

U.S. Technology Office Outlook

United States | Summer 2016



RESILIENCE:

Understanding
the long game
in the fast-paced
world of tech

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RESILIENCE:

Understanding the long game in the fast-paced world of tech

Since 2011, we've followed the movement of the technology industry—from iPhone apps and virtual farms to internet-enabled watches and technology-powered homes. The industry has not only grown and proliferated, it has extended its reach across the United States.

When we first began reporting on tech, we did so with the goal of quelling fears that this was another bubble. Fast-forward six years, and now we're reporting on the dynamics in 45 markets that have been successful in attracting and growing technology companies. Next year we expect that number of markets to be even higher. Oh, the irony.

— Julia and Amber

It wasn't over ... it still isn't over

If you thought the technology industry was coming to the end of its reign because of slowing venture capital investment and a dry IPO pipeline, you were, well, wrong. While it's true that economic expansion, in general, is beginning to slow after nearly seven years of growth, the technology sector remains the leading industry for real estate expansion in the United States—driving nearly 25 percent of leasing activity across the country over the past two years.* Because of this, the industry has quickly become an economic driver of choice in local markets, with the view that the greater exposure to the tech industry, the greater the success of a local economy.

*Leasing activity is reflective of leases 20,000 square feet or larger

Will any old valley do?

Nope. Turns out, technology companies have strong opinions on the topic of location—so much so that they are willing to pay a premium for a location that will help with employee attraction and retention, as well as one in which the strength of the tech ecosystem creates a more resilient marketplace for the future. In the tech industry's premier location, Menlo Park, CA—home to, ahem, Facebook—the average rental rate of \$102.16 per square foot is nearly 220 percent above the U.S. average of \$32.03 per square foot.

Where's the exit around here?

Though there's promise for renewed activity in the IPO market, technology companies looking for an exit are increasingly looking to acquisition. For acquiring companies, this provides the opportunity to capture much-needed talent as well as technologies that increase their competitive edge. For the real estate market, the benefits could mean the establishment of a new tech anchor, as was the case in Indianapolis when Salesforce acquired Blackboard, or the opportunity for a younger startup to acquire excess, plug-and-play space on the sublease tech market.

Only the strong survive

But guess what? There's a lot of strength out there. From San Francisco and Seattle-Bellevue to South Florida and Charlotte, there's no question that the tech industry is planting roots across the country. Smaller markets are being legitimized by brand-name tech, while established tech hubs remain at the forefront of innovation and expansion. There's no question that today's technology industry is and will continue to be a mainstay of our modern economy, and promises to remain a driver of economic resilience across the country.

D is for diversity

It may sound like a no-brainer, but diversity within organizations leads to greater financial success. Within the technology industry specifically, diversity in talent can lead to greater innovation and ensure a degree of industry resilience if its stability and growth can be supported by a larger talent pool. Who doesn't like that?

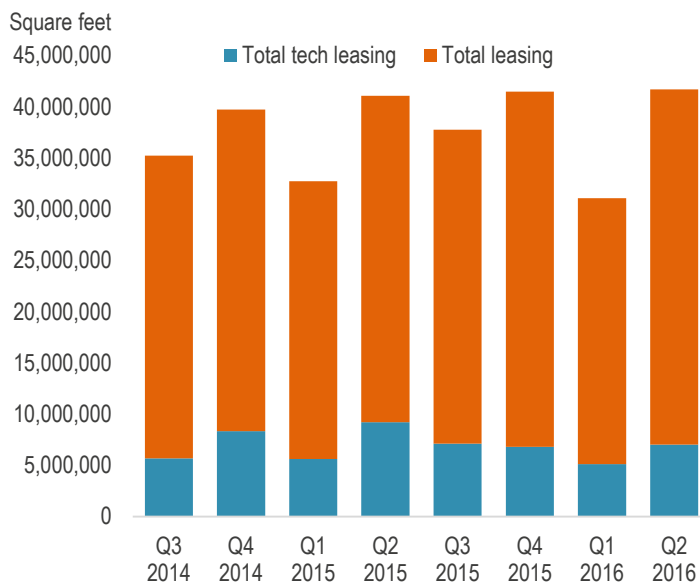
The reason the real estate market is expanding?

