



# O' TECH TALENT, WHERE ART THOU: A DEEP DIVE INTO THE TOP TECH MARKETS

By Bret Swango, CFA | January 2020

The war for talent has been well-publicized with the unemployment rate at an all-time low, and for the first time in history, there are more job openings than there are people to fill them. One of the top industries feeling this talent pinch is the tech sector.

Over the last year at Colliers, we have had an increasing number of tech clients looking for guidance on where to locate their next office in order to fill some of the more than 900,000 IT job openings that have existed since the end of the third quarter. Through the first half of 2019, IT job postings were up more than 30% for a talent pool whose unemployment rate sits below 1.5%.<sup>1</sup>

Consequently, we took a deep dive into four of the core components our clients are evaluating in the site selection process as they scour the country in search of the most sought-after profession within the tech industry—application software developers. Members of this occupation “develop, create and modify general computer applications software or specialized utility programs” and typically have such job titles as IT Analyst, Software Engineer and Software Developer.<sup>2</sup> This cohort makes up more than 30% of all tech openings<sup>3</sup> and is the number one technical occupation for job postings by each of the FAANGs.<sup>4</sup>

So, we wanted to look at the top 20 in 2020. We thought it was fitting to look at the top 20 markets (by the number of workers in this occupation) and provide some insight into our findings. To determine which markets are prime

locations for software developers, we evaluated four criteria that outline the factors to consider when deciding where to open a new office location.

## QUALITY

Our quality rankings are based on the number and percentage of graduates from top tech programs,<sup>5</sup> the number of patents filed<sup>6</sup> and the number of patents granted per capita.

Quality Rankings			
Rank	Market	Rank	Market
1	San Jose-Sunnyvale	7	Seattle
2	San Francisco	8	Atlanta
3	San Diego	9	Chicago
4	Boston	10*	New York
5	Los Angeles	10*	Washington, D.C.
6	Austin		

\*indicates a tie

Unsurprisingly, California metropolitan statistical areas San Jose-Sunnyvale, San Francisco, San Diego and Los Angeles comprised four of the five top markets in the number of graduates from top tech programs, with Boston-Cambridge nestled in at number four. Driven by the presence of the University of Texas, Austin is the top non-coastal market for high-quality talent with the fourth highest number of patents per capita and the highest density of graduates from competitive computer tech programs at nearly 70%.<sup>7</sup>

The only other non-coastal markets to crack the top 10 in quality were Atlanta, which ranked third in the volume of graduates from top schools due to the

proximity of universities such as Georgia Tech and Emory; and Chicago, which was home to more patents than any other non-coastal market. Other top-quality markets included Seattle, New York and Washington, D.C.

## COST

The cost metric is measured by median wages, wage growth and cost of living (COL). As expected, the country's interior made up eight of the 10 most affordable markets with Minneapolis-St. Paul and Detroit taking the top two spots.

Cost Rankings			
Rank	Market	Rank	Market
1	Minneapolis-St. Paul	6*	Columbus
2	Detroit	8	Denver
3	Philadelphia	9	Phoenix
4	Atlanta	10	Houston
5	Austin		
6*	Chicago		

\*indicates a tie

The only two coastal markets to squeeze in the top 10 were Houston (Gulf Coast) as the tenth most affordable and Philadelphia as the third. Despite Philadelphia's relatively high cost of living (115.9% of the countrywide average), it has a slightly cheaper COL than the average of the 20 markets we evaluated. It has the fifth cheapest median wage behind Detroit, Minneapolis, Chicago and Phoenix at \$100,812, well below the top 20 markets' average of \$109,000. Additionally, sluggish five-year wage growth in Philadelphia was the third lowest behind only San Jose-Sunnyvale and Minneapolis at just 1.3%.

<sup>1</sup> According to federal employment data analyzed by CompTia, a leading IT trade association.

<sup>2</sup> Source: O Net Online

<sup>3</sup> According to data from iCIMS

<sup>4</sup> Facebook, Apple, Amazon, Netflix and Google - according to data from labor analytics platform EMSI

<sup>5</sup> The phrase “competitive computer tech programs” is based on data from Niche.com's ranking of the top 50 universities, which is scored using [nine criteria](#)

<sup>6</sup> From 2011-2015 according to the USPTO Technology Assessment and Forecast database

<sup>7</sup> Source: The National Center for Educational Statistics and the Bureau of Labor Statistics

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The most expensive market was San Francisco with a median wage north of \$137,000, a cost of living 65% higher than the countrywide average and annual wage growth of 5.4%, which is by far the highest of the markets included in our analysis. The other markets that scored as the most expensive were the usual suspects: Seattle and L.A., coming in at 19th and 18th in the affordability rankings, and San Diego and New York tying for the number 16 spot.

