Significant growth in the specialty trade contractor sector, which includes plumbers, electricians, and other contractors involved in the building trades, added 2,100 jobs in 2015. Despite rising steadily, employment in this construction-related sector is still only at 70 percent of 2007 totals. Large projects, such as the construction of the 128-bed Golisano Children's Hospital, scheduled for completion in the first half of 2017,<sup>69</sup> supplement residential demand.



## Charleston-North Charleston, SC

(Gained 1 place)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 22ND  |
| JOB GROWTH (2014-2015)                        | 27TH  |
| WAGE GROWTH (2009-2014)                       | 25TH  |
| WAGE GROWTH (2013-2014)                       | 35TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 46TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 11TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 108TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 59TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 84TH  |

### ASSETS

- » Port of Charleston is a key asset, facilitating export-oriented manufacturing.
- » Major investments in manufacturing facilities promise future growth.

### LIABILITIES

- » Skilled workers may not be available in sufficient numbers to meet demand of advanced manufacturers interested in locating and growing in the state.

**Charleston-North Charleston, SC**, inches up one spot to 16th. From 2010 to 2015, its high-tech economy grew 20 percent faster than the nation overall, resulting in a regional high-tech concentration roughly equal to the national average in 2015. The metro performed strongly on the one- and five-year job and wage measures, ranking in the top quarter of cities in all five job and wage indicators.

With major auto manufacturers and aerospace firms located in the region, the Charleston-North Charleston metro added 3,700 jobs in the transportation equipment manufacturing category from 2010 to 2015. Firms are continuing to invest in the region. In 2015, Daimler announced its plan to build a \$500 million plant in North Charleston that will manufacture Mercedes-Benz vans and add 1,360 jobs. The availability of training for the local workforce, proximity to the Port of Charleston, and financial incentives were cited as reasons for selecting the site.<sup>70</sup> BMW announced that its exports from the Port of Charleston were valued at \$9.8 billion in 2015.<sup>71</sup> The completion of the Panama Canal expansion is expected to drive up movement through the Port of Charleston.

Home to the Charleston Digital Corridor, the Charleston-North Charleston metro has seen 2,300 jobs added in the professional, scientific, and technical services sector over the past five years. Startup firms like BiblioBoard, a digital publishing platform that helps libraries improve the quality and scope of patrons' online experience,<sup>72</sup> have expanded significantly in recent years.

Public-sector employment has also increased in the metro, with local government adding 700 jobs in 2015. The number of federal employees has increased by 7 percent over the past five years, ranking seventh in the nation for the number of new jobs added.



## Naples-Immokalee-Marco Island, FL

(Fell 2 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 6TH   |
| JOB GROWTH (2014-2015)                        | 14TH  |
| WAGE GROWTH (2009-2014)                       | 20TH  |
| WAGE GROWTH (2013-2014)                       | 23RD  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 15TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 29TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 84TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 161ST |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 143RD |

### ASSETS

- » Climate and location make the region an attractive destination for tourists and retirees.
- » Increasing disposable income nationally is driving up the number of visitors and supporting leisure industry employment.

### LIABILITIES

- » Employment concentrated in lower-wage service industries limits consumer spending effects in the regional economy.

**Naples-Immokalee-Marco Island, FL**, dips two places to 17th, despite very strong job and wage growth. The metro ranked sixth for employment gains from 2010 to 2015 and 14th and 15th for gains in the last year and latest 12 months, respectively. High-tech industries are not a major part of the metro economy; in the Top 25, only the neighboring Cape Coral-Fort Meyers metro has a smaller share of the local economy built on tech. Other sectors are driving growth, and since high-tech GDP expanded more slowly than the national average in 2015, this is unlikely to change.

Tourism is the primary engine of the regional economy, and it is performing well. Visitor numbers were up 3.1 percent in 2015 over the previous year, with 1,829,500 people spending at least one night in the region.<sup>73</sup> Thanks to the growing number of visitors, the metro's retail and hospitality sectors are thriving. After remaining relatively stable through the recession, employment in the region's restaurants and bars is rising at a fast pace. From 2010 to 2015, job growth was more than 37 percent, making the sector the largest employer in the region.

With its attractive climate and prime location, the Naples-Immokalee-Marco Island metro is attractive not only to tourists. Retirees from around the United States choose to relocate to the region, supporting the housing market and stimulating construction. The real estate, construction, and specialty contractors sectors together added more than 1,700 jobs in 2015, and more than 5,800 since 2010. Early indications are that the 2016 real estate market has cooled somewhat, thanks to new construction increasing supply and demand slackening slightly.<sup>74</sup>



## Oakland-Hayward-Berkeley, CA

(Gained 21 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 44TH |
| JOB GROWTH (2014-2015)                        | 53RD |
| WAGE GROWTH (2009-2014)                       | 49TH |
| WAGE GROWTH (2013-2014)                       | 48TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 57TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 45TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 19TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 18TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 2ND  |

### ASSETS

- » Large and diverse high-tech sector is in expansion mode, stimulating investment in formerly underused real estate.
- » World-class University of California, Berkeley, attracts talent.

### LIABILITIES

- » Influx of tech firms and workers inflates rents and diminishes supply of affordable housing.

**Oakland-Hayward-Berkeley, CA**, leaps 21 places into 18th, improving on all but one of our nine indicators. The fact that the one decline involved slipping one place, from 52nd to 53rd, in one-year job growth underscores the scale of the metro's impressive recent economic expansion. Benefiting from economic spillovers from neighboring No. 1 San Jose-Sunnyvale-Santa Clara and No. 4 San Francisco-South San Francisco, the region is experiencing broad-based gains in diverse industrial sectors.

After lagging the national average last year, the region's high-tech sector outperformed the nation by 3.5 percent in 2015, ranking 19th. This is likely to continue as Bay Area firms look for office space to expand into, or seek out more competitive prices than can be found elsewhere in the region. Uber purchased 330,000 square feet of Oakland office space in 2015 and expects to move employees into the space in 2017.<sup>75</sup> Fluid, a retail-industry-focused software and web design firm, cited the "cool" atmosphere in Oakland and the lower office rents as reasons for relocating its 100 employees from San Francisco.<sup>76</sup> The region already has a large and diverse high-tech sector, and it tied for second with several tech hubs on number of industries concentrated in the metro. Overall, the professional, scientific, and technical services sector added 13,400 positions from 2010 to 2015, second only to job gains in bars and restaurants in the metro.

The Oakland-Hayward-Berkeley metro has surpassed pre-recession employment levels in the transportation equipment manufacturing sector, recovering from the 2009 closure of the GM plant in Fremont. Today Tesla employs more than 6,000 people at its Fremont factory, and the firm recently submitted plans to double the size of the facility over the next few years and increase employment by a third.<sup>77</sup> The factory produces the electric car maker's Model S and Model X vehicles and is expected to start manufacturing the Model 3 in 2017.<sup>78</sup> Public-sector investments have also supported construction jobs in Fremont; the \$890 million BART Warm Springs-South Fremont extension is due to open in 2016 after seven years of construction.<sup>79</sup>



## Anaheim-Santa Ana-Irvine, CA

(Gained 27 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 47TH |
| JOB GROWTH (2014-2015)                        | 42ND |
| WAGE GROWTH (2009-2014)                       | 56TH |
| WAGE GROWTH (2013-2014)                       | 51ST |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 49TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 39TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 36TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 23RD |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 2ND  |

### ASSETS

- » Professional and business services, including financial services, are adding jobs in the region.
- » University of California, Irvine, is a key research and education hub, with plans to further expand its impact in the community.

### LIABILITIES

- » Congestion and rising cost of housing make the region less attractive to residents from outside Southern California.

**Anaheim-Santa Ana-Irvine, CA**, soars 27 places to 19th, the largest climb in the Top 25 this year. Improved job and wage performance, along with a growing high-tech sector, propelled the metro up the rankings. The region has a large and diverse high-tech sector, ranking 23rd for the size of the sector and second for its variety. From 2010 to 2015, employment in the Anaheim-Santa Ana-Irvine metro increased 3.5 percent faster than the national average. However, this performance lags the rest of the Top 25, speaking to the fast pace of job creation among peer regions.

Established firms, including Edwards Lifesciences and Microsemi Corp., have been joined by startup companies keen to capitalize on the region's educated workforce and quality of life.<sup>80</sup> Venture capital has followed, and in 2015 the metro attracted \$1 billion in investment, a feat last achieved during the dot-com bubble.<sup>81</sup> User-driven data analytics firm Alteryx secured \$85 million in funding in 2015 to develop its product for the business analyst market.<sup>82</sup> Clients of the firm, which employs 100 people at its Irvine headquarters, include Ingersoll Rand and Unilever.<sup>83, 84</sup> Overall, the metro's professional, scientific, and technical services sector grew 20 percent from 2010 to 2015, adding 20,800 jobs.

The University of California, Irvine, received record-breaking research and philanthropic funding in fiscal 2015-2016, including a \$40 million gift to establish and house a school of nursing. In total, \$395 million in grants and contracts and \$132 million in gifts will support UC Irvine's pursuit of its strategic plan,<sup>85</sup> which includes expanding its faculty by 250 positions over five years, attracting more graduate students, and adding to its facilities.<sup>86</sup> The continuing health and ambition of this key regional asset will benefit the metro, helping train its workforce and attracting innovative firms.



## Santa Rosa, CA

(Gained 5 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 10TH |
| JOB GROWTH (2014-2015)                        | 48TH |
| WAGE GROWTH (2009-2014)                       | 85TH |
| WAGE GROWTH (2013-2014)                       | 30TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 30TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 71ST |
| HIGH-TECH GDP GROWTH (2014-2015)              | 44TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 55TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 21ST |

### ASSETS

- » Diversifying local economy is expanding to take advantage of the regional Bay Area economy.
- » Access to a highly educated workforce.

### LIABILITIES

- » California's continuing drought will put pressure on agriculture production.

**Santa Rosa, CA**, rises five places to 20th, remaining in the Top 25 for the second year in a row. Five-year job growth and tech diversity are the metro's strongest indicators. Its economy has gained because of increased demand for wine and the continued expansion of the Bay Area regional economy.

The wine business has been expanding because of increased domestic and international demand. The northern Bay Area produces most of California's wine, and Santa Rosa's wineries are growing. The metro has the highest one-year growth of beverage and tobacco product manufacturing in the nation, with 9.1 percent one-year GDP growth.<sup>87</sup> This indicates the metro is as competitive as its more famous neighbors. Santa Rosa is looking for ways to keep growing and is engaging heavily in merger-and-acquisition activities.<sup>88</sup>

The metro has the benefits of being a large city in the Bay Area while still having a lower cost of living. This has drawn high-tech businesses farther north than traditional Bay Area counties. The area has the sixth-highest one-year job growth in professional, scientific, and technical services; the sector experienced one-year GDP growth of 4.1 percent.<sup>89</sup> Keysight has its headquarters and research and development operations in Santa Rosa.<sup>90</sup> Ruthigen, a Santa Rosa biotech, purchased Pulmatrix, a Massachusetts-based biotech.<sup>91</sup> BioCision, a medical storage device company, relocated operations to San Rafael in 2014.<sup>92</sup> The metro is diversifying out of traditional economic drivers into sectors that can take advantage of the regional Bay Area economy.



## Atlanta-Sandy Springs-Roswell, GA

(Gained 6 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 35TH |
| JOB GROWTH (2014-2015)                        | 35TH |
| WAGE GROWTH (2009-2014)                       | 42ND |
| WAGE GROWTH (2013-2014)                       | 25TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 44TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 36TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 96TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 43RD |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 63RD |

### ASSETS

- » Emory University, Georgia Institute of Technology, and Georgia State University create a highly educated population in the metro.
- » Logistics hub makes the metro a major part of the U.S. supply chain.

### LIABILITIES

- » Changes in oil prices affect larger employers.

**Atlanta-Sandy Springs-Roswell, GA**, takes 21st place to enter the Top 25 this year, up from 27th in last year's Best-Performing Cities index. The metro's highest-ranking indicator is one-year wage growth, at 25th—1.6 percent higher than the national average. The metro also ranks well in both one- and five-year job growth indicators and in the five-year high-tech GDP growth indicator.

The Atlanta-Sandy Springs-Roswell economy is highly diverse, with major employers in transportation, health care, consumer goods, and high-tech. Atlanta is the primary transportation hub of the South. The metro's infrastructure for both land and air transportation has long been a source of competitive advantage. The low cost of oil has benefited major employers in the metro, such as Delta Air Lines and UPS, both of which operate fleets of planes out of the area. Lockheed Martin's C-130 production facility also takes advantage of the transportation network, not only for delivery but for connecting the company's supply chain.<sup>93</sup>

The local high-tech sector is anchored by AT&T, First Data Corp., and numerous health-care systems.<sup>94</sup> The entrepreneurial infrastructure being established in the metro can be seen in groups such as Atlanta Tech Village.<sup>95</sup> The total health-care system employs 130,000 people, with six of the 20 largest employers in the metro contributing about 40 percent of the health-care staff.<sup>96</sup> The startups and established businesses are fed by the three major universities. Large consumer-goods retailers and producers are headquartered in the area, including Coca-Cola and Home Depot. This type of economic diversity has helped the region to not only develop, but to adopt new industries to continue its growth.



## Grand Rapids-Wyoming, MI

(Fell 1 place)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 20TH  |
| JOB GROWTH (2014-2015)                        | 67TH  |
| WAGE GROWTH (2009-2014)                       | 13TH  |
| WAGE GROWTH (2013-2014)                       | 13TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 39TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 32ND  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 37TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 132ND |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 115TH |

### ASSETS

- » Has shown capacity to attract manufacturing from global competitors.
- » High-tech cluster is expanding beyond biotech.

### LIABILITIES

- » Cost of living is high compared with the rest of the state.

**Grand Rapids-Wyoming, MI**, ranking 22nd, remains in the Top 25 in this year's Best-Performing Cities index. Manufacturing is the foundation on which the metro has grown. Both of the wage growth indicators rank 13th this year. Grand Rapids-Wyoming's one-year wage growth is 2.1 percent faster than the national average, and five-year wage growth is 7.6 percent faster.

General manufacturing employment accounts for about 107,800 jobs in the metro, with the largest manufacturing sector being fabricated metals. Grand Rapids has a large contingent of auto parts suppliers, and General Motors is investing \$119 million into upgrading its facility.<sup>97</sup> Tesla has also made inroads into the metro's economy with the purchase of Riviera Tool.<sup>98</sup> Ranir has been setting up a plant to manufacture its electric toothbrush heads, with \$3 million spent on R&D.<sup>99</sup>

The metro has been successful in attracting investment for the expanding manufacturing sector, but it also has a growing high-tech sector. Tetra Discovery has developed a drug to aid memory after traumatic brain injury and has been able to secure \$4.3 million for an Alzheimer's treatment.<sup>100,101</sup> The biotech industry benefits greatly from talent trained at Michigan State University, which is building an \$88.1 million research center and creating a research park for biomedical advancement.<sup>102</sup> Software developer Atomic Object is in Grand Rapids and has invested \$2.9 million in its headquarters.<sup>103</sup> Grand Rapids-Wyoming's established manufacturing and growing high-tech sectors will continue to deliver economic growth to the metro.



## Boise City, ID

(Gained 10 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 26TH  |
| JOB GROWTH (2014-2015)                        | 44TH  |
| WAGE GROWTH (2009-2014)                       | 39TH  |
| WAGE GROWTH (2013-2014)                       | 15TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 14TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 57TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 120TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 26TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 143RD |

### ASSETS

- » Economically diverse, with a large tech sector.
- » Population is young, lending tech industry vitality.

### LIABILITIES

- » More exposed to global economic shifts than other tech cities.

**Boise City, ID**, ranks 23rd, entering the Top 25 for the first time since 2007. One-year wage growth ranks 15th and short-term job growth ranks 14th. These two indicators are growing 1.9 percent and 2.1 percent faster than the national average, respectively.

Boise City is home to Micron Technology, an employer of 5,000 people and a leader in semiconductor manufacturing that has helped create Boise City's tech sector.<sup>104</sup> Micron has gifted \$25 million to Boise State University for a materials research center.<sup>105</sup> The metro attracts companies such as Paylocity, which has set up an office in Boise, bringing with it 500 jobs.<sup>106</sup> American Semiconductor is based in Boise and plans to move its manufacturing operations to the local tech hub.<sup>107</sup> Cradlepoint, a hardware company based in Boise, garnered \$48 million in funding from Sorenson Capital and employs about 300 people.<sup>108</sup>

Technology companies make up a large portion of job and wage growth, but there is a diverse local economy that includes food manufacturing and health care. Hearthiside Food Solutions is opening a facility that will employ 168 people. Distillery equipment manufacturer Corson Distilling hired its first employee in 2015 and has since grown to 55 people.<sup>109</sup> Albertsons is headquartered in Boise, employing almost 2,300 people and set to go public this year.<sup>110,111</sup> Health care in Boise should see gains in the coming years with the St. Luke's expansion getting underway. The overall Boise City health-care system employs 9,400 people. Boise should continue to see growth in wages and jobs in the next year.



## San Antonio-New Braunfels, TX

(Fell 12 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 24TH  |
| JOB GROWTH (2014-2015)                        | 33RD  |
| WAGE GROWTH (2009-2014)                       | 21ST  |
| WAGE GROWTH (2013-2014)                       | 31ST  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 104TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 33RD  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 83RD  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 79TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 21ST  |

### ASSETS

- » Has a strong biotech sector, with additional support from the presence of the Department of Defense.
- » Finance sector can provide local funding for the high-tech sector.

### LIABILITIES

- » Volatility in oil markets can affect the overall economy.

**San Antonio-New Braunfels, TX**, ranks 24th this year, staying in the Top 25. The metro's one-year wage growth rose 20 places and tech diversity rose 18. San Antonio-New Braunfels' one-year wage growth is 1.3 percent higher than the national average, and the metro has three high-tech sectors more concentrated than the other large metros.

The metro has a mix of public and private economic drivers. Military and federal security agencies make up the public engine. The focus on cyber security from the NSA and Air Force will help anchor San Antonio-New Braunfels as consolidation takes place and U.S. foreign policy shifts. The financial industry also has a large presence, with financial institutions employing almost 67,500 people. The largest of these is insurance firm USAA, which is closely linked to the military. The mix of financial services and manufacturing from Boeing, Toyota, and Caterpillar add to the diversity of the local economy.<sup>112</sup> The metro has faced setbacks with the decline in oil prices, but with the Eagle Ford Shale deposit being one of the most cost-effective deposits in the nation, OPEC's recent decision to limit supply should help the metro in the near future.

San Antonio-New Braunfels' biotech sector has been drawing in investment and businesses; companies such as Acelyty have invested heavily in operations in the metro. The sector concentration has foreign companies relocating to the area, with one notable example being German firm CytoCentrics.<sup>113</sup> The military supports the biotech industry as well. Pryor Medical Devices has been awarded a \$14.3 million contract from the Department of Defense.<sup>114</sup> San Antonio's industrial diversity will help the metro weather economic slowdowns.



## San Luis Obispo-Paso Robles-Arroyo Grande, CA

(Fell 15 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 15TH |
| JOB GROWTH (2014-2015)                        | 39TH |
| WAGE GROWTH (2009-2014)                       | 66TH |
| WAGE GROWTH (2013-2014)                       | 73RD |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 47TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 7TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 3RD  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 90TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 63RD |

### ASSETS

- » California Polytechnic State University is a stable economic force.
- » Diversifying local economy will help the metro be less dependent on traditional industries.

### LIABILITIES

- » Wine production will continue to be under pressure from the drought.

**San Luis Obispo-Paso Robles-Arroyo Grande, CA**, completes the Top 25 large metropolitan areas on this year's Best-Performing Large Cities index. The metro sees Top 10 rankings in one- and five-year high-tech GDP growth, at third and seventh, respectively. One-year high-tech GDP growth is 6.8 percent greater than the national average, while the five-year indicator is 28.4 percent greater.