TECHNOLOGY

Nothing demonstrates an industry's momentum better than its physical expansion across real estate markets. Over the course of this business cycle, technology companies have come to be viewed as coveted tenants while giving secondary markets and up-and-coming submarkets a geographic stamp of approval. And guess what—they're still expanding. Over the past four quarters, 63.4 percent of technology companies leasing 20,000 square feet or more were in growth mode compared to the overall U.S. rate of 48.9 percent. Additionally, only 4.6 percent of tech companies were shrinking their real estate footprint versus the U.S.' 6.5 percent.



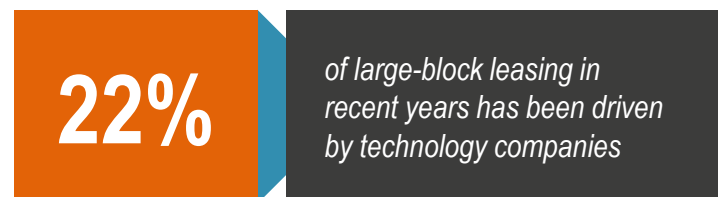
Fears of a tech slowdown toward the end of 2015 and into 2016—resulting from lower venture capital investment—placed pressure on tech companies to more carefully consider leasing and expansion. As a result, four-quarter leasing volume ending in the second quarter of 2016 posted a 9.6 percent decline, a direct result of the first-quarter dip.



*Reflects signed leases of 20,000 square feet or more

Source: JLL Research

Across the country, technology companies have consistently driven the most leasing activity in recent years, averaging 22.3 percent of large-block leasing, followed distantly by banking and finance companies, which have comprised 10.3 percent of leasing activity since the third quarter of 2014.



Though the San Francisco Bay Area remains the most concentrated technology leasing market, corporate expansion and startup growth into Indianapolis, Nashville and New Jersey (among others) has given legs to a new industry growth driver in each of these markets. Additionally, during the four-quarter period ending in Q2 2016, more than 2.5 million square feet was leased to 50 technology companies opening new locations across the country. This included Autodesk's new, 24,000-square-foot location in Denver's LoDo, Expedia's 23,000-square-foot lease in Miami's Brickell submarket, Google's first location of 55,000 square feet in San Diego's North Cities and OpenTV's 30,000-square-foot lease in Phoenix's Camelback Corridor.

// Top 15 markets for tech leasing: Q3 2015-Q2 2016 (s.f.) //

Silicon Valley	3,927,015
Seattle-Bellevue	2,527,798
Boston	1,830,058
Chicago	1,720,975
San Francisco	1,718,598
New York	1,399,726
Austin	1,280,843
Dallas	1,041,552
Denver	992,091
Indianapolis	984,696
San Francisco Peninsula	865,324
Washington, DC	739,684
New Jersey	707,302
Northern Virginia	601,676
Portland	517,417

**<Not all
submarkets
are equal
... to tech>**

No two submarkets are alike and nowhere is this more apparent than where tech companies choose to locate. Over the course of this cycle (and with more than just tech companies) CBDs and dense, urban neighborhoods have been making headlines as they welcome migrating tenants and millennials, pushing vacancy to pre-recession lows, while rents jump in the hottest locations. Importantly, submarkets most popular among tech companies five years ago remain among the most popular today—highlighting a market's staying power for investors, owners and developers. Where tech-leasing activity has been highest over the past year, market fundamentals are also among the strongest in the country and development activity in the top 15 tech-leased submarkets comprises nearly 18 percent of the total development pipeline—proof of where the demand is focused.

// CBD submarkets with the highest tech-leasing activity also have the largest development pipelines //

Submarket	Market	Total tech leasing (s.f.)	Total vacancy	Direct average asking rent (full service gross)	Total under construction (s.f.)
South Financial District	San Francisco	881,551	6.7%	\$74.69	3,274,968
East End	Washington, DC	583,676	13.1%	\$59.84	1,307,985
West Loop	Chicago	592,676	11.1%	\$28.76	0
Lake Union	Seattle-Bellevue	563,762	7.9%	\$45.72	1,598,619
Bellevue CBD	Seattle-Bellevue	560,616	10.9%	\$44.77	1,078,693
Seattle CBD	Seattle-Bellevue	503,647	7.7%	\$39.47	2,215,316
Times Square	New York	465,366	10.1%	\$76.77	0
CBD	Indianapolis	457,489	15.9%	\$20.10	25,361
South of Market	San Francisco	333,526	9.6%	\$71.65	269,063
Central Loop	Chicago	323,457	10.8%	\$36.19	0
Penn Plaza/Garment	New York	300,347	10.1%	\$65.42	6,245,077
East Cambridge	Boston	246,539	4.6%	\$39.69	251,234
CBD	Portland	235,553	7.9%	\$29.88	686,903
Financial District	Boston	233,427	10.3%	\$57.32	249,898
CBD	Austin	214,040	9.1%	\$50.31	707,836