The surprise was Dallas, the only interior market in the bottom 10, coming in at number 17 with its relatively low cost of living being offset by a high cost of labor and the second highest annual wage growth (3.5%) among the markets studied here.

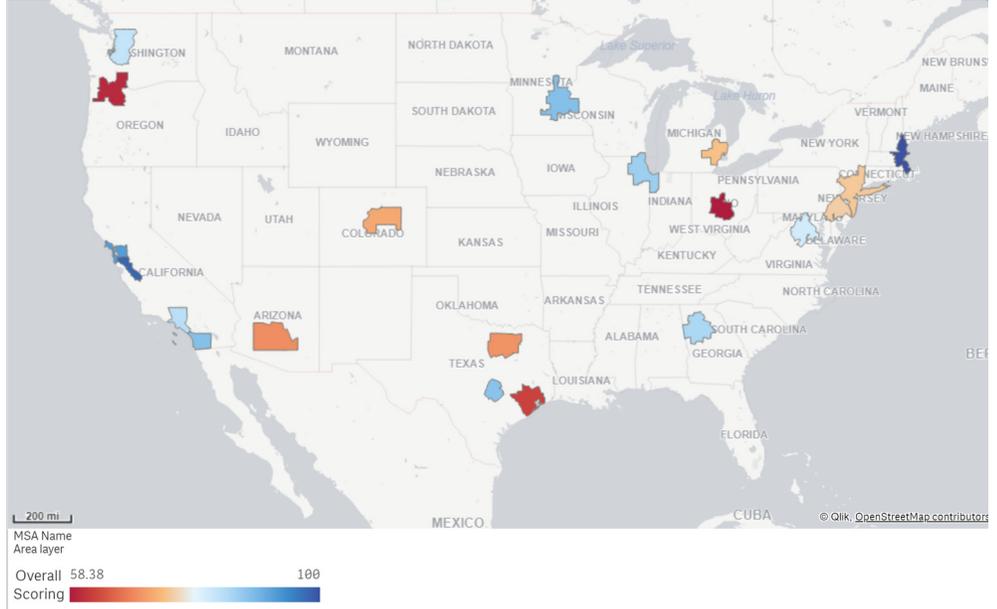
## VOLUME

We define volume as the number of graduates with computer tech degrees, the number of graduates relative to the number of annual openings in the market (called “graduate oversupply”), the number of software developers, the relative density of an occupation in a given market (referred to as the “location quotient”) and the projected five-year growth of the number of software developers.<sup>7</sup>

Volume Rankings			
Rank	Market	Rank	Market
1	San Jose-Sunnyvale	6	Seattle
2	San Francisco	7	New York
3	Boston	8	Chicago
4	Los Angeles	9	Washington, D.C.
5	Phoenix	10	Denver

Unsurprisingly, the top two scores when analyzing the volume component were neighboring San Jose-Sunnyvale and San Francisco, home to Silicon Valley. While both have in excess of 3,800 more annual job openings than matriculated graduates, they are each among the top five markets in the number of existing software developers (in excess of 40,000), projected growth in jobs over the next five years (3.7% and 4.3% respectively), and density of software developers per capita.

Other top markets include Boston (at number three) and Los Angeles (at number four) driven by their job volume and



significant graduate pools. Rounding out the top five is Phoenix, as it has the largest excess of graduates compared to annual job openings, which also contributes to its position as the third highest growth market with the projected increase in software developer applicants reaching 4% annually over the next five years.

Chicago at number 8 and Denver at number 10 are the only other non-coastal markets in the top 10. Chicago is one of only four top 20 markets with more graduates than annual job openings, and Denver’s projected annual growth for the occupation ranks in the top five at 3.5% annually.

## ACCESSIBILITY

Accessibility is measured by the average employee commute time, percentage of the workforce that uses public transportation and the ratio of airline passengers to population.