California Polytechnic State University (Cal Poly) has been able to attract significant funding from alumni and research and development grants. In the last two years, Cal Poly has received two \$20 million donations from different alumni and a \$2.3 million donation for the graphic communication department.<sup>115, 116, 117</sup> The National Science Foundation also awarded the school \$500,000 for an expansion of its technology park.<sup>118</sup> This year saw the first companies enrolled in Cal Poly's Center for Innovation and Entrepreneurship incubator program.<sup>119</sup> Cal Poly has also received grants for \$1.5 million and \$2.6 million for wave power research and stem cell research.<sup>120, 121</sup> There is a growing tech industry in the area. MindBody, a local startup, went public in 2015, with its IPO generating \$101 million.<sup>122</sup>

The main industries are still tourism and agriculture. The former is directly related to the latter, which is dominated by wineries. Alaska Airlines has extended service to the metro from Seattle, pointing to the region's increasing appeal.<sup>123</sup> The metro's wineries generated \$732 million in revenue in 2015 from wine sales. Tourists spent \$194 million on wine-related purchases.<sup>124</sup> San Luis Obispo-Paso Robles-Arroyo Grande is growing and is expanding its economy beyond agriculture.





## ON THE WEB

For data on each city, go to [www.best-cities.org](http://www.best-cities.org)

# Complete Results

## 2016 Best-Performing Large Cities

### RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LQ>=1 (2015) |
|-------------|-----------|-----------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| 0           | 1         | 1         | San Jose-Sunnyvale-Santa Clara, CA                    | 7                    | 11                   | 1                     | 2                     | 25                                    | 3                              | 16                             | 1                                  | 2  |
| 1           | 3         | 2         | Provo-Orem, UT  | 2                    | 2                    | 6                     | 32                    | 9                                     | 10                             | 1                              | 13                                 | 16   |
| 2           | 4         | 2         | Austin-Round Rock, TX                                 | 4                    | 7                    | 4                     | 7                     | 26                                    | 12                             | 14                             | 9                                  | 11   |
| -2          | 2         | 4         | San Francisco-Redwood City-South San Francisco, CA    | 5                    | 5                    | 2                     | 6                     | 66                                    | 1                              | 2                              | 7                                  | 11   |
| 0           | 5         | 5         | Dallas-Plano-Irving, TX                               | 12                   | 6                    | 15                    | 24                    | 10                                    | 28                             | 47                             | 27                                 | 21   |
| 0           | 6         | 6         | Raleigh, NC   | 18                   | 17                   | 12                    | 44                    | 48                                    | 22                             | 12                             | 10                                 | 2  |
| 11          | 18        | 7         | Nashville-Davidson-Murfreesboro-Franklin, TN          | 8                    | 20                   | 9                     | 27                    | 20                                    | 24                             | 8                              | 117                                | 48   |
| 6           | 14        | 8         | Fort Collins, CO                                      | 21                   | 16                   | 19                    | 5                     | 34                                    | 123                            | 72                             | 29                                 | 21   |
| 19          | 28        | 9         | Orlando-Kissimmee-Sanford, FL                         | 17                   | 10                   | 40                    | 21                    | 3                                     | 95                             | 62                             | 89                                 | 48   |
| -3          | 7         | 10        | Seattle-Bellevue-Everett, WA                          | 29                   | 46                   | 7                     | 8                     | 18                                    | 54                             | 167                            | 3                                  | 37   |
| 0           | 11        | 11        | Salt Lake City, UT                                    | 25                   | 32                   | 26                    | 57                    | 42                                    | 67                             | 23                             | 46                                 | 11   |
| 1           | 13        | 12        | Charlotte-Concord-Gastonia, NC-SC                     | 23                   | 25                   | 11                    | 20                    | 51                                    | 62                             | 33                             | 94                                 | 63   |
| 3           | 16        | 13        | Denver-Aurora-Lakewood, CO                            | 16                   | 24                   | 22                    | 10                    | 23                                    | 120                            | 164                            | 28                                 | 16   |
| -6          | 8         | 14        | Portland-Vancouver-Hillsboro, OR-WA                   | 36                   | 31                   | 23                    | 29                    | 59                                    | 108                            | 27                             | 2                                  | 37   |
| 25          | 40        | 15        | Cape Coral-Fort Myers, FL                             | 3                    | 1                    | 29                    | 4                     | 28                                    | 8                              | 34                             | 184                                | 177  |
| 1           | 17        | 16        | Charleston-North Charleston, SC                       | 22                   | 27                   | 25                    | 35                    | 46                                    | 11                             | 108                            | 59                                 | 84   |
| -2          | 15        | 17        | Naples-Immokalee-Marco Island, FL                     | 6                    | 14                   | 20                    | 23                    | 15                                    | 29                             | 84                             | 161                                | 143  |
| 21          | 39        | 18        | Oakland-Hayward-Berkeley, CA                          | 44                   | 53                   | 49                    | 48                    | 57                                    | 45                             | 19                             | 18                                 | 2  |
| 27          | 46        | 19        | Anaheim-Santa Ana-Irvine, CA                          | 47                   | 42                   | 56                    | 51                    | 49                                    | 39                             | 36                             | 23                                 | 2  |
| 5           | 25        | 20        | Santa Rosa, CA  | 10                   | 48                   | 85                    | 30                    | 30                                    | 71                             | 44                             | 55                                 | 21   |
| 6           | 27        | 21        | Atlanta-Sandy Springs-Roswell, GA                     | 35                   | 35                   | 42                    | 25                    | 44                                    | 36                             | 96                             | 43                                 | 63   |
| -1          | 21        | 22        | Grand Rapids-Wyoming, MI                              | 20                   | 67                   | 13                    | 13                    | 39                                    | 32                             | 37                             | 132                                | 115  |
| 10          | 33        | 23        | Boise City, ID  | 26                   | 44                   | 39                    | 15                    | 14                                    | 57                             | 120                            | 26                                 | 143  |
| -12         | 12        | 24        | San Antonio-New Braunfels, TX                         | 24                   | 33                   | 21                    | 31                    | 104                                   | 33                             | 83                             | 79                                 | 21   |
| -15         | 10        | 25        | San Luis Obispo-Paso Robles-Arroyo Grande, CA         | 15                   | 39                   | 66                    | 73                    | 47                                    | 7                              | 3                              | 90                                 | 63   |
| 18          | 44        | 26        | North Port-Sarasota-Bradenton, FL                     | 9                    | 3                    | 71                    | 17                    | 72                                    | 19                             | 38                             | 130                                | 115  |
| 3           | 30        | 27        | Savannah, GA  | 34                   | 15                   | 90                    | 56                    | 6                                     | 4                              | 51                             | 48                                 | 143  |
| 13          | 41        | 28        | Fort Lauderdale-Pompano Beach-Deerfield Beach, FL     | 39                   | 52                   | 58                    | 33                    | 8                                     | 55                             | 58                             | 93                                 | 84   |
| 20          | 49        | 29        | Ogden-Clearfield, UT                                  | 30                   | 13                   | 77                    | 46                    | 5                                     | 109                            | 29                             | 92                                 | 115  |
| -6          | 24        | 30        | Fayetteville-Springdale-Rogers, AR-MO                 | 11                   | 4                    | 8                     | 36                    | 35                                    | 82                             | 73                             | 168                                | 177  |
| -22         | 9         | 31        | Greeley, CO   | 1                    | 64                   | 3                     | 1                     | 91                                    | 72                             | 7                              | 182                                | 143  |
| -13         | 19        | 32        | San Diego-Carlsbad, CA                                | 51                   | 58                   | 47                    | 74                    | 94                                    | 41                             | 24                             | 14                                 | 1  |
| 25          | 58        | 33        | Tampa-St. Petersburg-Clearwater, FL                   | 43                   | 28                   | 73                    | 65                    | 32                                    | 93                             | 65                             | 76                                 | 21   |
| -12         | 22        | 34        | Boulder, CO   | 38                   | 87                   | 24                    | 41                    | 45                                    | 106                            | 169                            | 4                                  | 2  |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LQ>=1 (2015) |
|-------------|-----------|-----------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| -1          | 34        | <b>35</b> | Rockingham County-Strafford County, NH                | 96                   | 76                   | 41                    | 26                    | 19                                    | 59                             | 128                            | 49                                 | 21   |
| 14          | 50        | <b>36</b> | West Palm Beach-Boca Raton-Delray Beach, FL           | 19                   | 12                   | 38                    | 11                    | 102                                   | 63                             | 115                            | 107                                | 143  |
| 14          | 51        | <b>37</b> | Boston, MA  | 64                   | 90                   | 34                    | 14                    | 116                                   | 21                             | 25                             | 67                                 | 63   |
| -6          | 32        | <b>38</b> | Santa Maria-Santa Barbara, CA                         | 63                   | 91                   | 72                    | 80                    | 79                                    | 16                             | 11                             | 19                                 | 2  |
| 43          | 82        | <b>39</b> | Jacksonville, FL                                      | 50                   | 18                   | 78                    | 55                    | 13                                    | 110                            | 102                            | 108                                | 84   |
| 50          | 90        | <b>40</b> | New York-Jersey City-White Plains, NY-NJ              | 59                   | 72                   | 37                    | 16                    | 117                                   | 30                             | 60                             | 77                                 | 63   |
| 14          | 55        | <b>41</b> | Warren-Troy-Farmington Hills, MI                      | 27                   | 88                   | 27                    | 72                    | 60                                    | 25                             | 71                             | 61                                 | 143  |
| -11         | 31        | <b>42</b> | Fort Worth-Arlington, TX                              | 33                   | 98                   | 17                    | 18                    | 86                                    | 52                             | 125                            | 44                                 | 143  |
| -6          | 37        | <b>43</b> | McAllen-Edinburg-Mission, TX                          | 48                   | 85                   | 44                    | 47                    | 24                                    | 9                              | 26                             | 196                                | 143  |
| 16          | 60        | <b>44</b> | Riverside-San Bernardino-Ontario, CA                  | 13                   | 8                    | 82                    | 28                    | 77                                    | 141                            | 53                             | 126                                | 143  |
| 27          | 72        | <b>45</b> | Salem, OR   | 93                   | 34                   | 139                   | 19                    | 1                                     | 177                            | 5                              | 75                                 | 63   |
| 16          | 62        | <b>46</b> | Phoenix-Mesa-Scottsdale, AZ                           | 40                   | 36                   | 63                    | 89                    | 76                                    | 56                             | 110                            | 56                                 | 63   |
| -11         | 36        | <b>47</b> | Santa Cruz-Watsonville, CA                            | 55                   | 50                   | 121                   | 59                    | 96                                    | 13                             | 70                             | 54                                 | 37   |
| 29          | 77        | <b>48</b> | Los Angeles-Long Beach-Glendale, CA                   | 83                   | 93                   | 69                    | 61                    | 103                                   | 77                             | 15                             | 12                                 | 16   |
| 3           | 52        | <b>49</b> | Greenville-Anderson-Mauldin, SC                       | 41                   | 38                   | 36                    | 53                    | 153                                   | 40                             | 89                             | 87                                 | 84   |
| -15         | 35        | <b>50</b> | Cambridge-Newton-Framingham, MA                       | 85                   | 109                  | 33                    | 75                    | 95                                    | 86                             | 63                             | 6                                  | 2  |
| 30          | 80        | <b>50</b> | Port St. Lucie, FL                                    | 45                   | 9                    | 154                   | 37                    | 37                                    | 49                             | 77                             | 146                                | 115  |
| 32          | 84        | <b>52</b> | Sacramento-Roseville-Arden-Arcade, CA                 | 70                   | 54                   | 100                   | 83                    | 61                                    | 119                            | 28                             | 65                                 | 63   |
| 14          | 67        | <b>53</b> | Springfield, MO                                       | 102                  | 105                  | 89                    | 58                    | 62                                    | 5                              | 18                             | 84                                 | 84   |
| 16          | 70        | <b>54</b> | Wilmington, NC  | 68                   | 37                   | 129                   | 43                    | 151                                   | 27                             | 35                             | 45                                 | 63   |
| 2           | 57        | <b>55</b> | Laredo, TX  | 28                   | 62                   | 14                    | 104                   | 11                                    | 2                              | 195                            | 200                                | 194  |
| -2          | 54        | <b>56</b> | Fresno, CA  | 53                   | 19                   | 109                   | 90                    | 27                                    | 76                             | 43                             | 178                                | 143  |
| 14          | 71        | <b>57</b> | Louisville/Jefferson County, KY-IN                    | 58                   | 66                   | 59                    | 52                    | 55                                    | 42                             | 147                            | 159                                | 115  |
| 17          | 75        | <b>58</b> | Ann Arbor, MI   | 87                   | 117                  | 84                    | 137                   | 16                                    | 43                             | 41                             | 47                                 | 37   |
| 5           | 64        | <b>59</b> | Bakersfield, CA                                       | 49                   | 166                  | 10                    | 39                    | 89                                    | 70                             | 9                              | 158                                | 115  |
| 5           | 65        | <b>60</b> | Miami-Miami Beach-Kendall, FL                         | 32                   | 47                   | 52                    | 40                    | 147                                   | 46                             | 48                             | 155                                | 177  |
| 38          | 99        | <b>61</b> | Reno, NV  | 61                   | 21                   | 176                   | 45                    | 2                                     | 122                            | 75                             | 149                                | 115  |
| -17         | 45        | <b>62</b> | Des Moines-West Des Moines, IA                        | 65                   | 129                  | 30                    | 42                    | 54                                    | 37                             | 101                            | 153                                | 143  |
| 46          | 109       | <b>63</b> | Manchester-Nashua, NH                                 | 123                  | 107                  | 61                    | 12                    | 128                                   | 89                             | 100                            | 16                                 | 16   |
| -5          | 59        | <b>64</b> | Minneapolis-St. Paul-Bloomington, MN-WI               | 69                   | 114                  | 43                    | 79                    | 101                                   | 69                             | 126                            | 52                                 | 37   |
| -13         | 52        | <b>65</b> | Columbus, OH  | 42                   | 84                   | 28                    | 70                    | 110                                   | 113                            | 133                            | 106                                | 84   |
| 26          | 92        | <b>66</b> | Spartanburg, SC                                       | 46                   | 51                   | 46                    | 50                    | 162                                   | 6                              | 145                            | 162                                | 84   |
| -38         | 29        | <b>67</b> | Vallejo-Fairfield, CA                                 | 62                   | 23                   | 128                   | 112                   | 67                                    | 105                            | 105                            | 34                                 | 84   |
| -42         | 26        | <b>68</b> | Houston-The Woodlands-Sugar Land, TX                  | 14                   | 95                   | 5                     | 9                     | 175                                   | 90                             | 166                            | 119                                | 143  |
| 68          | 137       | <b>69</b> | Deltona-Daytona Beach-Ormond Beach, FL                | 82                   | 41                   | 144                   | 54                    | 4                                     | 130                            | 160                            | 127                                | 48   |
| 35          | 105       | <b>70</b> | Waco, TX  | 142                  | 101                  | 99                    | 98                    | 64                                    | 20                             | 30                             | 42                                 | 21   |
| 15          | 86        | <b>71</b> | Las Vegas-Henderson-Paradise, NV                      | 31                   | 22                   | 174                   | 49                    | 40                                    | 60                             | 78                             | 179                                | 177  |
| 15          | 87        | <b>72</b> | Trenton, NJ   | 89                   | 45                   | 57                    | 180                   | 88                                    | 88                             | 55                             | 32                                 | 48   |
| 12          | 85        | <b>73</b> | Modesto, CA   | 73                   | 65                   | 111                   | 81                    | 33                                    | 26                             | 13                             | 186                                | 194  |
| -1          | 73        | <b>74</b> | Lubbock, TX   | 76                   | 83                   | 32                    | 34                    | 63                                    | 168                            | 189                            | 101                                | 115  |
| 32          | 107       | <b>75</b> | Columbia, SC  | 56                   | 63                   | 107                   | 68                    | 83                                    | 94                             | 42                             | 160                                | 143  |
| -56         | 20        | <b>76</b> | Madison, WI   | 92                   | 94                   | 35                    | 151                   | 167                                   | 17                             | 6                              | 33                                 | 63   |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank  | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LQ ≥ 1 (2015) |
|-------------|-----------|------------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|---|
| -9          | 68        | <b>77</b>  | Asheville, NC   | 78                   | 59                   | 94                    | 103                   | 74                                    | 98                             | 183                            | 123                                | 21  |
| 20          | 98        | <b>78</b>  | Colorado Springs, CO                                  | 67                   | 40                   | 110                   | 118                   | 109                                   | 162                            | 163                            | 20                                 | 11  |
| -42         | 37        | <b>79</b>  | Worcester, MA-CT                                      | 110                  | 145                  | 80                    | 132                   | 87                                    | 81                             | 17                             | 36                                 | 9   |
| 32          | 112       | <b>80</b>  | Knoxville, TN   | 105                  | 74                   | 74                    | 100                   | 105                                   | 136                            | 32                             | 88                                 | 84  |
| -38         | 43        | <b>81</b>  | Baton Rouge, LA                                       | 60                   | 92                   | 70                    | 63                    | 99                                    | 51                             | 154                            | 174                                | 115   |
| -6          | 76        | <b>82</b>  | Lake County-Kenosha County, IL-WI                     | 113                  | 138                  | 55                    | 93                    | 100                                   | 143                            | 64                             | 17                                 | 48  |
| 64          | 147       | <b>83</b>  | Richmond, VA  | 72                   | 61                   | 117                   | 142                   | 17                                    | 165                            | 86                             | 122                                | 84  |
| 10          | 94        | <b>84</b>  | Cincinnati, OH-KY-IN                                  | 97                   | 118                  | 60                    | 67                    | 115                                   | 73                             | 85                             | 96                                 | 115   |
| -19         | 66        | <b>85</b>  | Durham-Chapel Hill, NC                                | 81                   | 102                  | 118                   | 94                    | 56                                    | 183                            | 178                            | 5                                  | 16  |
| 3           | 89        | <b>86</b>  | Stockton-Lodi, CA                                     | 37                   | 26                   | 171                   | 88                    | 22                                    | 124                            | 122                            | 185                                | 177   |
| -39         | 48        | <b>87</b>  | Indianapolis-Carmel-Anderson, IN                      | 52                   | 75                   | 53                    | 157                   | 118                                   | 180                            | 161                            | 22                                 | 37  |
| 34          | 122       | <b>88</b>  | Chicago-Naperville-Arlington Heights, IL              | 88                   | 111                  | 86                    | 107                   | 136                                   | 78                             | 45                             | 95                                 | 63  |
| -42         | 47        | <b>89</b>  | Merced, CA  | 90                   | 108                  | 98                    | 101                   | 41                                    | 18                             | 113                            | 197                                | 143   |
| 16          | 106       | <b>90</b>  | Eugene, OR  | 111                  | 69                   | 126                   | 62                    | 81                                    | 167                            | 181                            | 63                                 | 48  |
| -10         | 81        | <b>91</b>  | Spokane-Spokane Valley, WA                            | 126                  | 97                   | 104                   | 97                    | 21                                    | 111                            | 170                            | 104                                | 84  |
| 11          | 103       | <b>92</b>  | Kansas City, MO-KS                                    | 99                   | 89                   | 102                   | 92                    | 139                                   | 114                            | 132                            | 41                                 | 37  |
| 25          | 118       | <b>93</b>  | Wilmington, DE-MD-NJ                                  | 91                   | 96                   | 91                    | 119                   | 52                                    | 61                             | 185                            | 82                                 | 143   |
| 27          | 121       | <b>94</b>  | El Paso, TX   | 103                  | 86                   | 50                    | 155                   | 78                                    | 96                             | 156                            | 125                                | 84  |
| -53         | 42        | <b>95</b>  | Lexington-Fayette, KY                                 | 54                   | 77                   | 76                    | 69                    | 189                                   | 173                            | 188                            | 91                                 | 48  |
| 12          | 108       | <b>96</b>  | Myrtle Beach-Conway-North Myrtle Beach, SC-NC         | 71                   | 68                   | 113                   | 109                   | 53                                    | 84                             | 138                            | 193                                | 194   |
| -28         | 69        | <b>97</b>  | Corpus Christi, TX                                    | 79                   | 169                  | 16                    | 22                    | 114                                   | 87                             | 190                            | 189                                | 177   |