Source: JLL Research | *Leasing volumes reflect activity of 20,000 square feet or more from Q3 2015-Q2 2016, and market statistics as of Q2 2016

Despite CBDs' popularity among tech companies, suburban submarkets remain equally relevant as companies expand their search for large blocks, talent and lower costs (Silicon Valley not included). Over the past four quarters, suburbs captured more than 50 percent of tech-leasing activity thanks to Silicon Valley and Dallas, supported by other popular, secondary tech hubs.

// Suburban submarkets with the highest tech-leasing activity provide either a strong tech hub or room for expansion //

Submarket	Market	Total tech leasing (s.f.)	Total vacancy	Direct average asking rent (full service gross)	Total under construction (s.f.)
Sunnyvale	Silicon Valley	1,257,321	8.9%	\$61.32	575,272
North San Jose	Silicon Valley	1,004,792	20.2%	\$39.27	0
495/North	Boston	668,856	25.5%	\$18.88	0
Northwest	Austin	505,532	10.9%	\$33.33	291,000
Santa Clara	Silicon Valley	428,276	15.7%	\$51.98	3,274,968
Southeast Suburban	Denver	413,652	11.8%	\$21.08	232,444
Richardson/Plano	Dallas	413,079	19.1%	\$22.48	608,901
Northwest	Indianapolis	390,563	18.6%	\$18.14	115,358
Monmouth	New Jersey	370,000	23.2%	\$20.00	0
Palo Alto	Silicon Valley	346,101	3.2%	\$100.79	427,275
Far North Dallas	Dallas	346,083	15.8%	\$26.52	7,316,368
Northwest	Boston	261,360	19.3%	\$27.48	280,000
Prince George's County	Suburban Maryland	252,952	29.0%	\$21.67	75,000
Far Northwest	Austin	252,407	10.7%	\$33.18	25,347
West Valley	Silicon Valley	234,000	10.3%	\$53.76	395,000

Source: JLL Research | *Leasing volumes reflect activity of 20,000 square feet or more from Q3 2015-Q2 2016, and market statistics as of Q2 2016

<Location, location, location>

Locating near the country's major tech hubs has been as important to highly competitive, established companies as it has been to startups hoping to get a competitive edge in the center of all tech. However, locating in the most heavily tech-concentrated areas will cost you. For an early-stage startup leasing 5,000 square feet,

the cost of locating in one of the most tech-friendly submarkets will be anywhere from \$245,400 to \$503,950 in office rent, per year. For large tech companies (occupying 100,000 square feet or more) that cost jumps in range from \$4.9 to \$100.8 million per year. Compare that to the cost of office space in the country's lowest-cost market, Detroit, in which a startup could occupy 5,000 square feet for \$91,600 per year and we're talking about at least a 63 percent premium.

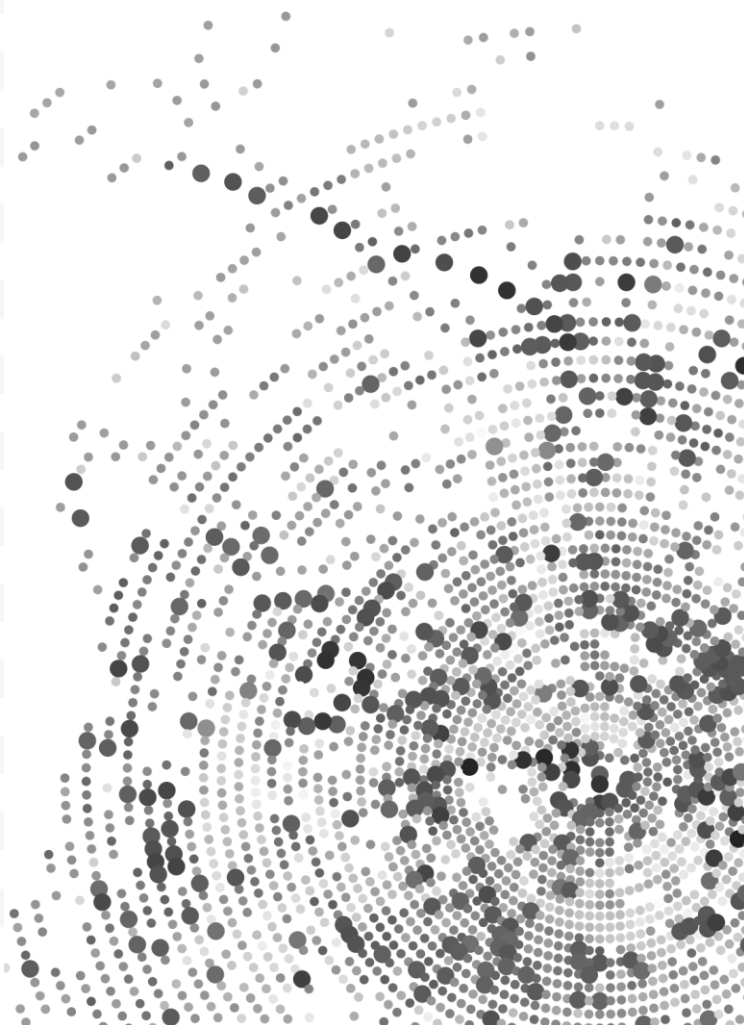
// Direct average asking rent in the country's most expensive tech submarkets //