Accessibility Rankings			
Rank	Market	Rank	Market
1*	Denver	7	Seattle
1*	Minneapolis-St. Paul	8	Chicago
3	San Francisco	9	Phoenix
4	Philadelphia	10*	Boston
5	Portland	10*	Detroit
6	Washington, D.C.		

\* indicates a tie

Denver and Minneapolis-St. Paul tied for the top spot as the markets with the greatest level of accessibility. Denver has the highest number of airline passengers per capita because Denver International Airport, which sits on 33,500 acres, services more than 60 million travelers annually. Minneapolis-St. Paul lays claim to the second shortest commute on our list at just over 25 minutes behind that of only Columbus.

San Francisco came in at number three due to its high number of passengers per capita and the fact that at 17%, San

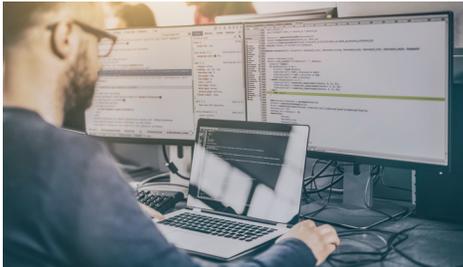


Francisco ranks second behind only New York (31%) in public transportation utilization and is one of only six markets around the country to crack double digits in this metric with the others being Boston, Washington, D.C., Chicago and Seattle. Rounding out the list of top five markets for accessibility were Philadelphia and Portland.

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## WHAT IS THE TOP MARKET?

The answer... Well, it depends on what your organization cares about most. If you prioritize cost, then you will likely be looking to locate within the country's interior. If quality or volume is most important, then the country's coastal cities still hold a marked advantage. How big is the spread, you may ask? In terms of cost, it is substantial. Assuming you are hiring 25 developers and want to put them in a Class A building, you're looking at a premium of more than 40% or \$1.3 million annually (solely from wages and rent) in a coastal market like San Francisco compared to an interior market such as Chicago.<sup>9</sup>



In the recent past, for many hyper-growth startups, this cost differential has been less important than the speed with which they bring their product to market. Consequently, these firms have favored expansions within the high cost, coastal markets where they are typically founded (such as San Francisco and New York), while overlooking lower cost interior markets. Not to overstate the point, but

when firms are valued on a multiple of revenue and have access to historically frothy capital markets, cost hasn't seemed to matter... But it is starting to.

**“For many hyper-growth startups this cost differential has been less important than the speed with which they bring their product to market.”**

2019 may mark the end of an era as the capital markets (both public and venture capital) have shifted from a mindset of 'grow at any cost' to one, of a seemingly forgotten metric, of profit. This trend has been highlighted by the disappointing IPOs of Lyft and Uber. The result is a renewed focus on cost control and perhaps a preference toward lower-cost interior markets such as Minneapolis, Columbus and Chicago.

This shift has been felt locally in Chicago where in a period of 12 months, tech behemoths such as Uber, Google and LinkedIn have announced office openings or expansions. In 2019, Chicago saw a greater increase in the number of venture capital deals than the Bay Area, New York and Boston combined when compared to a decade prior.<sup>10</sup> Why? As the only market in the top 10 on all four components we evaluated, it appears that Chicago may be



the Goldilocks market with the “just right” blend of a large volume of high-quality talent available for a reasonable cost with great accessibility scores.

Will this continue? Only time will tell, but the trend of tech companies becoming more cost-conscious and consequently focusing more on the interior markets will be a theme to watch if these 20's aren't quite as roaring.

**“It appears that Chicago may be the Goldilocks market.”**

Trying to figure out where to open your next office? Having trouble attracting a specific labor pool? Contact us to receive a pro bono labor market assessment on any of the more than 300 occupations in over 900 markets across the country. We can provide insights ranging from potential cost savings via our labor audits to competitive intelligence on competitor hiring strategies.

## ABOUT THE AUTHOR

Bret leads the Strategy & Analytics group for a Chicago-based Corporate Solutions team. His group's specialty is using data and analytics to help companies make better and more informed real estate decisions. He is a CFA charterholder and has more than 10 years' experience in corporate finance and operational analytics, providing him with a unique lens to address the business challenges Colliers' clients are facing.

### Bret Swango, CFA

Director,  
Strategy & Analytics  
[bret.swango@colliers.com](mailto:bret.swango@colliers.com)  
+1 312 612 5916