| -19         | 79        | <b>98</b>  | Visalia-Porterville, CA                               | 74                   | 49                   | 150                   | 143                   | 43                                    | 50                             | 114                            | 192                                | 177   |
| 63          | 162       | <b>99</b>  | Toledo, OH  | 95                   | 113                  | 88                    | 66                    | 71                                    | 74                             | 144                            | 173                                | 194   |
| -9          | 91        | <b>100</b> | Gainesville, FL                                       | 129                  | 78                   | 149                   | 76                    | 90                                    | 104                            | 76                             | 145                                | 84  |
| 53          | 154       | <b>101</b> | Chattanooga, TN-GA                                    | 106                  | 56                   | 62                    | 146                   | 152                                   | 118                            | 21                             | 166                                | 115   |
| 14          | 116       | <b>102</b> | Kalamazoo-Portage, MI                                 | 144                  | 103                  | 122                   | 125                   | 12                                    | 157                            | 171                            | 66                                 | 63  |
| -29         | 74        | <b>103</b> | Oklahoma City, OK                                     | 57                   | 125                  | 18                    | 99                    | 176                                   | 125                            | 49                             | 169                                | 177   |
| 29          | 133       | <b>104</b> | Winston-Salem, NC                                     | 118                  | 119                  | 81                    | 38                    | 166                                   | 80                             | 151                            | 147                                | 48  |
| -27         | 78        | <b>105</b> | Lincoln, NE   | 108                  | 152                  | 67                    | 102                   | 172                                   | 58                             | 56                             | 72                                 | 84  |
| -4          | 102       | <b>106</b> | Allentown-Bethlehem-Easton, PA-NJ                     | 116                  | 144                  | 75                    | 78                    | 183                                   | 53                             | 88                             | 71                                 | 84  |
| -14         | 93        | <b>107</b> | Baltimore-Columbia-Towson, MD                         | 114                  | 130                  | 93                    | 150                   | 80                                    | 148                            | 117                            | 53                                 | 37  |
| -12         | 96        | <b>108</b> | Brownsville-Harlingen, TX                             | 80                   | 135                  | 87                    | 113                   | 31                                    | 194                            | 40                             | 191                                | 177   |
| 39          | 148       | <b>109</b> | Salisbury, MD-DE                                      | 127                  | 81                   | 167                   | 86                    | 7                                     | 193                            | 177                            | 131                                | 63  |
| 5           | 115       | <b>110</b> | Washington-Arlington-Alexandria, DC-VA-MD-WV          | 122                  | 112                  | 137                   | 178                   | 38                                    | 146                            | 81                             | 31                                 | 84  |
| 44          | 155       | <b>111</b> | Detroit-Dearborn-Livonia, MI                          | 128                  | 140                  | 83                    | 91                    | 143                                   | 64                             | 74                             | 105                                | 115   |
| -12         | 100       | <b>112</b> | Oxnard-Thousand Oaks-Ventura, CA                      | 117                  | 174                  | 119                   | 115                   | 146                                   | 107                            | 61                             | 11                                 | 11  |
| -50         | 63        | <b>113</b> | Olympia-Tumwater, WA                                  | 77                   | 60                   | 148                   | 85                    | 36                                    | 161                            | 192                            | 177                                | 194   |
| -13         | 101       | <b>114</b> | Lakeland-Winter Haven, FL                             | 84                   | 43                   | 153                   | 108                   | 134                                   | 65                             | 59                             | 195                                | 177   |
| 42          | 157       | <b>115</b> | Fort Wayne, IN  | 107                  | 71                   | 131                   | 120                   | 82                                    | 186                            | 186                            | 99                                 | 48  |
| -60         | 56        | <b>116</b> | Salinas, CA   | 119                  | 70                   | 124                   | 126                   | 141                                   | 47                             | 22                             | 175                                | 143   |
| -30         | 87        | <b>117</b> | Springfield, MA                                       | 152                  | 165                  | 108                   | 121                   | 29                                    | 127                            | 31                             | 134                                | 115   |
| -23         | 95        | <b>118</b> | Providence-Warwick, RI-MA                             | 132                  | 159                  | 79                    | 82                    | 140                                   | 99                             | 162                            | 80                                 | 37  |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank  | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LQ ≥ 1 (2015) |
|-------------|-----------|------------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|---|
| 1           | 120       | <b>119</b> | Omaha-Council Bluffs, NE-IA                           | 115                  | 133                  | 103                   | 105                   | 122                                   | 129                            | 54                             | 124                                | 115   |
| 31          | 151       | <b>120</b> | Montgomery County-Bucks County-Chester County, PA     | 156                  | 147                  | 112                   | 64                    | 135                                   | 176                            | 118                            | 21                                 | 37  |
| 18          | 139       | <b>121</b> | Greensboro-High Point, NC                             | 141                  | 99                   | 123                   | 160                   | 106                                   | 83                             | 99                             | 81                                 | 63  |
| 21          | 143       | <b>122</b> | Elgin, IL   | 86                   | 127                  | 120                   | 122                   | 133                                   | 149                            | 82                             | 102                                | 84  |
| -12         | 111       | <b>123</b> | Beaumont-Port Arthur, TX                              | 166                  | 134                  | 51                    | 3                     | 160                                   | 44                             | 173                            | 183                                | 177   |
| 44          | 168       | <b>124</b> | Akron, OH   | 120                  | 106                  | 101                   | 96                    | 159                                   | 92                             | 80                             | 138                                | 143   |
| 51          | 176       | <b>125</b> | Rockford, IL  | 139                  | 153                  | 116                   | 133                   | 68                                    | 79                             | 66                             | 157                                | 115   |
| 18          | 144       | <b>126</b> | Reading, PA   | 133                  | 126                  | 115                   | 60                    | 156                                   | 137                            | 95                             | 128                                | 115   |
| -44         | 83        | <b>127</b> | Kennewick-Richland, WA                                | 143                  | 30                   | 160                   | 147                   | 75                                    | 196                            | 193                            | 58                                 | 115   |
| 42          | 170       | <b>128</b> | St. Louis, MO-IL                                      | 149                  | 115                  | 151                   | 116                   | 112                                   | 156                            | 124                            | 60                                 | 48  |
| 45          | 174       | <b>129</b> | Dayton, OH  | 147                  | 122                  | 161                   | 135                   | 107                                   | 151                            | 97                             | 68                                 | 21  |
| -16         | 114       | <b>130</b> | Ocala, FL   | 98                   | 104                  | 175                   | 114                   | 127                                   | 102                            | 121                            | 143                                | 84  |
| -70         | 61        | <b>131</b> | Tacoma-Lakewood, WA                                   | 75                   | 55                   | 157                   | 162                   | 65                                    | 174                            | 180                            | 129                                | 177   |
| 6           | 138       | <b>132</b> | Tulsa, OK   | 101                  | 146                  | 48                    | 111                   | 182                                   | 126                            | 134                            | 139                                | 115   |
| 9           | 142       | <b>133</b> | Cedar Rapids, IA                                      | 158                  | 175                  | 65                    | 84                    | 174                                   | 115                            | 172                            | 73                                 | 21  |
| -17         | 117       | <b>134</b> | Harrisburg-Carlisle, PA                               | 165                  | 120                  | 114                   | 128                   | 120                                   | 150                            | 112                            | 100                                | 48  |
| -6          | 129       | <b>135</b> | Silver Spring-Frederick-Rockville, MD                 | 151                  | 131                  | 170                   | 165                   | 97                                    | 153                            | 91                             | 25                                 | 21  |
| -10         | 126       | <b>136</b> | Philadelphia, PA                                      | 157                  | 137                  | 97                    | 136                   | 84                                    | 135                            | 109                            | 97                                 | 177   |
| N/A         | Small 97  | <b>137</b> | Amarillo, TX  | 125                  | 128                  | 106                   | 127                   | 138                                   | 34                             | 116                            | 167                                | 177   |
| 23          | 161       | <b>138</b> | Lansing-East Lansing, MI                              | 150                  | 132                  | 136                   | 130                   | 98                                    | 66                             | 98                             | 148                                | 143   |
| 30          | 169       | <b>139</b> | Camden, NJ  | 183                  | 80                   | 189                   | 188                   | 69                                    | 117                            | 90                             | 86                                 | 63  |
| -30         | 110       | <b>140</b> | Duluth, MN-WI   | 176                  | 196                  | 64                    | 138                   | 169                                   | 15                             | 4                              | 156                                | 115   |
| 30          | 171       | <b>141</b> | South Bend-Mishawaka, IN-MI                           | 154                  | 57                   | 183                   | 123                   | 158                                   | 158                            | 103                            | 109                                | 63  |
| -2          | 140       | <b>142</b> | Huntsville, AL  | 140                  | 100                  | 162                   | 158                   | 171                                   | 159                            | 135                            | 8                                  | 21  |
| -12         | 131       | <b>143</b> | Clarksville, TN-KY                                    | 66                   | 73                   | 184                   | 192                   | 73                                    | 182                            | 46                             | 199                                | 194   |
| 12          | 156       | <b>144</b> | Flint, MI   | 163                  | 188                  | 172                   | 131                   | 125                                   | 14                             | 69                             | 85                                 | 84  |
| 5           | 150       | <b>145</b> | Portland-South Portland, ME                           | 148                  | 121                  | 143                   | 129                   | 108                                   | 166                            | 152                            | 113                                | 84  |
| 20          | 166       | <b>146</b> | Bridgeport-Stamford-Norwalk, CT                       | 131                  | 156                  | 138                   | 166                   | 129                                   | 171                            | 146                            | 38                                 | 21  |
| 6           | 153       | <b>147</b> | Lancaster, PA   | 112                  | 116                  | 147                   | 77                    | 163                                   | 154                            | 106                            | 151                                | 177   |
| -13         | 135       | <b>148</b> | Lafayette, LA   | 171                  | 200                  | 31                    | 87                    | 200                                   | 103                            | 50                             | 176                                | 115   |
| 33          | 182       | <b>149</b> | Memphis, TN-MS-AR                                     | 136                  | 123                  | 155                   | 168                   | 168                                   | 48                             | 20                             | 142                                | 115   |
| -37         | 113       | <b>150</b> | Pittsburgh, PA  | 178                  | 184                  | 54                    | 164                   | 196                                   | 85                             | 57                             | 69                                 | 63  |
| 14          | 165       | <b>151</b> | Cleveland-Elyria, OH                                  | 138                  | 162                  | 68                    | 152                   | 124                                   | 142                            | 149                            | 133                                | 115   |
| -55         | 97        | <b>152</b> | Albany-Schenectady-Troy, NY                           | 146                  | 154                  | 135                   | 141                   | 195                                   | 68                             | 119                            | 51                                 | 48  |
| -8          | 145       | <b>153</b> | Palm Bay-Melbourne-Titusville, FL                     | 164                  | 82                   | 195                   | 191                   | 137                                   | 178                            | 93                             | 15                                 | 9   |
| -2          | 152       | <b>154</b> | Hartford-West Hartford-East Hartford, CT              | 161                  | 160                  | 105                   | 117                   | 126                                   | 172                            | 176                            | 74                                 | 84  |
| 20          | 175       | <b>155</b> | Tucson, AZ  | 160                  | 168                  | 185                   | 181                   | 50                                    | 147                            | 127                            | 62                                 | 21  |
| -15         | 141       | <b>156</b> | Nassau County-Suffolk County, NY                      | 124                  | 142                  | 140                   | 148                   | 155                                   | 163                            | 130                            | 57                                 | 84  |
| -53         | 104       | <b>157</b> | Green Bay, WI   | 145                  | 139                  | 95                    | 156                   | 179                                   | 75                             | 39                             | 170                                | 143   |
| 14          | 172       | <b>158</b> | Killeen-Temple, TX                                    | 94                   | 29                   | 199                   | 193                   | 70                                    | 197                            | 199                            | 152                                | 143   |
| -40         | 119       | <b>159</b> | Urban Honolulu, HI                                    | 100                  | 141                  | 125                   | 124                   | 121                                   | 160                            | 158                            | 172                                | 177   |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank  | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LQ ≥ 1 (2015) |
|-------------|-----------|------------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|---|
| -35         | 125       | <b>160</b> | Pensacola-Ferry Pass-Brent, FL                        | 121                  | 79                   | 168                   | 144                   | 149                                   | 187                            | 150                            | 141                                | 115   |
| -34         | 127       | <b>161</b> | Canton-Massillon, OH                                  | 104                  | 192                  | 45                    | 106                   | 178                                   | 140                            | 139                            | 198                                | 194   |
| 2           | 164       | <b>162</b> | Milwaukee-Waukesha-West Allis, WI                     | 137                  | 151                  | 133                   | 153                   | 180                                   | 144                            | 94                             | 103                                | 84  |
| -39         | 124       | <b>163</b> | Jackson, MS   | 135                  | 124                  | 132                   | 161                   | 148                                   | 116                            | 129                            | 165                                | 143   |
| -41         | 123       | <b>164</b> | Augusta-Richmond County, GA-SC                        | 130                  | 110                  | 165                   | 154                   | 150                                   | 131                            | 184                            | 137                                | 84  |
| 12          | 177       | <b>165</b> | York-Hanover, PA                                      | 159                  | 143                  | 164                   | 177                   | 92                                    | 169                            | 155                            | 115                                | 63  |
| 7           | 173       | <b>166</b> | Montgomery, AL  | 187                  | 172                  | 193                   | 189                   | 132                                   | 31                             | 52                             | 64                                 | 84  |
| 0           | 167       | <b>167</b> | Hickory-Lenoir-Morganton, NC                          | 180                  | 148                  | 158                   | 149                   | 194                                   | 23                             | 140                            | 110                                | 48  |
| -40         | 128       | <b>168</b> | Little Rock-North Little Rock-Conway, AR              | 169                  | 136                  | 180                   | 182                   | 164                                   | 35                             | 182                            | 37                                 | 63  |
| -33         | 136       | <b>169</b> | Rochester, NY   | 174                  | 179                  | 163                   | 175                   | 186                                   | 91                             | 68                             | 50                                 | 21  |
| -36         | 134       | <b>170</b> | Newark, NJ-PA   | 175                  | 157                  | 152                   | 183                   | 119                                   | 181                            | 159                            | 35                                 | 63  |
| -39         | 132       | <b>171</b> | Anchorage, AK   | 134                  | 164                  | 96                    | 159                   | 188                                   | 138                            | 141                            | 114                                | 143   |
| -14         | 158       | <b>172</b> | Tallahassee, FL                                       | 186                  | 170                  | 190                   | 95                    | 130                                   | 101                            | 123                            | 111                                | 143   |
| 8           | 181       | <b>173</b> | Birmingham-Hoover, AL                                 | 153                  | 161                  | 141                   | 145                   | 145                                   | 112                            | 143                            | 135                                | 143   |
| 6           | 180       | <b>174</b> | Albuquerque, NM                                       | 188                  | 158                  | 191                   | 163                   | 144                                   | 164                            | 142                            | 24                                 | 21  |
| 9           | 184       | <b>175</b> | Dutchess County-Putnam County, NY                     | 189                  | 173                  | 194                   | 196                   | 111                                   | 121                            | 107                            | 40                                 | 84  |
| -30         | 146       | <b>176</b> | New Orleans-Metairie, LA                              | 109                  | 149                  | 142                   | 134                   | 192                                   | 128                            | 187                            | 171                                | 143   |
| -18         | 159       | <b>177</b> | Buffalo-Cheektowaga-Niagara Falls, NY                 | 173                  | 176                  | 130                   | 139                   | 142                                   | 175                            | 174                            | 98                                 | 115   |
| -15         | 163       | <b>178</b> | Evansville, IN-KY                                     | 155                  | 155                  | 159                   | 71                    | 198                                   | 199                            | 194                            | 78                                 | 143   |
| 8           | 187       | <b>179</b> | Roanoke, VA   | 167                  | 177                  | 186                   | 174                   | 113                                   | 155                            | 136                            | 120                                | 84  |
| 13          | 193       | <b>180</b> | Fayetteville, NC                                      | 195                  | 190                  | 196                   | 200                   | 58                                    | 100                            | 87                             | 144                                | 143   |
| 4           | 185       | <b>181</b> | Gary, IN  | 162                  | 187                  | 92                    | 199                   | 85                                    | 188                            | 191                            | 188                                | 143   |
| -22         | 160       | <b>182</b> | Scranton-Wilkes-Barre-Hazleton, PA                    | 185                  | 182                  | 156                   | 110                   | 177                                   | 190                            | 153                            | 118                                | 84  |
| 11          | 194       | <b>183</b> | Virginia Beach-Norfolk-Newport News, VA-NC            | 170                  | 163                  | 188                   | 172                   | 173                                   | 170                            | 92                             | 121                                | 84  |
| 6           | 190       | <b>184</b> | Kingsport-Bristol-Bristol, TN-VA                      | 177                  | 185                  | 177                   | 185                   | 123                                   | 179                            | 79                             | 136                                | 115   |
| 3           | 188       | <b>185</b> | Norwich-New London, CT                                | 199                  | 188                  | 198                   | 187                   | 93                                    | 198                            | 196                            | 39                                 | 48  |
| -37         | 149       | <b>186</b> | New Haven-Milford, CT                                 | 168                  | 180                  | 169                   | 170                   | 161                                   | 189                            | 198                            | 83                                 | 48  |
| -4          | 183       | <b>187</b> | Wichita, KS   | 172                  | 150                  | 182                   | 171                   | 170                                   | 200                            | 179                            | 30                                 | 115   |
| -10         | 178       | <b>188</b> | Syracuse, NY  | 190                  | 186                  | 178                   | 169                   | 185                                   | 139                            | 157                            | 70                                 | 37  |
| -10         | 179       | <b>189</b> | Mobile, AL  | 191                  | 167                  | 179                   | 167                   | 165                                   | 97                             | 165                            | 140                                | 84  |
| -60         | 130       | <b>190</b> | Columbus, GA-AL                                       | 179                  | 195                  | 166                   | 197                   | 154                                   | 134                            | 168                            | 116                                | 84  |
| -2          | 189       | <b>191</b> | Fort Smith, AR-OK                                     | 193                  | 178                  | 173                   | 140                   | 181                                   | 38                             | 197                            | 194                                | 143   |
| 0           | 192       | <b>192</b> | Davenport-Moline-Rock Island, IA-IL                   | 184                  | 191                  | 134                   | 190                   | 199                                   | 145                            | 67                             | 164                                | 143   |
| 2           | 195       | <b>193</b> | Youngstown-Warren-Boardman, OH-PA                     | 181                  | 183                  | 145                   | 173                   | 197                                   | 132                            | 137                            | 190                                | 143   |
| 4           | 198       | <b>194</b> | Atlantic City-Hammonton, NJ                           | 200                  | 199                  | 200                   | 195                   | 157                                   | 133                            | 10                             | 181                                | 143   |
| -4          | 191       | <b>195</b> | Utica-Rome, NY  | 197                  | 181                  | 192                   | 198                   | 184                                   | 191                            | 104                            | 112                                | 63  |
| 3           | 199       | <b>196</b> | Huntington-Ashland, WV-KY-OH                          | 194                  | 198                  | 181                   | 176                   | 131                                   | 184                            | 111                            | 180                                | 143   |
| 0           | 197       | <b>197</b> | Peoria, IL  | 192                  | 193                  | 127                   | 186                   | 191                                   | 152                            | 131                            | 163                                | 177   |
| -12         | 186       | <b>198</b> | Erie, PA  | 182                  | 171                  | 146                   | 184                   | 190                                   | 192                            | 200                            | 150                                | 115   |
| -3          | 196       | <b>199</b> | Gulfport-Biloxi-Pascagoula, MS                        | 196                  | 197                  | 197                   | 194                   | 193                                   | 185                            | 148                            | 154                                | 115   |
| 0           | 200       | <b>200</b> | Shreveport-Bossier City, LA                           | 198                  | 194                  | 187                   | 179                   | 187                                   | 195                            | 175                            | 187                                | 143   |