Market	Submarket	Direct average asking rent (full service gross)
SF Mid Peninsula	Menlo Park	\$102.16
Silicon Valley	Palo Alto	\$100.79
San Francisco	Mission Bay/China Basin	\$84.70
New York	Hudson Square	\$83.11
Silicon Valley	Mountain View	\$77.77
New York	Greenwich Village	\$76.70
New York	SoHo	\$75.18
San Francisco	South Financial District	\$74.69
New York	Gramercy Park	\$74.17
San Francisco	North Financial District	\$73.92
San Francisco	South of Market	\$71.65
Boston	East Cambridge	\$69.39
SF Mid Peninsula	Redwood City	\$65.62
San Francisco	Showplace Square	\$65.11
San Francisco	Union Square	\$65.10
San Francisco	Jackson Square	\$62.64
SF Mid Peninsula	Redwood Shores	\$62.11
Los Angeles	Santa Monica	\$61.78
New York	Chelsea	\$61.48
Silicon Valley	Sunnyvale	\$61.32
San Francisco	North Waterfront	\$61.23
SF Mid Peninsula	Belmont	\$59.19
San Francisco	Mid-Market	\$58.80
SF Mid Peninsula	Foster City	\$58.23
Los Angeles	Playa Vista	\$54.93
San Francisco	Van Ness Corridor	\$54.75
Silicon Valley	West Valley/Campbell	\$53.76
SF Mid Peninsula	San Mateo	\$53.22
Silicon Valley	Cupertino	\$53.06
Silicon Valley	Santa Clara	\$51.98

Source: JLL Research as of Q2 2016

100,000 s.f.
=
\$100.8 M per year

For an early-stage startup leasing 5,000 square feet, the cost of locating in one of the most tech-friendly submarkets will be anywhere from \$245,400 to \$503,950 in office rent, per year. For large tech companies (occupying 100,000 square feet or more) that cost jumps in range from \$4.9 to \$100.8 million per year.



Unicorn companies bring in big \$\$\$ for 2016, but NUMBER OF DEALS TREND DOWN

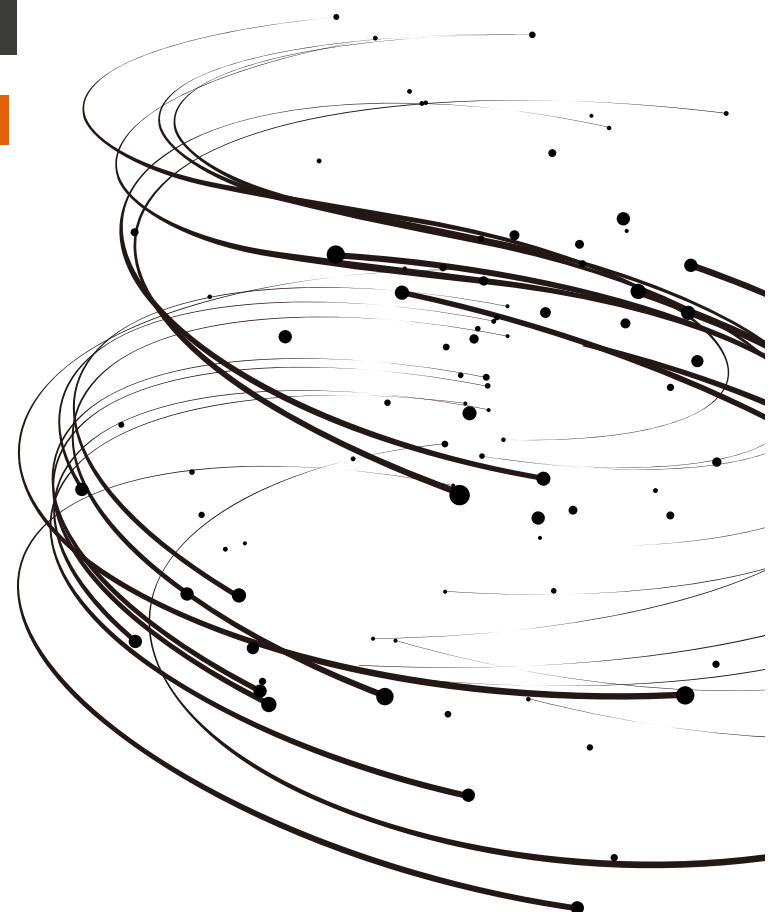
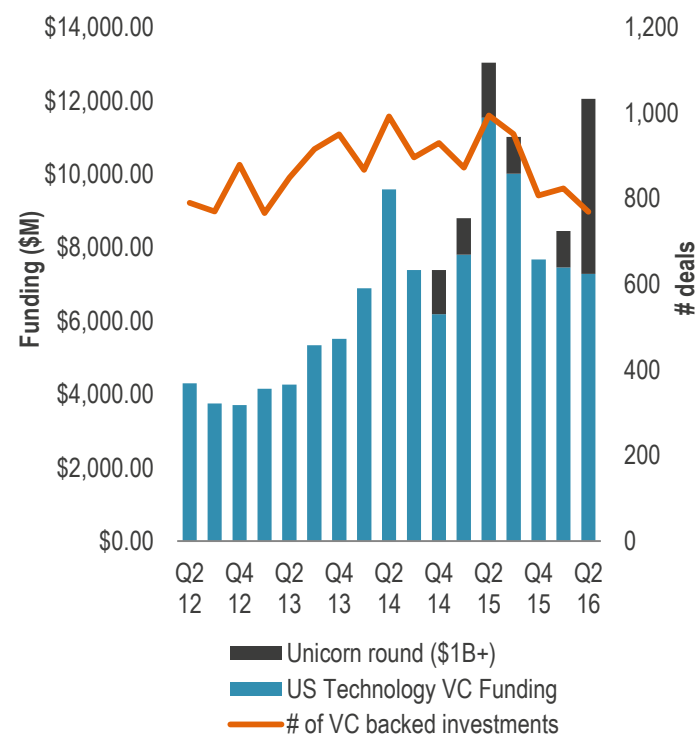
Major technology hubs continue to attract strong venture capital investment, helping to spur startup growth throughout the United States. The tech sector has been a prime focus for investors, accounting for 71.8 percent of year-to-date venture capital activity. In Q2 2016, one of the largest venture-backed deals landed with San Francisco-based Uber, securing an impressive \$3.5 billion in series-G funding, pushing tech investment volume 37.7 percent higher than the previous quarter. Even more impressive is that Uber, along with Lyft and Snapchat, accounted for \$5.8 billion in overall year-to-date funding, 30.0 percent of the tech aggregated investment dollars in 2016 alone.

While on the surface it appears as if funding is on track for another solid year of growth, investment volume on a four-quarter trailing basis was relatively flat, down 0.75 percent from one year ago. Deal activity has also been on a downward slide. Q2 2016 marked the fifth straight quarterly decline in the number of venture-backed deals, reflecting slower deal velocity.