# TOP 10 Best-Performing Small Cities

We rank the 201 best-performing small U.S. metropolitan areas. There have been no metros added to the overall list in this year's Best-Performing Small Cities index. For 2016, **Bend-Redmond, OR**, ranks No. 1, rising seven places from last year. **San Rafael, CA; College Station-Bryan, TX; St. George, UT; Grants Pass, OR; Napa, CA; and Gainesville, GA**, all entered the Top 10 this year.

Of the Top 10 small cities, four are college cities: **College Station-Bryan, TX; St. George, UT; Logan, UT-ID; and Auburn-Opelika, AL**, are anchored by their higher-education institutions. These schools provide economic stability, a platform for innovation, and consumer spending and can provide growth for the metro. **Bend-Redmond, San Rafael, Napa, Columbus, Grants Pass**, and **Gainesville** all have had one traditional driver of economic growth that has been leveraged into diversifying the metro's economy.

**TABLE 5. TOP 10 BEST-PERFORMING SMALL CITIES**

| Metropolitan statistical area (MSA) | 2016 rank | 2015 rank  |
|-------------------------------------|-----------|------------|
| Bend-Redmond, Oregon                | 1         | 8          |
| College Station-Bryan, Texas        | 2         | 22         |
| San Rafael, California              | 3         | 23 (large) |
| St. George, Utah                    | 4         | 20         |
| Logan, Utah-Idaho                   | 5         | 9          |
| Auburn-Opelika, Alabama             | 6         | 10         |
| Columbus, Indiana                   | 7         | 7          |
| Grants Pass, Oregon                 | 8         | 56         |
| Napa, California                    | 9         | 16         |
| Gainesville, Georgia                | 10        | 27         |

Source: Milken Institute.



## Bend-Redmond, OR

(Gained 7 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 7TH  |
| JOB GROWTH (2014-2015)                        | 1ST  |
| WAGE GROWTH (2009-2014)                       | 21ST |
| WAGE GROWTH (2013-2014)                       | 4TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 12TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 21ST |
| HIGH-TECH GDP GROWTH (2014-2015)              | 79TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 13TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 2ND  |

### ASSETS

- » Low cost of living and of doing business attracts highly educated workers.
- » Health-care system provides economic stability.

### LIABILITIES

- » Tourism jobs are low-paying and represent a large percent of employment.

**Bend-Redmond, OR**, tops the U.S. Best-Performing Small Cities index, rising from eighth the previous year. The metro improved in seven of the nine indicators. Bend-Redmond ranks first in job growth from 2014 to 2015. Its job growth indicators for one- and five-year changes well outpace the national averages, at 4.5 percent and 11.1 percent, respectively. Wage growth from 2013 to 2014 ranks fourth this year, helping the five-year wage growth average, which increased in rank by 139 to 21st. This improvement shows sustained wage growth in the metro.

Tourism and health care ground the local economy, the largest employer being St. Charles Medical Center, with a staff of 2,830. Four of the Top 20 largest employers are directly related to the tourism industry and account for 2,485 employees.<sup>125</sup> Moving beyond these traditional economic engines, the metro has fostered the development of a tech sector with software and hardware development, along with Facebook and Apple data centers.<sup>126</sup> With the Oregon State University Cascades campus now offering four-year degrees, the talent pool will continue to support this sector. There is a thriving light-aviation industry, with names like Epic Aircraft rooting the sector, and the metro has drawn in the next frontier in aviation with drones. The FAA has set up a drone testing site just north of the metro, and Central Oregon Community College has one of the few drone education programs on the West Coast.<sup>127, 128</sup>

Capital for entrepreneurs can be sourced locally thanks to firms such as Seven Peaks Ventures and Cascade Angels. The tech industry is just the newest wave of entrepreneurs in the region. Breweries have become a major contributor to the metro's economy, with Deschutes Brewery, the largest, employing 295 people.<sup>129</sup> The area is growing industries that will draw in high-value-adding jobs such as engineers and tech workers.

Bend-Redmond has been able to continually diversify its economy, with seven high-tech industries concentrated in the metro. The central Oregon economy is vibrant and has been able to diversify its economic base with new waves of innovation.





## College Station-Bryan, TX

(Gained 20 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 27TH |
| JOB GROWTH (2014-2015)                        | 7TH  |
| WAGE GROWTH (2009-2014)                       | 20TH |
| WAGE GROWTH (2013-2014)                       | 11TH |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 8TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 20TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 40TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 60TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 47TH |

### ASSETS

- » Young, highly educated population.
- » Below-average cost of doing business.

### LIABILITIES

- » Little economic diversity.

College Station-Bryan, TX, jumps 20 places to No. 2 this year, reentering the Top 10. Short-term job growth rose 140 places from last year's index and tech diversity rose 78 places to 47th. The metro ranks in the Top 10 for one-year job growth and short-term job growth, which can be attributed to construction in the area.

The metro is best known for Texas A&M, which employs 12,000 people.<sup>130</sup> The college received a \$286 million grant from the Biomedical Advanced Research and Development Authority in 2014.<sup>131</sup> The increase in research investment in the school is also bolstered by the state government, increasing Texas A&M payroll. The college contributes to large population growth. College Station has been building to accommodate new arrivals. The construction boom has been in single-family homes, but the metro should see more multifamily units start up because of population growth and the youth of the population.<sup>132</sup> Texas A&M has acted as a buffer for the metro as lower oil prices have taken a toll on the local economy. A \$68 million expansion of its stadium and the increasing student body size has also continued to create opportunities for construction.<sup>133</sup> Construction employment increased 14 percent from 2014 to 2015. With the recent OPEC decision to limit oil production, College Station-Bryan should see improvements in the local economy because of the Eagle Ford Shale deposit.



## San Rafael, CA

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 23RD |
| JOB GROWTH (2014-2015)                        | 63RD |
| WAGE GROWTH (2009-2014)                       | 31ST |
| WAGE GROWTH (2013-2014)                       | 41ST |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 37TH |
| HIGH-TECH GDP GROWTH (2010-2015)              | 1ST  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 4TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 4TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 10TH |

### ASSETS

- » Highly educated workforce.
- » Diverse high-tech sector.

### LIABILITIES

- » Expansion of the Bay Area will only increase the cost of living.

San Rafael, CA, ranks No. 3 on the small-cities index this year after debuting on the 2015 index of large cities at No. 23. The metro ranks fourth in one-year high-tech GDP growth and concentration and has maintained the fastest five-year high-tech growth. Five-year high-tech GDP growth was 67 percent greater than the national average, and one-year growth was 13 percent greater. San Rafael is experiencing spillover effects thanks to its status as a relatively low-cost part of the Bay Area.

As the southern part of the Bay Area continues to grow, the northern Bay Area—home to San Rafael—is reaping the benefits. The metro has a highly educated workforce and cluster of large biotech employers. Its second-largest employer, Kaiser, purchased a new building for \$22 million with plans to increase its workforce in the area.<sup>134</sup> The IPO of BioMarin, the third-largest employer, raised \$720 million, and the company plans to add 400 employees.<sup>135</sup> Sanovas is a life science accelerator that was looking to be valued at \$1 billion by the end of 2015.<sup>136</sup> San Rafael's high-tech industry is also rooted in entertainment. Lucas Films, with 400 employees, has spawned a local entertainment industry that includes companies such as Razer's THX, Telltale Games, and Visual Concepts.<sup>137</sup> The metro is well placed both in proximity to the Bay Area and in creating a space in the regional economy for its own development.



## St. George, UT (Gained 16 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 2ND   |
| JOB GROWTH (2014-2015)                        | 3RD   |
| WAGE GROWTH (2009-2014)                       | 24TH  |
| WAGE GROWTH (2013-2014)                       | 9TH   |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 3RD   |
| HIGH-TECH GDP GROWTH (2010-2015)              | 56TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 24TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 95TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 175TH |

### ASSETS

- » Dixie State University gives the local economy stability.
- » National parks are a unique tourist attraction.

### LIABILITIES

- » Many jobs are in low-wage industries.

**St. George, UT**, ranks No. 4 this year, up 16 places from 2015. The metro's strong job growth both in one-year and short-term job growth ranked 3rd. These growth figures are 3.2 percent and 5.5 percent higher than the national averages, respectively. The job growth has been accompanied by rising wages, which is reflected in the 21-rank increase in one-year wage growth and 141-rank increase in five-year wage growth from last year's Best-Performing Cities index.

Population growth in St. George has boosted demand for health-care services, and people 65 and older account for 18.4 percent of the population—twice the Utah average.<sup>138</sup> These factors have led Dixie Regional Medical Center to double its size with a \$300 million expansion.<sup>139</sup> Intermountain Health Care, which operates Dixie Regional, is the largest employer in the metro.<sup>140</sup> Health-care industry employment in St. George totals 9,230.

Thanks to the area's natural resources, including Zion and Bryce Canyon national parks, tourism is a major part of the economy of St. George. Bryce Canyon saw 1.7 million tourists in 2015, while Zion saw 3.6 million—both annual records.<sup>141</sup> This trend is likely to continue, with tourism on track to break records again this year; Bryce Canyon reported 2.4 million visitors for the first nine months of 2016.<sup>142</sup> Utah's tourism push for its national parks is likely to support the trend as well. The increasing tourism at the national parks should support local employment growth in the near future.



## Logan, UT-ID (Gained 4 places)

|   |      |
|---|------|
| JOB GROWTH (2010-2015)                        | 28TH |
| JOB GROWTH (2014-2015)                        | 19TH |
| WAGE GROWTH (2009-2014)                       | 39TH |
| WAGE GROWTH (2013-2014)                       | 43RD |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 51ST |
| HIGH-TECH GDP GROWTH (2010-2015)              | 62ND |
| HIGH-TECH GDP GROWTH (2014-2015)              | 16TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 10TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 4TH  |

### ASSETS

- » Highly educated workforce and economic stability thanks to Utah State University.
- » Diverse high-tech sector.

### LIABILITIES

- » Low wages have caused people to seek opportunities outside of the metro.

**Logan, UT-ID**, remains in the Top 10 among small metros, rising four places to fifth from last year's index. Concentration of high-tech sectors and GDP growth in the high-tech sector rank fourth and 10th, respectively. Even with a drop in the rankings in one-year wage and job growth, the five-year averages for wage and job growth improved. Logan had an unemployment rate of 3 percent for 2015. The high-tech sector one-year GDP growth rose 66 places this year. This, along with a strong high-tech concentration, indicates the economic outlook for Logan is bright.

We saw job growth improve over last year, rising nine ranks. The metro's manufacturing sector is based on food processing, which supplies mostly domestic demand, mitigating global pressure. The largest concentrations of manufacturing are in the food and chemical industries, which together employ about 4,440 people.<sup>143</sup>

Anchoring the Logan economy is Utah State University (USU), which in 2015 received a record \$232 million in research funding.<sup>144</sup> From fall 2014 to fall 2015, total enrollment increased 3 percent at USU.<sup>145, 146</sup> General Electric's HyClone life science lab is in Logan, employing some 300 people.<sup>147</sup> GE purchased Thermo Fisher Scientific for \$1.06 billion in 2014.<sup>148</sup> If GE is committed to the region, then these investments will help keep USU graduates in the area.



## Auburn-Opelika, AL

(Gained 4 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 10TH  |
| JOB GROWTH (2014-2015)                        | 33RD  |
| WAGE GROWTH (2009-2014)                       | 42ND  |
| WAGE GROWTH (2013-2014)                       | 20TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 20TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 9TH   |
| HIGH-TECH GDP GROWTH (2014-2015)              | 56TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 136TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 82ND  |

### ASSETS

- » Auburn University provides economic stability.
- » Low cost of doing business helps local firms compete.

### LIABILITIES

- » Highly susceptible to changes in public education policy.

**Auburn-Opelika, AL**, remains in the Top 10, rising four places to reach No. 6 this year. The one-year high-tech GDP growth rose 24 places and pulled up the five-year high-tech GDP growth measure. One- and five-year wage growth also rose in rank, which, in conjunction with job growth, indicates that incomes have increased. Employment in the transportation equipment manufacturing sector grew 11.3 percent from 2014 to 2015, showing the metro is competitive in manufacturing in a more globalized world.

General Electric Aviation's Auburn plant is set to ramp up production of fuel nozzles for the LEAP jet engine. This expansion includes a \$50 million 3-D printer addition to the facility.<sup>149</sup> Auburn has been able to attract foreign investment from Berghoff Group, which has announced a \$30 million plant that will add 100 jobs when complete.<sup>150</sup> Schmidt, a supplier for Mercedes-Benz, is opening a factory for brake components that will cost \$17 million and create 50 jobs.<sup>151</sup> Such job creation points to companies taking advantage of lower-cost locations in the United States and an increasing concentration of manufacturing in the South. This, along with Adams Beverages' creation of a distribution center in Opelika, indicates that the metro should see continued job growth in the coming year.<sup>152</sup> These types of investments demonstrate how the region has been able to draw in advanced manufacturing, both foreign and domestic. These firms are taking advantage of the lower cost of doing business in the metro.



## Columbus, IN

(Held steady)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 6TH   |
| JOB GROWTH (2014-2015)                        | 27TH  |
| WAGE GROWTH (2009-2014)                       | 7TH   |
| WAGE GROWTH (2013-2014)                       | 31ST  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 54TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 23RD  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 190TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 58TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 20TH  |

### ASSETS

- » Low cost of living has been accompanied by gains in median income.
- » Growing advanced manufacturing workforce.

### LIABILITIES

- » Lack of economic diversity leaves metro more vulnerable to domestic and global shocks.

**Columbus, IN**, retains its seventh-place rank on this year's Best-Performing Small Cities index. The largest gain was in one-year wage growth, which rose 151 places to 31st. This boosted the five-year wage growth average as well. The changes in rank in high-tech GDP indicators also reflect the dependence on manufacturing in the local economy. Columbus has seen growth in the five-year periods in both wages and employment—12 percent for wages and 12.3 percent for employment—above the national five-year averages.

Cummins has led the metro and is still its largest employer. The company has been investing in Columbus, with a \$30 million building to house 450 employees set to be completed in 2017.<sup>153</sup> Toyota manufacturing in Columbus will be joined by one of its suppliers, Daiei Giken Kogyo, which will renovate an existing facility at a cost of \$3.4 million.<sup>154</sup> Impact Forge Group, which already employs 454 people in Columbus, has invested \$7.5 million to expand its operations.<sup>155</sup> The concentration of manufacturing has attracted new businesses that support the manufacturing sector, such as product development company GlassBoard.<sup>156</sup> These relocations and investments are taking advantage of a productive workforce to lower labor costs, while leveraging capital investment to be competitive. This is reflected in the growth of wages while maintaining similar ranks for both one- and five-year job growth.



## Grants Pass, OR

(Gained 48 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 38TH  |
| JOB GROWTH (2014-2015)                        | 12TH  |
| WAGE GROWTH (2009-2014)                       | 129TH |
| WAGE GROWTH (2013-2014)                       | 13TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 26TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 71ST  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 42ND  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 8TH   |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 20TH  |

### ASSETS

- » Low cost of living is attracting new residents.
- » Demographic changes will support growth of the health-care system.

### LIABILITIES

- » Economic diversity is lacking, with traditional industry exposed to global commodity markets.

**Grants Pass, OR**, jumps 48 places, from 56th to eighth, in this year's index. The metro moved quickly into the Top 10 after being added to the index in 2015. It saw large gains in one-year wage growth, jumping 129 places, and rose 26 places in short-term job growth.

Grants Pass has seen increases in high-wage jobs driven by the health-care industry. Investment in newer equipment comes as an increase in demand is spurred by an aging population.<sup>157</sup> Health-care services account for 3,900 jobs in Grants Pass, about 5 percent of the population in the metro.<sup>158</sup> Grants Pass has seen investment of just over \$4 million in Three Rivers Medical Center.<sup>159, 160</sup> The investment gives the hospital greater capacity for cancer treatment and diagnostic procedures. Because of changes in regional demand, the medical center recently opened a new \$30 million building, which will expand treatment capacity. The metro has seen growth in health care driving up wage growth.<sup>161</sup> The expansion of the health-care industry is a welcome change, loosening the dependence on the lumber industry as an economic driver. Mycorrhizal Applications, a Valent acquisition, is a regional leader in agriculture products and just expanded operations to the California consumer market with the sale of a fungicide.<sup>162</sup> One fast-growing business in Grants Pass is Dutch Bros., a coffee company with \$283 million in statewide sales.<sup>163</sup> These types of businesses are helping the metro diversify its local economy.



## Napa, CA

(Gained 7 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 11TH  |
| JOB GROWTH (2014-2015)                        | 22ND  |
| WAGE GROWTH (2009-2014)                       | 44TH  |
| WAGE GROWTH (2013-2014)                       | 40TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 31ST  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 60TH  |
| HIGH-TECH GDP GROWTH (2014-2015)              | 50TH  |
| HIGH-TECH GDP CONCENTRATION (2015)            | 65TH  |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 129TH |

### ASSETS

- » Produces a luxury good with both foreign and domestic appeal.
- » Tourism is helping to diversify the local economy.

### LIABILITIES

- » California's drought continues to put pressure on the grape supply.

**Napa, CA**, breaks into the Top 10 for the first time, placing ninth. This is a seven-place increase from last year, marking three years of continuous improvement. Napa has seen increases in the one- and five-year high-tech GDP growth and maintains high ranks in the job growth indicators.

Napa is California's wine capital. This industry drives the metro as a whole. As the recovery continues, the demand for wine increases, and Napa has benefited. Domestic and international tourism have helped drive economic growth as the Napa wine brands increase in appeal. The largest foreign tourism source to Napa is China, whose residents spent \$2.5 billion in the region in 2015.<sup>164</sup> Napa wineries shipped about \$1 billion worth of wine directly to consumers in 2015.<sup>165</sup> The wine industry is attracting more than tourists internationally. Foreign investment, such as Chanel's purchase of a winery and Alibaba's partnership with Constellation Brands for distribution in China, is also flocking to the region.<sup>166, 167</sup> The increase in demand for wine both domestically and internationally is fueling growth in the metro. Napa's growth has resulted in 40 permits being issued for winery expansions and 15 new wineries within the last three years. The increase in capacity in Napa will continue as markets open up.<sup>168</sup> As consumption from international markets increases, job growth will as well, supporting expansion of tourism in Napa.



## Gainesville, GA

(Gained 17 places)

|   |       |
|---|-------|
| JOB GROWTH (2010-2015)                        | 9TH   |
| JOB GROWTH (2014-2015)                        | 4TH   |
| WAGE GROWTH (2009-2014)                       | 26TH  |
| WAGE GROWTH (2013-2014)                       | 16TH  |
| SHORT-TERM JOB GROWTH (AUG. 2015-AUG. 2016)   | 24TH  |
| HIGH-TECH GDP GROWTH (2010-2015)              | 126TH |
| HIGH-TECH GDP GROWTH (2014-2015)              | 117TH |
| HIGH-TECH GDP CONCENTRATION (2015)            | 124TH |
| NUMBER OF HIGH-TECH INDUSTRIES (LQ>=1) (2015) | 82ND  |

### ASSETS

- » Low cost of living and of doing business.
- » Access to major supply chain hubs in Atlanta and Savannah.

### LIABILITIES

- » Local economy is overly dependent on food processing.

**Gainesville, GA**, moves to 10th from 27th in this year's index. The metro saw gains in both wages and job growth for the one- and five-year indicators. The largest gain was in the five-year wage growth indicator, which rose from 107th to 26th, showing that Gainesville has been increasing wages for several years. With an 18-place increase in one-year job growth, the metro has gained as local manufacturing has picked up.

Food manufacturing and processing is the major source of employment and is expanding. There is a sizable nondurable-goods manufacturing sector. Mars expanded operations of its Gainesville Wrigley gum factory, adding 155 jobs.<sup>169</sup> American Home Products opened a factory employing 216 people.<sup>170</sup> Left Nut Brewing will be the metro's first microbrewery, investing \$2 million in its facilities.<sup>171</sup> Access to Atlanta makes Gainesville competitive with other manufacturing hubs and allows easier integration into supply chains. Increasing employment is creating a demand that housing developers are starting to fill. The housing market in the area will help the local economy beyond the manufacturing sector. Gainesville is able to attract manufacturing jobs and take advantage of low housing prices to maintain the necessary labor supply. Its population will expand and drive the demand for housing, which boomed from 2010 to 2015, when the number of single-family home permits issued jumped from 184 to 906.<sup>172</sup> Gainesville is a manufacturing hub that is seeing growth at a rapid rate and has the potential to remain competitive nationally for some time to come.