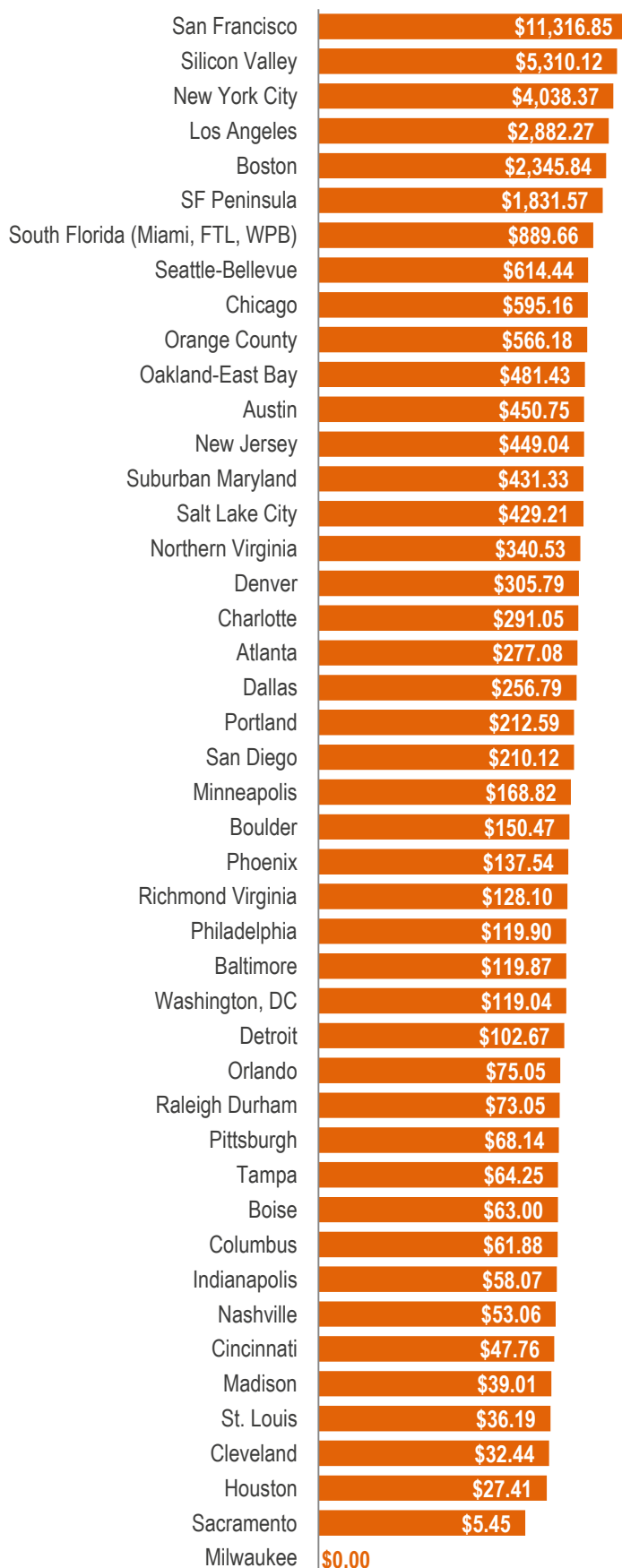
Silicon Valley and San Francisco alone remain the two powerhouses in the VC funding world; however, the high cost of entry and competition for well-seasoned talent has prompted tech investment and growth in other markets throughout the United States, and in many cases is centered on specific local industry clusters.

// U.S. historical technology VC funding //



Source: PWC

// Tech funding volume, Q3 2015 – Q2 2016 (\$M) //



<IPO market pauses, pressuring startups to operate in the black>

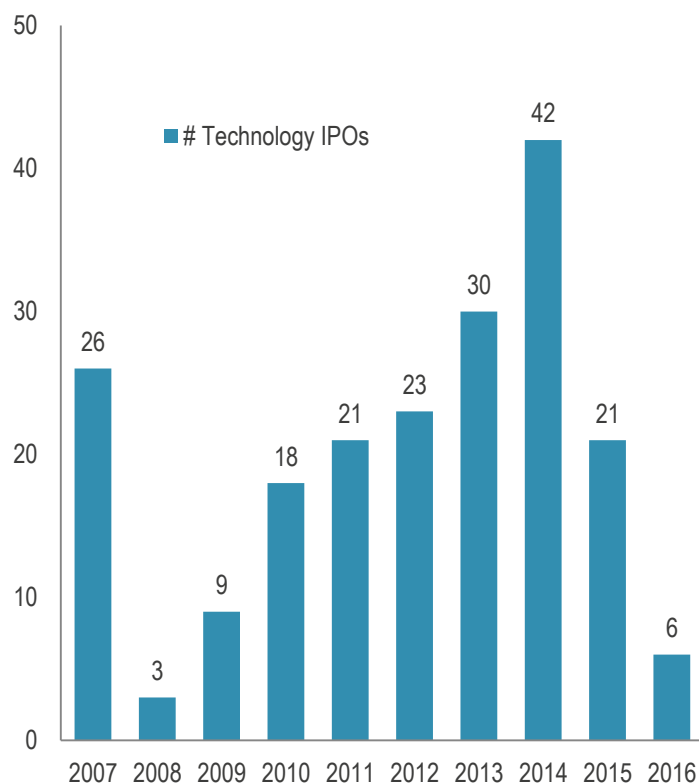
As a result, many tech companies have postponed or withdrawn IPO filings while others are lowering their initial offering price to raise the likelihood of a day one "IPO pop."