# Complete Results

## 2016 Best-Performing Small Cities

### RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LO>=1 (2015) |
|-------------|-----------|-----------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| 7           | 8         | 1         | Bend-Redmond, OR                                      | 7                    | 1                    | 21                    | 4                     | 12                                    | 21                             | 79                             | 13                                 | 2  |
| 20          | 22        | 2         | College Station-Bryan, TX                             | 27                   | 7                    | 20                    | 11                    | 8                                     | 20                             | 40                             | 60                                 | 47   |
| N/A         | Large 23  | 3         | San Rafael, CA  | 23                   | 63                   | 31                    | 41                    | 37                                    | 1                              | 4                              | 4                                  | 10   |
| 16          | 20        | 4         | St. George, UT  | 2                    | 3                    | 24                    | 9                     | 3                                     | 56                             | 24                             | 95                                 | 175  |
| 4           | 9         | 5         | Logan, UT-ID  | 28                   | 19                   | 39                    | 43                    | 51                                    | 62                             | 16                             | 10                                 | 4  |
| 4           | 10        | 6         | Auburn-Opelika, AL                                    | 10                   | 33                   | 42                    | 20                    | 20                                    | 9                              | 56                             | 136                                | 82   |
| 0           | 7         | 7         | Columbus, IN  | 6                    | 27                   | 7                     | 31                    | 54                                    | 23                             | 190                            | 58                                 | 20   |
| 48          | 56        | 8         | Grants Pass, OR                                       | 38                   | 12                   | 129                   | 13                    | 26                                    | 71                             | 42                             | 8                                  | 20   |
| 7           | 16        | 9         | Napa, CA  | 11                   | 22                   | 44                    | 40                    | 31                                    | 60                             | 50                             | 65                                 | 129  |
| 17          | 27        | 10        | Gainesville, GA                                       | 9                    | 4                    | 26                    | 16                    | 24                                    | 126                            | 117                            | 124                                | 82   |
| -8          | 3         | 11        | Ames, IA  | 22                   | 38                   | 41                    | 14                    | 115                                   | 16                             | 57                             | 89                                 | 20   |
| 19          | 31        | 12        | Charlottesville, VA                                   | 47                   | 17                   | 53                    | 55                    | 16                                    | 112                            | 68                             | 42                                 | 47   |
| -7          | 6         | 13        | The Villages, FL                                      | 3                    | 15                   | 6                     | 115                   | 32                                    | 6                              | 3                              | 174                                | 129  |
| 16          | 30        | 14        | Monroe, MI  | 26                   | 86                   | 30                    | 53                    | 34                                    | 5                              | 6                              | 121                                | 82   |
| -14         | 1         | 15        | Fargo, ND-MN  | 13                   | 66                   | 8                     | 12                    | 86                                    | 45                             | 181                            | 57                                 | 20   |
| -3          | 13        | 16        | Sioux Falls, SD                                       | 20                   | 54                   | 18                    | 21                    | 14                                    | 100                            | 133                            | 87                                 | 129  |
| 11          | 28        | 17        | Medford, OR   | 48                   | 28                   | 80                    | 38                    | 43                                    | 121                            | 89                             | 26                                 | 10   |
| 5           | 23        | 18        | Daphne-Fairhope-Foley, AL                             | 15                   | 8                    | 68                    | 34                    | 29                                    | 107                            | 35                             | 159                                | 129  |
| 34          | 53        | 19        | Morgantown, WV  | 71                   | 109                  | 19                    | 42                    | 56                                    | 51                             | 48                             | 52                                 | 20   |
| -1          | 19        | 20        | Columbia, MO  | 37                   | 60                   | 23                    | 126                   | 63                                    | 4                              | 95                             | 31                                 | 20   |
| 60          | 81        | 21        | Pueblo, CO  | 91                   | 51                   | 87                    | 49                    | 45                                    | 24                             | 33                             | 53                                 | 20   |
| 76          | 98        | 22        | Cleveland, TN   | 8                    | 103                  | 15                    | 28                    | 4                                     | 95                             | 103                            | 142                                | 129  |
| 11          | 34        | 23        | Lake Charles, LA                                      | 12                   | 5                    | 13                    | 2                     | 36                                    | 133                            | 193                            | 181                                | 175  |
| -3          | 21        | 24        | Chico, CA   | 50                   | 57                   | 72                    | 95                    | 11                                    | 18                             | 17                             | 93                                 | 129  |
| 22          | 47        | 25        | Tyler, TX   | 59                   | 34                   | 74                    | 60                    | 53                                    | 42                             | 125                            | 64                                 | 47   |
| -9          | 17        | 26        | Jonesboro, AR   | 31                   | 24                   | 28                    | 90                    | 22                                    | 31                             | 187                            | 102                                | 129  |
| 54          | 81        | 27        | Mankato-North Mankato, MN                             | 73                   | 95                   | 37                    | 54                    | 131                                   | 15                             | 29                             | 19                                 | 10   |
| 7           | 35        | 28        | Coeur d'Alene, ID                                     | 24                   | 29                   | 97                    | 57                    | 13                                    | 153                            | 107                            | 75                                 | 82   |
| -4          | 25        | 29        | Winchester, VA-WV                                     | 25                   | 45                   | 60                    | 121                   | 30                                    | 48                             | 28                             | 138                                | 82   |
| -28         | 2         | 30        | Bismarck, ND  | 14                   | 64                   | 3                     | 7                     | 139                                   | 40                             | 176                            | 111                                | 82   |
| -16         | 15        | 31        | Victoria, TX  | 16                   | 135                  | 5                     | 19                    | 77                                    | 36                             | 7                              | 161                                | 175  |
| -28         | 4         | 32        | Janesville-Beloit, WI                                 | 49                   | 21                   | 56                    | 201                   | 6                                     | 7                              | 119                            | 61                                 | 47   |
| 40          | 73        | 33        | Prescott, AZ  | 30                   | 23                   | 116                   | 29                    | 5                                     | 168                            | 154                            | 152                                | 47   |
| 2           | 36        | 34        | Barnstable Town, MA                                   | 67                   | 99                   | 90                    | 100                   | 21                                    | 80                             | 49                             | 30                                 | 20   |
| 52          | 87        | 35        | Sebastian-Vero Beach, FL                              | 33                   | 46                   | 123                   | 17                    | 58                                    | 52                             | 178                            | 85                                 | 82   |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LO>=1 (2015) |
|-------------|-----------|-----------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| -22         | 14        | <b>36</b> | Wenatchee, WA   | 19                   | 2                    | 66                    | 27                    | 87                                    | 47                             | 199                            | 137                                | 175  |
| 20          | 57        | <b>37</b> | Mount Vernon-Anacortes, WA                            | 58                   | 84                   | 69                    | 30                    | 15                                    | 106                            | 149                            | 148                                | 47   |
| 39          | 77        | <b>38</b> | Hilton Head Island-Bluffton-Beaufort, SC              | 17                   | 10                   | 137                   | 94                    | 38                                    | 65                             | 14                             | 169                                | 129  |
| -27         | 12        | <b>39</b> | Elkhart-Goshen, IN                                    | 5                    | 13                   | 4                     | 5                     | 193                                   | 198                            | 169                            | 131                                | 47   |
| 68          | 107       | <b>39</b> | Muskegon, MI  | 46                   | 67                   | 54                    | 50                    | 39                                    | 125                            | 146                            | 120                                | 82   |
| 48          | 89        | <b>41</b> | Blacksburg-Christiansburg-Radford, VA                 | 55                   | 61                   | 82                    | 78                    | 118                                   | 85                             | 47                             | 48                                 | 20   |
| 18          | 59        | <b>41</b> | Longview, WA  | 66                   | 44                   | 33                    | 25                    | 7                                     | 146                            | 198                            | 165                                | 129  |
| 36          | 79        | <b>43</b> | Kahului-Wailuku-Lahaina, HI                           | 18                   | 43                   | 76                    | 46                    | 25                                    | 159                            | 90                             | 197                                | 129  |
| -20         | 24        | <b>44</b> | Iowa City, IA   | 40                   | 116                  | 36                    | 97                    | 66                                    | 128                            | 75                             | 39                                 | 47   |
| -19         | 26        | <b>45</b> | Yuba City, CA   | 60                   | 39                   | 91                    | 79                    | 83                                    | 19                             | 173                            | 84                                 | 20   |
| 100         | 146       | <b>46</b> | Morristown, TN  | 84                   | 30                   | 75                    | 74                    | 28                                    | 77                             | 25                             | 191                                | 129  |
| 23          | 70        | <b>47</b> | St. Cloud, MN   | 45                   | 122                  | 52                    | 62                    | 42                                    | 63                             | 94                             | 125                                | 82   |
| -11         | 37        | <b>48</b> | Fond du Lac, WI                                       | 76                   | 123                  | 46                    | 81                    | 123                                   | 14                             | 46                             | 38                                 | 20   |
| 20          | 69        | <b>49</b> | Lafayette-West Lafayette, IN                          | 29                   | 53                   | 49                    | 61                    | 95                                    | 175                            | 185                            | 72                                 | 20   |
| 4           | 54        | <b>50</b> | Lewiston, ID-WA                                       | 101                  | 85                   | 88                    | 98                    | 10                                    | 17                             | 85                             | 91                                 | 82   |
| -22         | 29        | <b>51</b> | Burlington-South Burlington, VT                       | 61                   | 81                   | 65                    | 133                   | 48                                    | 172                            | 73                             | 9                                  | 20   |
| -14         | 38        | <b>52</b> | Kokomo, IN  | 21                   | 108                  | 32                    | 85                    | 97                                    | 108                            | 196                            | 35                                 | 47   |
| 24          | 77        | <b>53</b> | Tuscaloosa, AL  | 35                   | 25                   | 61                    | 71                    | 81                                    | 91                             | 70                             | 198                                | 175  |
| -10         | 44        | <b>54</b> | Billings, MT  | 52                   | 37                   | 34                    | 88                    | 155                                   | 44                             | 101                            | 96                                 | 129  |
| 62          | 117       | <b>55</b> | Midland, MI   | 68                   | 141                  | 57                    | 6                     | 122                                   | 200                            | 27                             | 41                                 | 47   |
| 30          | 86        | <b>56</b> | Corvallis, OR   | 44                   | 18                   | 158                   | 107                   | 114                                   | 181                            | 39                             | 1                                  | 2  |
| 62          | 119       | <b>57</b> | Wausau, WI  | 87                   | 79                   | 48                    | 33                    | 84                                    | 37                             | 108                            | 172                                | 129  |
| -17         | 41        | <b>58</b> | San Angelo, TX  | 41                   | 125                  | 14                    | 23                    | 59                                    | 177                            | 200                            | 98                                 | 129  |
| 72          | 131       | <b>59</b> | Dover, DE   | 95                   | 91                   | 85                    | 80                    | 40                                    | 76                             | 2                              | 151                                | 129  |
| -8          | 52        | <b>60</b> | Dubuque, IA   | 64                   | 89                   | 17                    | 83                    | 92                                    | 154                            | 157                            | 122                                | 20   |
| -29         | 32        | <b>61</b> | Madera, CA  | 96                   | 187                  | 73                    | 96                    | 1                                     | 28                             | 23                             | 105                                | 82   |
| 51          | 113       | <b>62</b> | Chambersburg-Waynesboro, PA                           | 69                   | 31                   | 103                   | 105                   | 17                                    | 179                            | 152                            | 86                                 | 82   |
| -15         | 48        | <b>63</b> | Yakima, WA  | 106                  | 14                   | 83                    | 66                    | 103                                   | 27                             | 110                            | 145                                | 129  |
| 51          | 115       | <b>64</b> | Albany, OR  | 85                   | 72                   | 113                   | 48                    | 78                                    | 166                            | 124                            | 67                                 | 10   |
| 58          | 123       | <b>65</b> | Valdosta, GA  | 114                  | 74                   | 150                   | 93                    | 69                                    | 8                              | 52                             | 55                                 | 47   |
| 8           | 74        | <b>66</b> | Bowling Green, KY                                     | 32                   | 80                   | 35                    | 32                    | 94                                    | 143                            | 179                            | 173                                | 129  |
| 4           | 71        | <b>67</b> | Redding, CA   | 74                   | 58                   | 157                   | 35                    | 141                                   | 70                             | 43                             | 92                                 | 47   |
| 26          | 94        | <b>68</b> | Missoula, MT  | 70                   | 78                   | 111                   | 73                    | 100                                   | 57                             | 84                             | 99                                 | 82   |
| -5          | 64        | <b>69</b> | Idaho Falls, ID                                       | 62                   | 6                    | 173                   | 139                   | 46                                    | 190                            | 65                             | 3                                  | 82   |
| -8          | 62        | <b>70</b> | Crestview-Fort Walton Beach-Destin, FL                | 39                   | 41                   | 71                    | 129                   | 138                                   | 170                            | 143                            | 27                                 | 20   |
| -27         | 43        | <b>70</b> | Rapid City, SD  | 93                   | 156                  | 58                    | 87                    | 70                                    | 34                             | 59                             | 128                                | 47   |
| 63          | 135       | <b>72</b> | Hagerstown-Martinsburg, MD-WV                         | 51                   | 134                  | 98                    | 154                   | 44                                    | 72                             | 12                             | 103                                | 47   |
| -13         | 60        | <b>73</b> | Sumter, SC  | 77                   | 106                  | 22                    | 148                   | 47                                    | 58                             | 164                            | 94                                 | 82   |
| 16          | 90        | <b>74</b> | Kankakee, IL  | 120                  | 172                  | 95                    | 106                   | 67                                    | 12                             | 13                             | 11                                 | 47   |
| 28          | 103       | <b>75</b> | Niles-Benton Harbor, MI                               | 123                  | 83                   | 55                    | 64                    | 55                                    | 97                             | 86                             | 149                                | 129  |
| -58         | 18        | <b>76</b> | Bellingham, WA  | 43                   | 32                   | 104                   | 172                   | 93                                    | 137                            | 177                            | 17                                 | 4  |
| -27         | 50        | <b>77</b> | Gettysburg, PA  | 98                   | 180                  | 89                    | 91                    | 65                                    | 43                             | 20                             | 101                                | 20   |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank  | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LO>=1 (2015) |
|-------------|-----------|------------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| -27         | 51        | <b>78</b>  | State College, PA                                     | 146                  | 149                  | 51                    | 47                    | 109                                   | 90                             | 116                            | 18                                 | 10   |
| 4           | 83        | <b>79</b>  | Elizabethtown-Fort Knox, KY                           | 36                   | 16                   | 107                   | 199                   | 23                                    | 150                            | 88                             | 113                                | 129  |
| 22          | 102       | <b>80</b>  | Appleton, WI  | 78                   | 68                   | 67                    | 58                    | 135                                   | 141                            | 113                            | 97                                 | 82   |
| -39         | 42        | <b>81</b>  | Flagstaff, AZ   | 72                   | 73                   | 77                    | 84                    | 154                                   | 30                             | 123                            | 51                                 | 129  |
| 17          | 99        | <b>82</b>  | Rochester, MN   | 79                   | 105                  | 94                    | 155                   | 35                                    | 94                             | 172                            | 32                                 | 20   |
| -3          | 80        | <b>83</b>  | Punta Gorda, FL                                       | 34                   | 9                    | 79                    | 120                   | 72                                    | 138                            | 137                            | 192                                | 175  |
| 41          | 125       | <b>84</b>  | Saginaw, MI   | 104                  | 117                  | 117                   | 124                   | 33                                    | 87                             | 64                             | 90                                 | 47   |
| 25          | 110       | <b>85</b>  | Owensboro, KY   | 86                   | 98                   | 50                    | 86                    | 49                                    | 111                            | 71                             | 185                                | 175  |
| -21         | 65        | <b>86</b>  | Battle Creek, MI                                      | 75                   | 87                   | 102                   | 76                    | 82                                    | 134                            | 15                             | 162                                | 129  |
| -38         | 49        | <b>87</b>  | Macon, GA   | 83                   | 94                   | 106                   | 77                    | 74                                    | 123                            | 168                            | 83                                 | 47   |
| 39          | 127       | <b>88</b>  | Dalton, GA  | 147                  | 49                   | 108                   | 15                    | 130                                   | 160                            | 112                            | 40                                 | 82   |
| 20          | 109       | <b>89</b>  | Panama City, FL                                       | 57                   | 35                   | 127                   | 18                    | 163                                   | 191                            | 191                            | 77                                 | 47   |
| -85         | 5         | <b>90</b>  | Odessa, TX  | 4                    | 200                  | 2                     | 3                     | 186                                   | 81                             | 66                             | 199                                | 175  |
| 9           | 100       | <b>91</b>  | Athens-Clarke County, GA                              | 89                   | 40                   | 138                   | 99                    | 18                                    | 187                            | 174                            | 116                                | 82   |
| -28         | 63        | <b>91</b>  | Greenville, NC  | 92                   | 137                  | 43                    | 111                   | 166                                   | 22                             | 120                            | 5                                  | 82   |
| 35          | 128       | <b>93</b>  | Pocatello, ID   | 88                   | 70                   | 147                   | 68                    | 57                                    | 59                             | 109                            | 171                                | 129  |
| 7           | 101       | <b>94</b>  | Eau Claire, WI  | 108                  | 113                  | 29                    | 44                    | 134                                   | 174                            | 186                            | 68                                 | 47   |
| -37         | 58        | <b>95</b>  | Sherman-Denison, TX                                   | 65                   | 65                   | 84                    | 183                   | 80                                    | 130                            | 63                             | 56                                 | 129  |
| -30         | 66        | <b>96</b>  | Manhattan, KS   | 63                   | 11                   | 99                    | 67                    | 173                                   | 163                            | 140                            | 133                                | 82   |
| 32          | 129       | <b>97</b>  | Bremerton-Silverdale, WA                              | 110                  | 36                   | 163                   | 70                    | 89                                    | 157                            | 142                            | 82                                 | 47   |
| -6          | 92        | <b>98</b>  | Williamsport, PA                                      | 99                   | 190                  | 10                    | 51                    | 195                                   | 140                            | 41                             | 74                                 | 20   |
| -15         | 84        | <b>99</b>  | Abilene, TX   | 118                  | 138                  | 40                    | 36                    | 121                                   | 67                             | 159                            | 108                                | 129  |
| 33          | 132       | <b>99</b>  | Hattiesburg, MS                                       | 100                  | 48                   | 115                   | 110                   | 88                                    | 93                             | 130                            | 177                                | 47   |
| -44         | 55        | <b>99</b>  | Lawrence, KS  | 115                  | 69                   | 146                   | 101                   | 176                                   | 3                              | 8                              | 62                                 | 82   |
| -11         | 91        | <b>102</b> | Champaign-Urbana, IL                                  | 165                  | 76                   | 119                   | 117                   | 98                                    | 101                            | 58                             | 45                                 | 20   |
| 19          | 122       | <b>103</b> | Lewiston-Auburn, ME                                   | 133                  | 127                  | 109                   | 56                    | 112                                   | 13                             | 18                             | 141                                | 129  |
| -59         | 45        | <b>104</b> | Longview, TX  | 119                  | 197                  | 12                    | 59                    | 125                                   | 132                            | 98                             | 107                                | 20   |
| -94         | 11        | <b>105</b> | Midland, TX   | 1                    | 199                  | 1                     | 1                     | 172                                   | 139                            | 194                            | 195                                | 129  |
| -34         | 72        | <b>106</b> | Sioux City, IA-NE-SD                                  | 102                  | 118                  | 64                    | 24                    | 150                                   | 74                             | 122                            | 168                                | 129  |
| 5           | 111       | <b>106</b> | Casper, WY  | 42                   | 198                  | 9                     | 10                    | 201                                   | 83                             | 81                             | 196                                | 129  |
| 4           | 112       | <b>108</b> | Florence, SC  | 81                   | 55                   | 133                   | 157                   | 79                                    | 122                            | 106                            | 132                                | 47   |
| -24         | 85        | <b>109</b> | Carbondale-Marion, IL                                 | 130                  | 47                   | 100                   | 142                   | 197                                   | 25                             | 26                             | 119                                | 20   |
| 16          | 126       | <b>110</b> | Grand Island, NE                                      | 141                  | 194                  | 38                    | 69                    | 73                                    | 61                             | 21                             | 183                                | 129  |
| 29          | 140       | <b>111</b> | Staunton-Waynesboro, VA                               | 124                  | 97                   | 118                   | 128                   | 184                                   | 11                             | 60                             | 46                                 | 20   |
| -73         | 39        | <b>112</b> | Grand Forks, ND-MN                                    | 82                   | 152                  | 25                    | 39                    | 120                                   | 92                             | 180                            | 158                                | 175  |
| -37         | 76        | <b>113</b> | Pittsfield, MA  | 144                  | 101                  | 144                   | 118                   | 91                                    | 104                            | 77                             | 28                                 | 47   |
| 38          | 152       | <b>114</b> | St. Joseph, MO-KS                                     | 129                  | 126                  | 122                   | 109                   | 101                                   | 38                             | 136                            | 25                                 | 82   |
| -55         | 60        | <b>115</b> | Hot Springs, AR                                       | 163                  | 181                  | 114                   | 145                   | 62                                    | 2                              | 10                             | 34                                 | 82   |
| 8           | 124       | <b>116</b> | Rome, GA  | 127                  | 107                  | 155                   | 103                   | 68                                    | 79                             | 121                            | 59                                 | 82   |
| -22         | 95        | <b>117</b> | Burlington, NC  | 105                  | 154                  | 101                   | 182                   | 52                                    | 86                             | 139                            | 47                                 | 4  |
| -13         | 105       | <b>118</b> | Oshkosh-Neenah, WI                                    | 149                  | 131                  | 59                    | 141                   | 129                                   | 69                             | 61                             | 73                                 | 47   |
| 23          | 142       | <b>119</b> | Lima, OH  | 154                  | 111                  | 125                   | 160                   | 19                                    | 78                             | 44                             | 135                                | 82   |



## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LO>=1 (2015) |
|-------------|-----------|-----------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| -2          | 118       | 120       | La Crosse-Onalaska, WI-MN                             | 117                  | 128                  | 63                    | 104                   | 133                                   | 129                            | 96                             | 127                                | 47   |
| -87         | 33        | 120       | Cheyenne, WY  | 53                   | 147                  | 45                    | 122                   | 196                                   | 68                             | 134                            | 114                                | 47   |
| 17          | 139       | 122       | Johnson City, TN                                      | 128                  | 92                   | 152                   | 162                   | 85                                    | 113                            | 104                            | 36                                 | 10   |
| -2          | 121       | 123       | Jackson, TN   | 54                   | 82                   | 93                    | 138                   | 110                                   | 54                             | 128                            | 190                                | 175  |
| -85         | 39        | 124       | El Centro, CA   | 94                   | 177                  | 110                   | 114                   | 9                                     | 105                            | 37                             | 184                                | 175  |
| 5           | 130       | 125       | Ocean City, NJ  | 132                  | 52                   | 185                   | 135                   | 2                                     | 89                             | 53                             | 180                                | 175  |
| -12         | 114       | 126       | Monroe, LA  | 126                  | 130                  | 136                   | 163                   | 127                                   | 10                             | 1                              | 54                                 | 82   |
| -59         | 68        | 127       | Sheboygan, WI   | 116                  | 136                  | 78                    | 37                    | 124                                   | 135                            | 175                            | 147                                | 82   |
| 56          | 184       | 128       | Brunswick, GA   | 125                  | 20                   | 188                   | 181                   | 41                                    | 120                            | 76                             | 144                                | 82   |
| -54         | 75        | 129       | California-Lexington Park, MD                         | 122                  | 119                  | 47                    | 173                   | 116                                   | 161                            | 192                            | 6                                  | 20   |
| -14         | 116       | 130       | Ithaca, NY  | 56                   | 93                   | 159                   | 159                   | 147                                   | 96                             | 148                            | 24                                 | 47   |
| 24          | 155       | 131       | Lake Havasu City-Kingman, AZ                          | 135                  | 71                   | 142                   | 119                   | 143                                   | 110                            | 9                              | 134                                | 82   |
| 17          | 149       | 132       | Muncie, IN  | 109                  | 26                   | 145                   | 152                   | 156                                   | 119                            | 111                            | 110                                | 47   |
| 25          | 158       | 133       | Racine, WI  | 121                  | 159                  | 92                    | 108                   | 168                                   | 33                             | 34                             | 139                                | 82   |
| -88         | 46        | 134       | Houma-Thibodaux, LA                                   | 107                  | 201                  | 11                    | 45                    | 200                                   | 41                             | 161                            | 178                                | 82   |
| -31         | 104       | 135       | Lebanon, PA   | 134                  | 162                  | 120                   | 187                   | 151                                   | 29                             | 72                             | 12                                 | 4  |
| 11          | 147       | 136       | Hanford-Corcoran, CA                                  | 103                  | 42                   | 132                   | 26                    | 185                                   | 184                            | 105                            | 186                                | 175  |
| 29          | 166       | 137       | Gadsden, AL   | 97                   | 90                   | 156                   | 116                   | 50                                    | 183                            | 114                            | 187                                | 129  |
| 16          | 154       | 138       | Springfield, IL                                       | 155                  | 110                  | 126                   | 72                    | 119                                   | 131                            | 145                            | 71                                 | 129  |
| 6           | 145       | 139       | Kingston, NY  | 161                  | 124                  | 169                   | 137                   | 61                                    | 115                            | 126                            | 76                                 | 47   |
| 13          | 153       | 140       | Lynchburg, VA   | 162                  | 129                  | 148                   | 112                   | 144                                   | 171                            | 82                             | 37                                 | 10   |
| 0           | 141       | 141       | Hammond, LA   | 153                  | 132                  | 86                    | 52                    | 148                                   | 124                            | 67                             | 182                                | 175  |
| 55          | 196       | 141       | Decatur, IL   | 187                  | 139                  | 124                   | 8                     | 190                                   | 127                            | 55                             | 130                                | 82   |
| -50         | 93        | 143       | Sebring, FL   | 136                  | 96                   | 180                   | 170                   | 27                                    | 102                            | 31                             | 167                                | 175  |
| -11         | 133       | 144       | Altoona, PA   | 158                  | 155                  | 139                   | 123                   | 96                                    | 145                            | 162                            | 29                                 | 20   |
| 32          | 177       | 145       | Santa Fe, NM  | 140                  | 75                   | 183                   | 176                   | 102                                   | 164                            | 22                             | 115                                | 47   |
| 14          | 160       | 146       | Yuma, AZ  | 80                   | 59                   | 143                   | 134                   | 156                                   | 149                            | 171                            | 109                                | 129  |
| -27         | 120       | 147       | Las Cruces, NM  | 152                  | 168                  | 161                   | 150                   | 113                                   | 64                             | 129                            | 23                                 | 1  |
| -81         | 67        | 148       | Walla Walla, WA                                       | 151                  | 151                  | 121                   | 75                    | 136                                   | 144                            | 182                            | 43                                 | 82   |
| -61         | 88        | 149       | Jackson, MI   | 112                  | 160                  | 27                    | 125                   | 194                                   | 117                            | 144                            | 146                                | 82   |
| 15          | 165       | 150       | Farmington, NM  | 90                   | 150                  | 105                   | 89                    | 182                                   | 84                             | 83                             | 200                                | 129  |
| -17         | 134       | 151       | Glens Falls, NY                                       | 145                  | 102                  | 112                   | 102                   | 169                                   | 192                            | 165                            | 44                                 | 82   |
| -8          | 144       | 152       | Jefferson City, MO                                    | 183                  | 167                  | 171                   | 161                   | 108                                   | 26                             | 30                             | 66                                 | 47   |
| 22          | 175       | 153       | New Bern, NC  | 148                  | 62                   | 175                   | 149                   | 105                                   | 147                            | 69                             | 140                                | 129  |
| -11         | 143       | 154       | Florence-Muscle Shoals, AL                            | 137                  | 176                  | 96                    | 63                    | 76                                    | 151                            | 150                            | 194                                | 175  |
| 12          | 167       | 155       | Danville, IL  | 160                  | 88                   | 149                   | 132                   | 179                                   | 162                            | 11                             | 104                                | 82   |
| -18         | 138       | 156       | Waterloo-Cedar Falls, IA                              | 131                  | 192                  | 70                    | 140                   | 177                                   | 46                             | 19                             | 164                                | 129  |
| -21         | 136       | 157       | Wheeling, WV-OH                                       | 159                  | 185                  | 16                    | 22                    | 175                                   | 155                            | 153                            | 188                                | 175  |
| 23          | 181       | 158       | Albany, GA  | 175                  | 161                  | 184                   | 171                   | 71                                    | 73                             | 54                             | 70                                 | 82   |
| -9          | 150       | 159       | Cape Girardeau, MO-IL                                 | 168                  | 133                  | 162                   | 168                   | 167                                   | 66                             | 38                             | 78                                 | 47   |
| -64         | 96        | 160       | Jacksonville, NC                                      | 142                  | 162                  | 178                   | 189                   | 64                                    | 50                             | 115                            | 129                                | 82   |
| -55         | 106       | 161       | Bloomsburg-Berwick, PA                                | 157                  | 183                  | 62                    | 196                   | 75                                    | 169                            | 158                            | 100                                | 82   |

## RANKINGS BY COMPONENT

| Rank change | 2015 rank | 2016 rank  | Metropolitan statistical area / metropolitan division | Job growth (2010-15) | Job growth (2014-15) | Wage growth (2009-14) | Wage growth (2013-14) | Short-term job growth (8/2015-8/2016) | High-tech GDP growth (2010-15) | High-tech GDP growth (2014-15) | High-tech GDP concentration (2015) | Number of high-tech industries with LO>=1 (2015) |
|-------------|-----------|------------|---|----------------------|----------------------|-----------------------|-----------------------|---------------------------------------|--------------------------------|--------------------------------|------------------------------------|--|
| 7           | 169       | <b>162</b> | Decatur, AL   | 169                  | 170                  | 130                   | 146                   | 128                                   | 53                             | 92                             | 153                                | 82   |
| -55         | 108       | <b>163</b> | Cumberland, MD-WV                                     | 188                  | 191                  | 164                   | 177                   | 126                                   | 55                             | 99                             | 21                                 | 4  |
| 11          | 175       | <b>164</b> | Goldensboro, NC                                       | 182                  | 162                  | 167                   | 192                   | 60                                    | 114                            | 51                             | 123                                | 82   |
| -5          | 159       | <b>164</b> | Elmira, NY  | 192                  | 174                  | 81                    | 131                   | 191                                   | 116                            | 132                            | 63                                 | 47   |
| -18         | 148       | <b>166</b> | Bay City, MI  | 171                  | 186                  | 160                   | 186                   | 137                                   | 35                             | 32                             | 22                                 | 129  |
| 6           | 173       | <b>167</b> | Mansfield, OH   | 164                  | 179                  | 172                   | 92                    | 162                                   | 99                             | 131                            | 49                                 | 82   |
| -31         | 137       | <b>168</b> | Topeka, KS  | 150                  | 158                  | 135                   | 127                   | 170                                   | 82                             | 62                             | 157                                | 129  |
| 3           | 172       | <b>169</b> | Lawton, OK  | 171                  | 121                  | 179                   | 188                   | 106                                   | 39                             | 5                              | 175                                | 175  |
| 17          | 187       | <b>170</b> | Homosassa Springs, FL                                 | 189                  | 77                   | 190                   | 193                   | 117                                   | 49                             | 78                             | 143                                | 129  |
| -1          | 170       | <b>171</b> | Terre Haute, IN                                       | 174                  | 146                  | 154                   | 175                   | 142                                   | 165                            | 163                            | 16                                 | 10   |
| -7          | 164       | <b>171</b> | Bangor, ME  | 156                  | 148                  | 168                   | 144                   | 153                                   | 118                            | 80                             | 118                                | 82   |
| 7           | 180       | <b>173</b> | Wichita Falls, TX                                     | 180                  | 153                  | 176                   | 153                   | 140                                   | 32                             | 195                            | 33                                 | 82   |
| -18         | 156       | <b>174</b> | Harrisonburg, VA                                      | 111                  | 115                  | 128                   | 151                   | 161                                   | 199                            | 166                            | 126                                | 129  |
| -18         | 157       | <b>175</b> | Joplin, MO  | 139                  | 100                  | 151                   | 169                   | 178                                   | 185                            | 201                            | 80                                 | 20   |
| 12          | 188       | <b>176</b> | Great Falls, MT                                       | 143                  | 140                  | 131                   | 65                    | 174                                   | 156                            | 183                            | 163                                | 175  |
| -16         | 161       | <b>177</b> | Bloomington, IN                                       | 166                  | 178                  | 140                   | 130                   | 188                                   | 195                            | 141                            | 2                                  | 47   |
| -10         | 168       | <b>178</b> | Carson City, NV                                       | 193                  | 104                  | 196                   | 164                   | 107                                   | 182                            | 170                            | 106                                | 20   |
| 14          | 193       | <b>179</b> | Warner Robins, GA                                     | 176                  | 157                  | 177                   | 165                   | 132                                   | 186                            | 45                             | 88                                 | 82   |
| 3           | 183       | <b>180</b> | Parkersburg-Vienna, WV                                | 170                  | 193                  | 141                   | 147                   | 180                                   | 103                            | 118                            | 69                                 | 82   |
| 5           | 186       | <b>181</b> | Watertown-Fort Drum, NY                               | 181                  | 144                  | 192                   | 190                   | 90                                    | 148                            | 93                             | 79                                 | 129  |
| -31         | 151       | <b>182</b> | Bloomington, IL                                       | 179                  | 112                  | 134                   | 195                   | 198                                   | 167                            | 36                             | 81                                 | 129  |
| 14          | 197       | <b>183</b> | Texarkana, TX-AR                                      | 186                  | 50                   | 194                   | 167                   | 159                                   | 88                             | 156                            | 166                                | 129  |
| -5          | 179       | <b>184</b> | Alexandria, LA  | 167                  | 114                  | 181                   | 143                   | 171                                   | 75                             | 135                            | 170                                | 129  |
| 7           | 192       | <b>185</b> | East Stroudsburg, PA                                  | 195                  | 56                   | 198                   | 191                   | 160                                   | 193                            | 127                            | 14                                 | 129  |
| 12          | 198       | <b>186</b> | Vineland-Bridgeton, NJ                                | 190                  | 142                  | 187                   | 113                   | 145                                   | 173                            | 87                             | 154                                | 129  |
| -5          | 182       | <b>187</b> | Dothan, AL  | 171                  | 120                  | 174                   | 158                   | 164                                   | 98                             | 74                             | 179                                | 175  |
| -17         | 171       | <b>188</b> | Grand Junction, CO                                    | 113                  | 162                  | 186                   | 82                    | 156                                   | 188                            | 197                            | 150                                | 175  |
| -11         | 178       | <b>189</b> | Johnstown, PA   | 197                  | 188                  | 191                   | 180                   | 187                                   | 142                            | 91                             | 15                                 | 10   |
| -1          | 189       | <b>190</b> | Charleston, WV  | 191                  | 195                  | 189                   | 174                   | 152                                   | 109                            | 97                             | 112                                | 47   |
| -29         | 162       | <b>191</b> | Springfield, OH                                       | 138                  | 184                  | 153                   | 156                   | 104                                   | 158                            | 167                            | 201                                | 175  |
| 3           | 195       | <b>192</b> | Rocky Mount, NC                                       | 196                  | 169                  | 193                   | 184                   | 165                                   | 189                            | 147                            | 20                                 | 10   |
| -3          | 190       | <b>193</b> | Binghamton, NY  | 199                  | 189                  | 197                   | 178                   | 181                                   | 152                            | 138                            | 7                                  | 4  |
| 6           | 200       | <b>194</b> | Weirton-Steubenville, WV-OH                           | 185                  | 145                  | 195                   | 136                   | 99                                    | 178                            | 155                            | 193                                | 175  |
| -21         | 174       | <b>195</b> | Michigan City-La Porte, IN                            | 184                  | 173                  | 166                   | 166                   | 199                                   | 194                            | 151                            | 117                                | 20   |
| -11         | 185       | <b>196</b> | Hinesville, GA  | 177                  | 143                  | 182                   | 200                   | 111                                   | 197                            | 160                            | 156                                | 129  |
| -35         | 162       | <b>197</b> | Fairbanks, AK   | 178                  | 162                  | 165                   | 185                   | 191                                   | 136                            | 102                            | 176                                | 175  |
| -7          | 191       | <b>198</b> | Sierra Vista-Douglas, AZ                              | 200                  | 182                  | 200                   | 197                   | 146                                   | 196                            | 189                            | 50                                 | 82   |
| -5          | 194       | <b>199</b> | Beckley, WV   | 194                  | 196                  | 170                   | 198                   | 189                                   | 176                            | 100                            | 155                                | 175  |
| -1          | 199       | <b>200</b> | Anniston-Oxford-Jacksonville, AL                      | 198                  | 171                  | 201                   | 179                   | 149                                   | 201                            | 188                            | 160                                | 175  |
| 0           | 201       | <b>201</b> | Pine Bluff, AR  | 201                  | 175                  | 199                   | 194                   | 183                                   | 180                            | 184                            | 189                                | 175  |

# Endnotes

1. This report draws on methodology and material used in previous editions of the Milken Institute's "Best-Performing Cities" report.
2. See Ross DeVol, Joe Lee, Minoli Ratnatunga, "State Technology and Science Index 2016: Sustaining America's Innovation Economy," Milken Institute, October 2016.
3. Michael Lin, Minoli Ratnatunga, and Perry Wong, "Regional Performance Over Time: Thriving and Reviving Amid Economic Challenges," Milken Institute, August 2016.
4. The latest 12-month job performance calculates the percentage change from the same month in the previous year (e.g., the change in jobs from August 2015 to August 2016). The percentage change is a measure of recent momentum, capturing which metropolitan areas have improved their performance in recent months. The annual growth rate measures the percentage change from calendar year 2014 to 2015. While the annual growth rate does not indicate whether high growth was achieved in the first or latter half of the year, the 12-month growth rate captures that aspect. Employment, wage, and gross metro product data are compiled from various government agencies, including the Bureau of Labor Statistics, the Bureau of Economic Analysis, and the U.S. Census Bureau. More detailed coverage on individual sectors is derived from Moody's Analytics at [economy.com](http://economy.com)
5. Michelle Quinn, "Quinn: High Tide for the Tech Economy," San Jose Mercury News, June 17, 2016, Nexis.com, accessed September 6, 2016.
6. "California Outpaces Nation in the Rate of Technology Job Growth," Editorial, San Jose Mercury News, March 2, 2016, Nexis.com, accessed September 7, 2016.
7. Chris Lafakis, "San Jose-Sunnyvale-Santa Clara," Moody's Analytics, April 2016.
8. George Avalos, "Tech Boom Reaches Record Heights in the Bay Area," East Bay Times, August 18, 2016, Nexis.com, accessed September 7, 2016.
9. "2016 Silicon Valley Index," Joint Venture Silicon Valley, March 2016, pp. 32-40, <https://www.jointventure.org/images/stories/pdf/index2016.pdf>, accessed October 4, 2016.
10. Alex Maastry, Kausik Rajgopal, Sean Randolph, and Micah Weinberg, "Promise and Perils of an Accelerated Economy: Bay Area Economic Profile," Bay Area Council Economic Institute, May, 2016, p.8, <http://www.bayareaeconomy.org/files/pdf/BayAreaEconomicProfile516.pdf>, accessed October 4, 2016.
11. Kevin Maney, "Why the World Hates Silicon Valley," Newsweek, June 17, 2016, Nexis.com, accessed September 7, 2016.
12. George Avalos, "Manufacturing Revolution Is Fueled by Silicon Valley Innovation," East Bay Times, April 5, 2016, Nexis.com, accessed September 7, 2016.
13. T.L. Stanley, "Why Utah Is Poised to Be America's Next Tech and Creative Hub," adweek.com, July 11, 2016, Nexis.com, accessed September 12, 2016.
14. Christopher Velarides, "Provo-Orem," Moody's Analytics, April 2015.
15. Kurt Hanson, "Provo Business Execs and Mayor Discuss City's Prosperity and Growth," Daily Herald, March 22, 2016, Nexis.com, accessed September 12, 2016.
16. "Enrollment at Utah Colleges Grows as Missionaries Return," Daily Universe: Brigham Young University, April 5, 2016, Nexis.com, accessed September 14, 2016.
17. "Small Business Hot Spots: The 3 Best Places to Lay Down Roots," States News Service, Sacramento, CA, September 1, 2016, Nexis.com, accessed September 12, 2016.
18. Karissa Neely, "Qualtrics Expanding Locally and Abroad," Daily Herald, August 18, 2016, Nexis.com, accessed September 12, 2016.
19. "Peter Thiel and Solamere Capital Co-Lead \$100 million Investment in Vivint Smart Home," Vivint Public Relations, April 27, 2016, Nexis.com, accessed September 12, 2016.
20. Lilly Rockwell, "Study Says Austin Is Best Bet for Techies," Austin American-Statesman, August 23, 2016, Nexis.com, accessed September 7, 2016.
21. Time Eaton and Lori Hawkins, "Apple on Track to Reach Hiring Goals, Papers Say," Austin American-Statesman, May 1, 2016, accessed September 8, 2016.
22. E.J. Reedy, Robert W. Fairlie, Joshua Russell, and Arnobio Morelix, "2016 Kauffman Index of Startup Activity, Metropolitan Area and City Trends," August 2016.
23. G. Scott Thomas, "What Makes a City Outstanding for Small Businesses," South Florida Business Journal, April 29, 2016, Nexis, accessed September 8, 2016.
24. Caroline Joiner, "Viewpoint: The App Economy Is Mighty but Still Needs Support," Austin Business Journal, July 8, 2016, Nexis, accessed September 7, 2016.
25. J.K. Dineen, "Booming Again; After 6-Month Lull, Commercial Builders Rev Up as Tech Companies Demand Office Space in S.F.," San Francisco Chronicle, August 12, 2016, Nexis.com, accessed September 12, 2016.