The IPO drought that the United States has experienced since the beginning of the year reflects investors' reaction by way of tightening funding conditions and a shift toward late-stage companies. One-third of 2015 IPOs are trading below their initial offering price; these include several ambitious startups whose private valuations far exceeded their value on the public market. As a

1/3

of 2015 IPOs are trading below their initial offering price

Twilio's recent debut has restored some confidence in the public market, offering partial assurance that tech unicorns can make a successful exit and meet expectations. This alone is not enough to ease the pressure that investors are placing on their portfolio companies to generate revenue and manage burn rates. The IPO pipeline will likely remain stagnant for the remainder of the year as many privately-held companies will table going public until their business or the market proves more favorable for an exit.



Source: JLL Research, PWC

Source: Renaissance Capital

<If you can't beat them, buy them>

In addition to being the fastest growing, the tech sector has also been the most disruptive, effecting the manner in which traditional businesses are operating and forcing them to re-align themselves to current trends. Non-tech-related buyers accounted for approximately 25.0 percent of global M&A transactions in Q1 2016,

up significantly from 3.0 percent in Q4 2015. Honeywell, Verizon, General Motors and Walmart have all recently made significant acquisitions, investing in technologies that will expand their businesses organically in order to remain competitive against their disruptive counterparts—a major trend in tech M&A.

// Notable 2016 tech M&A transactions //

Acquirer	Target Company	Target company industry	Price (\$B)
Dell	EMC	Cloud/Big Data	\$67.0
Microsoft	LinkedIn	Social Media	\$26.2
Verizon	Yahoo	Digital Media	\$4.8
Symantec	Blue Coat Systems	Software (security)	\$4.7
Comcast	DreamWorks Animation	Entertainment/Media	\$3.8
Apex Technology /PAG	Lexmark	Hardware	\$3.6
Walmart	Jet.com	eCommerce	\$3.3
Salesforce	Demandware	Software (eCommerce)	\$2.8
IBM	Truven Health Analytics	Cloud/Big Data	\$2.6
Cisco	Jasper Technologies	Software (IoT)	\$1.4
General Motors	Autonomy	Automotive Tech	\$1.0

**Includes deals that have been announced and not withdrawn*

<The impact on real estate: will tech companies continue to expand?>

Well-funded, late-stage startups will likely continue to grow their footprints, but at a less aggressive rate given a tightening funding environment. Seed- and early-stage companies will become more sensitive to the cost of real estate as funding becomes harder to obtain, focusing more on a gradual expansion in their home market versus establishing beachhead locations in major

tech centers where high barriers to entry make it difficult to secure both space and talent. Larger companies with multiple locations will likely continue to grow in secondary tech markets that provide the same exposure to talent and capital that is needed as companies ready themselves for a future exit.

On the M&A front, acquiring firms will need to focus on improving the efficiency of their existing space to accommodate new employees while consolidating overlapping business lines and shedding excess space. If this becomes the exit of choice over the next 12 to 18 months, markets could see an increase in tech subleases. However, this will open opportunities for younger tech companies looking for space with flexible terms near innovation hubs.

Best growth locations:

THE JLL LOCATOR MATRIX

// Identifying the next growth opportunity //



The Locator Matrix is a **tool** for growing startups and established tech firms to determine the **best location** for continued company expansion

We looked at several factors to quantify the best prospects for tech firms when considering their next office location:



INDUSTRY OPPORTUNITY FACTORS:
▼ LOW TO HIGH ▲
[HORIZONTAL AXIS, LEFT TO RIGHT]

FACTORS include:

- Tech economic momentum, as measured by employment and wage growth
- Depth of talent, measured by share of millennial workforce and education levels
- Diversity of talent
- Innovation, measured by patent activity
- Access to venture capital



MARKET COST FACTORS:
▼ LOW TO HIGH ▲
[VERTICAL AXIS, TOP TO BOTTOM]

FACTORS include:

- Average cost of office real estate
- Housing affordability, both for-sale and rental housing
- Urban apartment rental premium
- Average tech wage to measure cost of talent