26. "San Francisco's Housing Frenzy Fading; High Luxury-Home Inventory; Prices May Be Too Steep as Job Growth Slows," Bloomberg News, Inside Real Estate, June 27, 2016, p. A10, Nexis.com, accessed September 12, 2016.
27. Tracey Lien, "Tech Start-Ups Discovering Frugality; As Venture Capital Dries Up, They Curb Outlandish Spending," Los Angeles Times, May 1, 2016, Nexis.com, accessed September 12, 2016.
28. George Avalos, "Tech Boom Reaches Record Heights in the Bay Area," East Bay Times, August 18, 2016, Nexis.com, accessed September 12, 2016.
29. Ben Miller, "Denver Tech Company Bought, Moving to San Francisco," July 18, 2016, Nexis.com, accessed September 12, 2016.
30. C.W. Nevius, "Demonizing Tech Industry Isn't the Answer," San Francisco Chronicle, August 4, 2016, Nexis.com, accessed September 13, 2016.
31. "It's Working in D-FW," Dallas Morning News editorial, August 30, 2016, accessed September 10, 2016.
32. Edward Friedman, "Dallas-Plano-Irving," Moody's Analytics, July 2016.
33. Shawn Shinnerman, "JLL: We Aren't Silicon Valley, but Dallas Remains a Tech Hub," August 12, 2016, Nexis.com, accessed September 9, 2016.
34. Natalie Kitroeff, "Pasadena Firm Moving Jobs to Texas, Dallas Is Trying to Get Jacobs Engineering to Set Up Its Headquarters in the City," Los Angeles Times, June 7, 2016, Nexis.com, accessed September 8, 2016.
35. Candace Carlisle, "In DFW, There's a Raging Desire to Construct Data Centers ASAP," Dallas Business Journal, April 22, 2016, Nexis.com, accessed September 9, 2016.
36. NSF Nanosystems Engineering Research Center for Advanced Self-Powered Systems of Integrated Sensors and Technologies, "About ASSIST (Mission / Vision)," North Carolina State University, <https://assist.ncsu.edu/about/>, accessed October 12, 2016.
37. PowerAmerica, "About PowerAmerica," <https://www.poweramericainstitute.org/about-poweramerica/>, accessed October 12, 2016.
38. Reuters, "Cisco's Layoffs Are Just the Tip of the Spear for Tech," Fortune, August 18, 2016. <http://fortune.com/2016/08/18/expect-more-tech-layoffs/>, accessed October 12, 2016.
39. Eric Snyder and Scott Harrison, "Nissan to Invest \$160M in Smyrna Expansion," Nashville Business Journal, March 17, 2015. <http://www.bizjournals.com/nashville/blog/2015/03/smyrnas-big-100m-investment-about-to-be-revealed.html>, accessed October 12, 2016.
40. Lizzy Alfs, "GM to Add 650 workers at Spring Hill Plant," Tennessean, October 12, 2016. <http://www.tennessean.com/story/money/2016/10/11/gm-add-650-workers-spring-hill-plant/91893282/>, accessed October 12, 2016.
41. Kieran Nicholson, "Colorado State University Enrollment Tops 33,000 for the First Time," Denver Post, September 12, 2016. <http://www.denverpost.com/2016/09/12/colorado-state-university-enrollment/>, accessed October 13, 2016.
42. Dan Grossman, "Why Students Are Calling CSU 'Construction State University,'" KUSA-TV, August 3, 2016, <http://www.9news.com/money/business/why-students-are-calling-csu-construction-state-university/286905654>, accessed October 13, 2016.
43. Pat Ferrier and Adrian D. Garcia, "Incentives No Golden Goose for Fort Collins Companies," Coloradoan, December 21, 2015, <http://www.coloradoan.com/story/money/2015/12/18/city-incentives-golden-goose-business/77448032/>, accessed October 13, 2016.
44. Richard Bilbao, "Here's How Orlando's Theme Park Attendance Has Grown in the Past Decade," Orlando Business Journal, October 5, 2016, <http://www.bizjournals.com/orlando/news/2016/10/05/10-year-theme-park-view-universal-orlando-soars.html>, accessed October 13, 2016.
45. <http://www.seattletradealliance.com/uploads/pdf/our-industries/life-sciences-and-healthcare-final.pdf>, accessed September 12, 2016.
46. <http://www.us.jll.com/united-states/en-us/Documents/Life-Sciences/JLL-US-Life-Science-Outlook-2015.pdf>, accessed September 23, 2016.
47. Dominic Gates, "Lofty Optimism at Boeing Hints at More Work Here," Seattle Times, July 1, 2016, Nexis.com, accessed September 12, 2016.
48. Angel González and Matt Day, "Area Tech Giants Invest Billions as Computing Shifts to Cloud," Seattle Times, April 28, 2016, accessed September 9, 2016.
49. Jim Davis, "Profits Grow, Jobs Open, Lives Saved at Bothell Biotech Firms," Herald Business Journal, June 8, 2016, Nexis.com, accessed September 8, 2016.
50. "Eldon James to Boost Utah's Manufacturing Sector," press release, Utah Governor's Office of Economic Development, October 8, 2015, <http://business.utah.gov/news/eldon-james-to-boost-utahs-manufacturing-sector/>, accessed October 14, 2016.
51. Celeste Smith, "Coca-Cola Bottling Co. Consolidated Opens New Call Center," Charlotte Observer, November 10, 2015, <http://www.charlotteobserver.com/news/business/article44182782.html>, accessed October 14, 2016.
52. Jen Wilson, "Cloud-Tech Firm Velocity to Bring HQ, Jobs to Charlotte," Charlotte Business Journal, September 23, 2014, <http://www.bizjournals.com/charlotte/news/2014/09/23/cloud-tech-firm-velocity-to-bring-hq-jobs-to.html>, accessed October 14, 2016.
53. Corinne Journey, "North Carolina's 'Bathroom Bill' Has Flushed Away \$600 Million In Business And Could Dash Governor's Re-election Hopes." Forbes, November 3, 2016. <http://www.forbes.com/sites/corinnejourney/2016/11/03/north-carolinas-bathroom-bill-flushes-away-nearly-1-billion-in-business-and-governor-mccrorys-re-election-hopes/#1572d0906eb5> accessed November 8, 2016.
54. Gloria Casas, "Denver Seen as Model of Regional Cooperation by Development Group," Elgin Courier News, March 1, 2016, <http://www.chicagotribune.com/suburbs/elgin-courier-news/news/ct-ecn-kane-economic-development-forum-st-0302-20160301-story.html>, accessed October 17, 2016.
55. Aldo Svaldi and Laura Keeney, "Panasonic Enterprise Solutions a 'First Win' for Denver Aerotropolis," Denver Post, December 18, 2014, <http://www.denverpost.com/2014/12/18/panasonic-enterprise-solutions-a-first-win-for-denver-aerotropolis/>, accessed October 17, 2016.

56. Teena Maddox, "Panasonic Opens Its First Smart Building at New Denver Headquarters," TechRepublic, September 23, 2016, <http://www.techrepublic.com/article/panasonic-opens-its-first-smart-building-at-new-denver-headquarters/>, accessed October 17, 2016.
57. Greg Avery, "Denver, Panasonic Unveil 'Smart City' Tech Projects at CES," Denver Business Journal, January 5, 2016, [http://www.bizjournals.com/denver/blog/boosters\\_bits/2016/01/denver-panasonic-unveil-ambitious-smart-city-tech.html](http://www.bizjournals.com/denver/blog/boosters_bits/2016/01/denver-panasonic-unveil-ambitious-smart-city-tech.html), accessed October 17, 2016.
58. "Economic Activity Study of Metro Denver Culture," Colorado Business Committee for the Arts, 2016.
59. Cameron McWhirter, "Denver's Transit System Makes Tracks," Wall Street Journal, September 26, 2016, <http://www.wsj.com/articles/denvers-transit-system-makes-tracks-1474933438>, accessed October 17, 2016.
60. Office of Economic Development, Mayor's Housing Advisory Committee, City and County of Denver, <http://www.denvergov.org/content/denvergov/en/denver-office-of-economic-development/housing-neighborhoods/DenversPermanentFundforHousing/how-to-get-involved.html>, accessed October 17, 2016.
61. Mike Rogoway, "Despite Intel Cuts, Portland High-Tech Is Surging," Oregonian/OregonLive, April 29, 2016, Nexis.com, accessed September 10, 2016.
62. Mike Rogoway, "Google Shows Off Its New Portland Digs," Oregonian/OregonLive, May 20, 2016, Nexis.com, accessed September 10, 2016.
63. Jon Bell, "Gov. Brown Touts Oregon Job Surge, Welcomes New Software Firm at New York Building," Portland Business Journal, May 20, 2016, Nexis.com, accessed September 10, 2016.
64. Jeff Manning, "Nike to Expand Its Shoe Pillow Factory," Oregonian/OregonLive, May 6, 2016, Nexis.com, accessed September 10, 2016.
65. Laura Ruane, "It's High Time for SW Florida Tourism," News-Press, February 15, 2016, <http://www.news-press.com/story/news/2016/02/13/s-high-time-sw-florida-tourism/80024904/>, accessed October 19, 2016.
66. Annabelle Tometich, "As Cape Coral Restaurants Boom, Del Prado Seeks Identity," News-Press, March 8, 2016, <http://www.news-press.com/story/life/food/2016/03/08/cape-coral-restaurants-boom-del-prado-parkway-pine-island-road-southside-pub-steak-house-closed/81312872/>, accessed October 19, 2016.
67. Tim Wronka and Chris Lovingood, "Red Tide Warning in Effect for Lee, Charlotte Counties," WBBH News, September 29, 2016, <http://www.nbc-2.com/story/33281519/red-tide-warning-in-effect-for-lee-charlotte-counties>, accessed October 19, 2016.
68. Frank Gluck, "What Gulf Coast Medical Center Will Look Like in 2021," News-Press, October 17, 2016, <http://www.news-press.com/story/news/local/2016/10/16/what-gulf-coast-medical-center-look-like-2021/92063240/>, accessed October 19, 2016.
69. Frank Gluck, "Inside Florida's New Golisano Children's Hospital," Democrat & Chronicle, February 24, 2016, <http://www.democratandchronicle.com/story/news/2016/02/24/golisano-childrens-hospital-construction-florida/80846098/>, accessed October 19, 2016.
70. Warren L. Wise and David Wren, "Training, Location Key to Landing \$500M Daimler Deal," Post and Courier, March 5, 2015, [http://www.postandcourier.com/business/training-location-key-to-landing-m-daimler-deal/article\\_d62744c0-1d85-5d65-84be-54c2a7b5f9cb.html](http://www.postandcourier.com/business/training-location-key-to-landing-m-daimler-deal/article_d62744c0-1d85-5d65-84be-54c2a7b5f9cb.html), accessed October 21, 2016.
71. BMW Group Spartanburg, "BMW Manufacturing's 2015 Export Value Reaches Nearly \$10 Billion," BMW Manufacturing News Center, February 10, 2016, [https://www.bmwusfactory.com/bmw\\_articles/bmw-manufacturings-2015-export-value-reaches-nearly-10-billion/](https://www.bmwusfactory.com/bmw_articles/bmw-manufacturings-2015-export-value-reaches-nearly-10-billion/), accessed October 24, 2016.
72. Stephanie Hunt, "The Rise of Silicon Harbor," Charleston Mag, January 2013, [http://charlestonmag.com/features/the\\_rise\\_of\\_silicon\\_harbor](http://charlestonmag.com/features/the_rise_of_silicon_harbor), accessed October 24, 2016.
73. Naples Marco Island Everglades "2015 Tourism Impact Facts," 2015 Research Data Services Inc., June 2016, [http://www.paradisecoast.com/master/files/media/Buzzy\\_Docs/2015\\_Visitor\\_Statistics/Collier\\_Tourism\\_Impact\\_Facts\\_2015.pdf](http://www.paradisecoast.com/master/files/media/Buzzy_Docs/2015_Visitor_Statistics/Collier_Tourism_Impact_Facts_2015.pdf), accessed October 26, 2016.
74. RJ Roan, "Real Estate Market Facing 'Headwinds,' Sales Down," Naples Herald, July 25, 2016, <http://naplesherald.com/2016/07/25/real-estate-market-facing-headwinds-sales/>, accessed October 25, 2016.
75. Peter Waldman, "Why Uber and Other Tech Companies Are Spreading Across the Bay to Oakland," Bloomberg Businessweek, September 25, 2016, <https://www.bloomberg.com/news/articles/2015-09-23/why-uber-and-other-tech-companies-are-spreading-across-the-bay-to-oakland>, accessed October 27, 2016.
76. Roland Li, "Facing Steep Rent Increase, S.F. Tech Tenant Moves to Oakland," San Francisco Business Times, July 27, 2015, <http://www.bizjournals.com/sanfrancisco/blog/real-estate/2015/07/fluid-latham-square-oakland-lease-sf-spillover.html>, accessed October 27, 2016.
77. Robert Ferris, "This Is What Tesla's Expanded Fremont Factory Will Look Like," CNBC, October 11, 2016, <http://www.cnbc.com/2016/10/11/this-is-what-teslas-expanded-fremont-factory-will-look-like.html>, accessed October 27, 2016.
78. Alan Ohnsman, "A Gigafactory, California Style? Tesla Seeks to Double Size of US Auto Plant," Forbes, October 7, 2016, <http://www.forbes.com/sites/alanohnsman/2016/10/07/a-gigafactory-california-style-tesla-seeks-to-double-size-of-us-auto-plant/#dd936d03bbd9>, accessed October 27, 2016.
79. "Warm Springs Extension Project Overview," Bay Area Rapid Transit, <http://www.bart.gov/about/projects/wsx>, accessed October 27, 2016.
80. Andrew Khouri, "The Next Silicon Beach? Orange County Wants to Build Its Tech Community," Los Angeles Times, October 29, 2015, <http://www.latimes.com/business/la-fi-oc-incubators-20151029-story.html>, accessed October 27, 2016.
81. Lauren Williams, "Orange County Venture Capital Hit \$1 billion in 2015. What's Being Funded Here?" Orange County Register, January 21, 2016, <http://www.oregister.com/articles/companies-700895-irvine-county.html>, accessed October 27, 2016.
82. Heather Clancy, "How Data Analytics Startup Alteryx Wins Over Business Analysts," Fortune, October 28, 2015, <http://fortune.com/2015/10/28/alteryx-raises-85-million/>, accessed October 27, 2016.

83. Ibid.
84. Chris Casacchia, "Irvine Software Maker Gets \$85M," Orange County Business Journal, October 28, 2015, <http://www.ocbj.com/news/2015/oct/28/irvine-software-maker-gets-85m/>, accessed October 27, 2016.
85. University of California Irvine, "UCI Shatters Research and Philanthropic Funding Records," UCI News, August 10, 2016, <https://news.uci.edu/health/uci-shatters-research-and-philanthropic-funding-records/>, accessed October 27, 2016.
86. University of California Irvine, "UCI Strategic Plan," February 2016, <http://strategicplan.uci.edu/>, accessed October 27, 2016.
87. "3-Digit NAICS Metro Analysis 2016 Static," Milken Institute, October 4, 2016, accessed October 18, 2016.
88. "Santa Rosa's Jackson Family Wines to Acquire Healdsburg's Copain Wines," North Bay Business Journal, May 16, 2016, <http://www.northbaybusinessjournal.com/northbay/sonomacounty/5622863-181/jackson-family-wines-copain-acquisition?artslide=0>, accessed October 18, 2016.
89. "3-Digit NAICS Metro Analysis 2016 Static," Milken Institute, October 4, 2016, accessed October 18, 2016.
90. Robert Digitale, "Keysight Technologies Tightens Belt in Response to Slowdown," Press Democrat, May 19, 2015, <http://www.pressdemocrat.com/business/3955948-181/profits-drop-at-keysight-technologies>, accessed October 18, 2016.
91. Robert Digitale, "Santa Rosa's Ruthigen Merges With Massachusetts Startup," Press Democrat, March 16, 2015, <http://www.pressdemocrat.com/business/3670534-181/santa-rosas-ruthigen-merges-with>, accessed October 18, 2016.
92. "Rapidly Growing BioCision to Expand to San Rafael," North Bay Business Journal, June 16, 2014, <http://www.northbaybusinessjournal.com/csp/mediapool/sites/NBBJ/IndustryNews/story.csp?cid=4185253&sid=778&fid=181>, accessed October 26, 2016.
93. "U.S. Government, Lockheed Martin Announce C-130J Super Hercules Multiyear II Contract," Lockheed Martin, December 31, 2015, <http://www.lockheedmartin.com/us/news/press-releases/2015/december/C130MultiYear.html>, accessed October 18, 2016.
94. Ilir Hya, "Atlanta-Sandy Springs-Roswell GA," Moody's Analytics, July 2016, accessed October 18, 2016.
95. Tasnim Shamma, "Tech Innovation Centers Encourage Atlanta Startups," NPR AWBE 90.1, January 6, 2016, <http://news.wabe.org/post/tech-innovation-centers-encourage-atlanta-startups>, accessed October 18, 2016.
96. Ilir Hya, "Atlanta-Sandy Springs-Roswell GA," Moody's Analytics, July 2016, accessed October 18, 2016.
97. Kevin Nadroski, "GM Invests \$119 Million in Michigan Components Plant, Creates Approximately 300 New Jobs," General Motors, June 1, 2016, <http://media.gm.com/media/us/en/gm/news.detail.html/content/Pages/news/us/en/2015/jun/0601-grand-rapids.html>, accessed October 13, 2016.
98. Nathan Bomey, "A First in Michigan: Tesla Buys Grand Rapids Auto Supplier," Detroit Free Press, May 6, 2016, <http://www.freep.com/story/money/cars/2015/05/06/tesla-motors-acquisition-riviera-tool-grand-rapids/70916758/>, accessed October 13, 2016.
99. Tarun Shukla, "One Company's Struggle to Move Manufacturing to the U.S.," Wall Street Journal, May 2, 2016, <http://www.wsj.com/articles/one-companys-struggle-to-move-manufacturing-to-the-u-s-1433190726>, accessed October 13, 2016.
100. Mark Sanchez, "Tetra Discovery Partners Secures \$4.28 million in VC Funding for New Drug," MiBiz, August 5, 2016, <https://mibiz.com/item/23891-tetra-discovery-partners-secures->, accessed October 12, 2016.
101. Shandra Martinez, "Grand Rapids Tech Firm's Drug Improves Memory After Brain Injury, University Study Shows," Mlive, July 11, 2016, [http://www.mlive.com/news/grand-rapids/index.ssf/2016/07/grand\\_rapids\\_tech\\_firms\\_drug\\_i.html](http://www.mlive.com/news/grand-rapids/index.ssf/2016/07/grand_rapids_tech_firms_drug_i.html), accessed October 13, 2016.
102. "MSU Breaks Ground on \$88.1 Million Medical Research Facility," WLNS, June 18, 2016, <http://wlns.com/2015/06/18/msu-breaks-ground-on-88-1-million-medical-research-facility/>, accessed October 13, 2016.
103. "Grand Rapids Tech Firm Invests \$2.9 Million in New Facility," MiBiz, April 29, 2015, <https://mibiz.com/item/22464-grand-rapids-tech-firm-invests->, accessed October 13, 2016.
104. Dante DeAntonio, "Boise City ID," Moody's Analytics, August 2016, accessed October 3, 2016.
105. Sean Reichard, "Micron Foundation Funds Center for Materials Research at Boise State University," New West, October 22, 2015, <http://newwest.net/2015/10/22/micron-foundation-funds-center-for-materials-research-at-boise-state-university/>, accessed October 13, 2016.
106. Steve Bertal, "Tech Firm to Bring 500 New Jobs to Boise," KIVI-TV ABC, September 5, 2015, <http://www.kivitv.com/news/tech-firm-to-bring-500-new-jobs-to-boise>, accessed October 13, 2015.
107. Benton Smith, "Local Company Plans to Bring Manufacturing of Its Award-Winning Technology to Boise," Idaho Business Review, January 6, 2016, <http://idahobusinessreview.com/2016/01/06/local-company-plans-to-bring-manufacturing-of-its-award-winning-technology-to-boise/>, accessed October 13, 2016.
108. Zach Kyle, "With \$48 Million in New Investor Money, Cradlepoint Looking to Expand Overseas," Idaho Statesman, April 23, 2015, <http://www.idahostatesman.com/news/business/article40855134.html>, accessed October 13, 2016.
109. Audrey Dutton, "The Booze Brothers: Corson Distilling Is a Growing Boise Factory," Idaho Statesman, September 15, 2016, <http://www.idahostatesman.com/news/business/article101943382.html>, accessed October 13, 2016.
110. "Cascadia Healthcare to Break Ground on Two New Transitional Care Facility Sites in Boise and Nampa Idaho," PR Newswire, March 23, 2016, <http://www.prnewswire.com/news-releases/cascadia-healthcare-to-break-ground-on-two-new-transitional-care-facility-sites-in-boise-and-nampa-idaho-300240460.html>, accessed October 13, 2016.
111. Lisa Beilfuss, "Albertsons to Raise Up to \$1.84 Billion in IPO," Wall Street Journal, September 25, 2015 <http://www.wsj.com/articles/albertsons-to-raise-up-to-1-84-billion-in-ipo-1443179088>, accessed October 13, 2016.
112. Edward Friedman, "San Antonio-New Braunfels TX," Moody's Analytics, July 2016, accessed October 3, 2016.
113. Scott Bailey, "SA biotech firm drawing global interest year after moving from Germany" San Antonio Business Journal 08/16/2016, "<http://www.bizjournals.com/sanantonio/news/2016/08/16/sa-biotech-firm-drawing-global-interest-year-after.html>" accessed 10/17/2016

114. W. Scott Bailey, "San Antonio Biotech Firm Lands Major Department of Defense Deal," San Antonio Business Journal, November 10, 2015, <http://www.bizjournals.com/sanantonio/news/2015/11/10/san-antonio-biotech-firm-lands-major-department-of.html>, accessed October 17, 2016.
115. Nick Wilson, "Former Apple Exec's \$20 Million Donation to Cal Poly Will Upgrade Campus Ag Facilities," Tribune, September 3, 2016, <http://www.sanluisobispo.com/news/local/education/article39061209.html>, accessed October 12, 2016.
116. "Why Ray Prince's Gift of \$2.3M to Cal Poly Is Significant for the Printing Industry," Printing Impressions, September 23, 2015, <http://www.piworld.com/article/letter-addresses-ray-princes-gift-cal-poly-significant-entire-printing-industry/>, accessed October 12, 2016.
117. Nick Wilson, "Cal Poly Receives \$20 Million Pledge for New Research and Technology Center," Tribune, May 9, 2016, <http://www.sanluisobispo.com/news/local/education/article76573177.html>, accessed October 12, 2016.
118. "Cal Poly Gets \$500,000 Grant for Technology Park Planning," Pacific Coast Business Times, May 22, 2015, <http://www.pacbiztimes.com/2015/05/22/cal-poly-gets-500000-grant-for-technology-park-planning/>, accessed October 12, 2016.
119. Candice Conti, "Cal Poly Center for Innovation and Entrepreneurship Opens Incubator to Local Startups," Cal Poly San Luis Obispo, October 27, 2015, [http://calpolynews.calpoly.edu/news\\_releases/2015/October/incubator.html](http://calpolynews.calpoly.edu/news_releases/2015/October/incubator.html), accessed October 27, 2016.
120. Nick Wilson, "Cal Poly's Stem Cell Research Program Gets \$2.6 Million Grant," Tribune, April 3, 2016, <http://www.sanluisobispo.com/news/local/education/article69795082.html>, accessed October 12, 2016.
121. Nick Wilson, "Cal Poly Institute Gets \$1.5 million Grant for Wave Energy," Tribune, <http://www.sanluisobispo.com/news/local/article69627502.html>, accessed October 12, 2016.
122. "MindBody IPO raises \$101 million," Pacific Coast Business Times, June 19, 2015, <https://www.pacbiztimes.com/2015/06/19/mindbody-ipo-raises-101-million/>, accessed October 12, 2016.
123. Kaytlen Leslie, "New Seattle-to-SLO Flight Will Increase Business, Tourism, Officials Say," Tribune, July 29, 2016, <http://www.sanluisobispo.com/news/local/article86808592.html>, accessed October 3, 2016.
124. Sarah Linn, "Study: San Luis Obispo County Wine Industry Generated \$1.9 Billion in 2015," Tribune, June 9, 2016, <http://www.sanluisobispo.com/news/business/article82922187.html>, accessed October 12, 2016.
125. Paul Matsiras, "Bend-Redmond OR," Moody's Analytics, August 2016, accessed October 3, 2016.
126. Mike Rogoway, "As Facebook and Apple Expand, Pringleville Makes Room for Mysterious New Data Center," Oregonian, February 16, 2016, [http://www.oregonlive.com/silicon-forest/index.ssf/2016/02/as\\_facebook\\_and\\_apple\\_expand\\_p.html](http://www.oregonlive.com/silicon-forest/index.ssf/2016/02/as_facebook_and_apple_expand_p.html), accessed October 10, 2016.
127. Soar Oregon Unmanned Unlimited, <http://uastestranges.soaroregon.com/>, accessed October 10, 2016.
128. Viet Nguyen, "Drone Schools: The List," Drone Training HQ, December 13, 2014, <http://dronetraininghq.com/drone-schools-list/>, accessed October 10, 2016.
129. Paul Matsiras, "Bend-Redmond OR," Moody's Analytics, August 2016, accessed October 3, 2016.
130. Steven J. Shields, "College Station-Bryan TX," Moody's Analytics, July 2016, accessed October 3, 2016.
131. Sam Peshek, "Records Reveal Details Behind Departure of Texas A&M University Health Science Center CEO Brett Giroir," Eagle, July 12, 2015, [http://www.theeagle.com/news/local/records-reveal-details-behind-departure-of-texas-a-m-university/article\\_14682175-5e16-57c0-bd6f-6de059e9dc34.html](http://www.theeagle.com/news/local/records-reveal-details-behind-departure-of-texas-a-m-university/article_14682175-5e16-57c0-bd6f-6de059e9dc34.html), accessed October 4, 2016.
132. Steven J. Shields, "College Station-Bryan TX," Moody's Analytics, July 2016, accessed October 3, 2016.
133. Matthew Watkins, "Texas A&M Planning \$68 Million Worth of New Sports Stadiums," Texas Tribune, April 25, 2016, <https://www.texastribune.org/2016/04/25/texas-m-planning-68-million-worth-new-sports-stadi/>, accessed October 4, 2016.
134. Richard Halstead, "Kaiser Pays \$22 Million for San Rafael Office Building," Marin Independent Journal, August 21, 2015, <http://www.marinij.com/article/NO/20150831/NEWS/150839962>, accessed October 5, 2015.
135. Richard Halstead, "BioMarin Stock Seesaws as Rumors of Buyout Swirl Around San Rafael Biotech Company," Marin Independent Journal, April 7, 2016, <http://www.marinij.com/article/NO/20150407/NEWS/150409849>, accessed October 4, 2016.
136. Richard Swart, "A \$710 Million Crowdfinanced Company: An Alternative to Venture Capital," Crowdfund Insider, January 28, 2015, <http://www.crowdfundinsider.com/2015/01/61768-a-710-million-dollar-crowdfinanced-company-an-alternative-to-venture-capital/>, accessed October 4, 2016.
137. Colin Seitz, "San Rafael CA," Moody's Analytics, August 2016, accessed October 3, 2016.
138. Kristopher Cramer, "St. George UT," Moody's Analytics, August 2016, accessed October 3, 2016.
139. Julie Applegate, "Dixie Regional Announces \$300M Expansion to River Roads Campus," St. George News, September 17, 2015, [https://www.stgeorgeutah.com/news/archive/2015/11/17/jla-dixie-regional-announces-300m-expansion/#.V\\_wgNugrJaR](https://www.stgeorgeutah.com/news/archive/2015/11/17/jla-dixie-regional-announces-300m-expansion/#.V_wgNugrJaR), accessed October 5, 2016.
140. Kristopher Cramer, "St. George UT," Moody's Analytics, August 2016, accessed October 3, 2016.
141. David Demille, "National Park Service Marks Centennial With Record Visitation," Spectrum, August 25, 2016, <http://www.thespectrum.com/story/news/2016/08/24/national-parks-mark-centennial-record-crowds/89305478/>, accessed October 5, 2016.
142. National Park Service Stats, September 2016, <https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Monthly%20Public%20Use?Park=ZION>, accessed October 11, 2016.
143. Christopher Velarides, "Logan UT-ID," Moody's Analytics, April 2016, accessed October 3, 2016.
144. Kevin Opsahl, "USU Reports \$232M in Record-Breaking Research Funding," Herald Journal, October 2, 2015, [http://news.hjnews.com/allaccess/usu-reports-m-in-record-breaking-research-funding/article\\_167cb319-bd87-54b8-acb2-697772873c7a.html](http://news.hjnews.com/allaccess/usu-reports-m-in-record-breaking-research-funding/article_167cb319-bd87-54b8-acb2-697772873c7a.html) accessed 10/5/2016, accessed October 5, 2016.
145. "Enrollment Summary Fall Semester 2014," Utah State University, October 2014, [http://www.usu.edu/aaa/pdf/enroll\\_sum/Fall2014Summary.pdf](http://www.usu.edu/aaa/pdf/enroll_sum/Fall2014Summary.pdf), accessed October 5, 2016.

146. "General information," Utah State University, <https://www.usu.edu/about/at-a-glance/>, accessed October 5, 2016.
147. Kristopher Cramer, "St. George UT," Moody's Analytics, August 2016, accessed October 3, 2016.
148. Kevin Opsahl, "GE Purchases Part of Thermo Fisher Scientific," Herald Journal, January 9, 2016, [http://news.hjnews.com/news/ge-purchases-part-of-thermo-fisher-scientific/article\\_52c1da40-79b3-11e3-b714-0019bb2963f4.html](http://news.hjnews.com/news/ge-purchases-part-of-thermo-fisher-scientific/article_52c1da40-79b3-11e3-b714-0019bb2963f4.html), accessed October 5, 2016.
149. "GE Plans to Invest \$1.4B to Acquire Additive Manufacturing Companies Arcam and SLM; Accelerates Efforts in Important Digital Industrial Space," Business Wire, September 6, 2016, <http://www.businesswire.com/news/home/20160905005631/en/GE-Plans-Invest-1.4B-Acquire-Additive-Manufacturing>, accessed October 5, 2016.
150. "German Manufacturing Company to Open Plant in Auburn," OANow, April 28, 2016, [http://www.oanow.com/news/auburn/german-manufacturing-company-to-open-plant-in-auburn/article\\_547fccf0-0d4c-11e6-99d1-a3bbb7e9d51c.html](http://www.oanow.com/news/auburn/german-manufacturing-company-to-open-plant-in-auburn/article_547fccf0-0d4c-11e6-99d1-a3bbb7e9d51c.html), accessed October 5, 2016.
151. Associated Press, "German Auto Parts Manufacturer to Build Plant in Auburn," Washington Times, July 25, 2016, <http://www.washingtontimes.com/news/2015/jul/25/german-automaker-to-build-plant-in-auburn/>, accessed October 6, 2016.
152. "Adams Beverages Breaks Ground for New Opelika Facility," OANow, September 18, 2016, [http://www.oanow.com/news/business/adams-beverages-breaks-ground-for-new-opelika-facility/article\\_755d3be8-7d3a-11e6-a5fb-6b34f1501b61.html](http://www.oanow.com/news/business/adams-beverages-breaks-ground-for-new-opelika-facility/article_755d3be8-7d3a-11e6-a5fb-6b34f1501b61.html), accessed October 5, 2016.
153. Andy Ober, "Cummins to Show Off Indy HQ Progress," Inside Indiana Business, September 29, 2016, <http://www.insideindianabusiness.com/story/33280157/cummins-to-showcase-indy-hq-progress>, accessed October 6, 2016.
154. "Japan-Based Daiei Inc. Invests \$3.35 Million to Establish Manufacturing Facility in Columbus, Indiana," Area Development, November 4, 2015, <http://www.areadevelopment.com/newsitems/11-4-2015/daiei-production-facility-columbus-indiana890343.shtml>, accessed October 6, 2016.
155. "Impact Forge Group Expands Its Columbus, Indiana, Manufacturing Center," Area Development, January 6, 2015, <http://www.areadevelopment.com/newsitems/1-6-2015/impact-forge-group-production-center-expansion-columbus-indiana675754.shtml>, accessed October 6, 2016.
156. Andy Ober, "GlassBoard Growing in Indy," Inside Indiana Business, September 19, 2016, <http://www.insideindianabusiness.com/story/33127598/glassboard-growing-in-indy>, accessed October 6, 2016.
157. "QuickFacts Grants Pass, Oregon," United State Census Bureau, September 15, 2016, <http://www.census.gov/quickfacts/table/PST045215/4130550>, accessed October 11, 2016.
158. Paul Matsiras, "Grants Pass OR," Moody's Analytics, August 2016, accessed October 3, 2016.
159. Damian Mann, "\$20 Million to Upgrade 3 Facilities," Mail Tribune, April 15, 2016, <http://www.mailtribune.com/news/20160415/20-million-to-upgrade-3-facilities>, accessed October 6, 2016.
160. Shuan Hall, "Grants Pass Cancer Center Welcomes New Technology," Bend Bulletin, July 24, 2016, <http://www.bendbulletin.com/nation/4525653-151/grants-pass-cancer-center-welcomes-new-technology>, accessed October 6, 2016.
161. Shuan Hall, "Asante Plans to Open Big Outpatient Clinic in Grants Pass," Mail Tribune, August 6, 2014, <http://www.mailtribune.com/article/20140806/News/140809880>, accessed October 6, 2016.
162. "Mycorrhizal Applications Announces Actinovate® for Lawn and Garden," Business Wire, September 8, 2016, <http://www.businesswire.com/news/home/20160908005102/en/Mycorrhizal-Applications-Announces-Actinovate%C2%AE-Lawn-Garden>, accessed October 6, 2016.
163. Susan Adams, "The Coffee Cult: How Dutch Bros. Is Turning Its 'Bro-istas' Into Wealthy Franchisees," Forbes, June 15, 2016, <http://www.forbes.com/sites/susanadams/2016/06/15/the-coffee-cult-how-dutch-bros-is-turning-its-bro-istas-into-wealthy-franchisees/#d35cd595e275>, accessed October 6, 2016.
164. Anne Ward Ernst, "California Welcomed Nearly 1 million Chinese Visitors in 2014," Napa Valley Register, September 24, 2016, [http://napavalleyregister.com/business/california-welcomed-nearly-million-chinese-visitors-in/article\\_3bacb230-033f-522e-9e2d-f90d5f0bde93.html](http://napavalleyregister.com/business/california-welcomed-nearly-million-chinese-visitors-in/article_3bacb230-033f-522e-9e2d-f90d5f0bde93.html), accessed October 6, 2016.
165. Liz Watson, "2016 Direct to Consumer: Wine Shipping Report," Ship Compliant, Wines&Vines, February 2016, [http://www.shipcompliant.com/wp-content/uploads/2016/02/2016\\_DtC\\_Report\\_Final.pdf](http://www.shipcompliant.com/wp-content/uploads/2016/02/2016_DtC_Report_Final.pdf), accessed October 6, 2016.
166. Robert Digtale, "Chanel Buys Rutherford's St. Supery Estate Vineyards and Winery," Press Democrat, October 20, 2015, <http://www.pressdemocrat.com/business/4641238-181/chanel-buys-rutherfords-st-supery?artslide=0>, accessed October 11, 2016.
167. Spencer Soper, Frederik Balfour, "Alibaba Brings the Taste of Napa Valley Wine to China," Bloomberg News, September 1, 2016, <http://www.bloomberg.com/news/articles/2015-09-01/china-s-thirst-lures-alibaba-to-napa-valley-wine-country>, accessed October 6, 2016.
168. Annie Sciacca, Tessa Love, "Napa's Wine Crush: Putting a Cork in Wineries' Growth," San Francisco Business Times, April 22, 2016, <http://www.bizjournals.com/sanfrancisco/print-edition/2016/04/22/napa-valley-wine-winery-development-real-estate.html>, accessed October 6, 2016.
169. Frank Reddy, "Wrigley to Add 155 Jobs at Flowery Branch Plant," Gainesville Times, June 24, 2015, <http://www.gainesvilletimes.com/archives/110519/>, accessed October 7, 2016.
170. Frank Reddy, "Manufacturing Plans 200 Jobs in Gainesville," Gainesville Times, August 7, 2016, <http://www.gainesvilletimes.com/archives/111308/>, accessed October 7, 2016.
171. Joshua Silavant, "Brewery Gets Green Light to Pour With Recent Changes to State Law," Gainesville Times, April 10, 2016, <http://www.gainesvilletimes.com/archives/116231/>, accessed October 7, 2016.
172. Brendan LaCerde, "Gainesville GA," Moody's Analytics, July 2016, accessed October 3, 2016.



# About the Authors

**ROSS DEVOL** is the chief research officer at the Milken Institute. He oversees research on international, national, and subnational growth performance; access to capital and its role in economic growth and job creation; and health-related topics. DeVol has put the organization in the national limelight with groundbreaking research on technology and its impact on regional and national economies and on the economic and human consequences of chronic disease. He specializes in the effects of research and development activities, international trade, human capital and labor-force skills training, entrepreneurship, early stage financing, and quality-of-place issues on the geographic distribution of economic activity. His “Best-Performing Cities: Where America’s Jobs Are Created” was first published in 2004 and has been regularly updated since. It reveals which cities are creating jobs and economic opportunity and describes the factors determining long-term success. In “A Matter of Degrees: The Effect of Educational Attainment on Regional Economic Prosperity,” he and colleagues demonstrated the high returns on investment in higher education and the research spillovers that universities facilitate. DeVol is ranked among the “Super Stars” of Think Tank Scholars by International Economy magazine and appears on national television and radio programs, including Fox News, CNN’s “Moneyline,” “Wall Street Journal Report With Maria Bartiromo,” “Bloomberg West,” “Fox Business News,” and CNBC. He is quoted in print media such as the Wall Street Journal, the Financial Times, Investor’s Business Daily, Forbes, the Economist, Time, and others.

**JOE LEE** is a research analyst with the Milken Institute on the regional economics team. He specializes in labor economics with a focus on human capital and economic development. He is a co-author of the State Technology and Science Index as well as the California extension of this report and the 2016 edition of “Best-Performing Cities U.S.” He is currently working on the New Skills at Work initiative. Before joining the Institute, Lee was a lab instructor at California State University, Long Beach (CSULB) in the Department of Economics and was a part of Amazon’s supply chain execution team in Seattle. He received his master’s in economics from CSULB and graduated from the Evergreen State College with a dual major in economics and finance, minoring in mathematics.

**MINOLI RATNATUNGA** is an economist and associate director of research at the Milken Institute and leads its regional economics research. With her team, she investigates the key economic development issues facing regions, including competitiveness, fostering innovation and entrepreneurship, and building human capital. Her publications include “California’s Innovation-Based Economy: Policies to Maintain and Enhance It,” “State Technology and Science Index 2016,” “Regional Performance Over Time: Thriving and Reviving Amid Economic Challenges,” and the “Best-Performing Cities” series. Before joining the Institute, she worked for eight years at the Allegheny Conference on Community Development, a regional economic development organization focused on improving the competitiveness of and quality of life in the Pittsburgh region. There she focused her research on energy policy, transportation and infrastructure funding, and state tax competitiveness, working with civic and business leaders to help key decision-makers make better policy choices. She also led the economic impact study practice, managing the production of research reports that captured the importance of strategic industries and projects to the Pennsylvania economy. Ratnatunga has a bachelor’s degree in philosophy and economics from the London School of Economics and a master’s in public policy and management from Carnegie Mellon University.



## MILKEN INSTITUTE

1250 Fourth Street  
Santa Monica, CA 90401  
Phone: 310-570-4600

1101 New York Avenue NW, Suite 620  
Washington, DC 20005  
Phone: 202-336-8930

137 Market Street #10-02  
Singapore 048943  
Phone: 65-9457-0212

E-mail: [info@milkeninstitute.org](mailto:info@milkeninstitute.org) • [www.milkeninstitute.org](http://www.milkeninstitute.org)