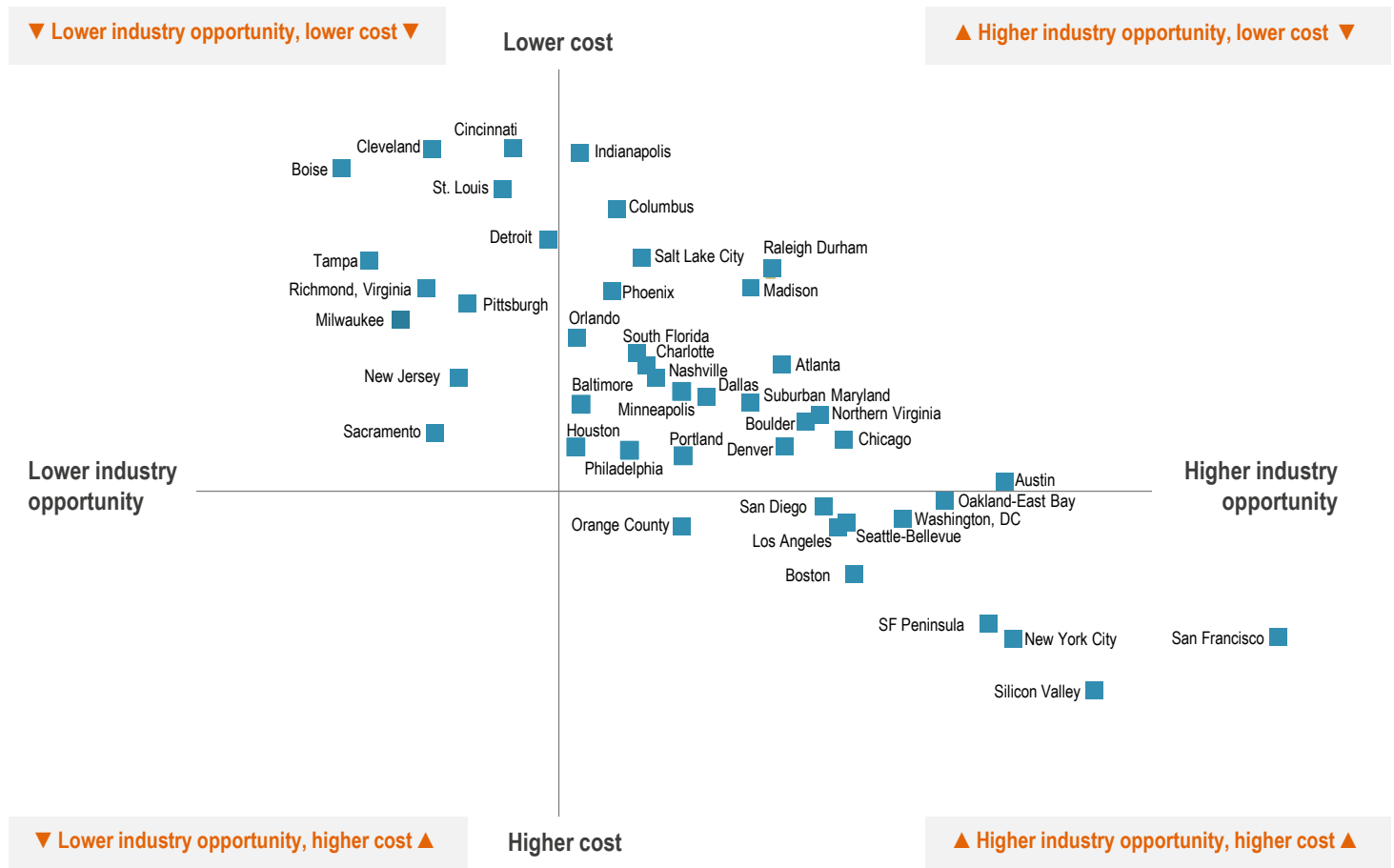
FOR TECH COMPANIES

Whether you're an established technology firm or a growing startup, which market presents the greatest opportunity for growth? If you're growing an administrative outpost, it may not make sense to expand in San Francisco or New York City when you can source similar talent at a lower cost in places like Indianapolis or Columbus. If you're looking to grow your engineering team, your best choices may be Silicon Valley and Austin, so which market makes more sense for your bottom line?



Our model outputs the **45 markets** in this report into four different quadrants, making it clear which markets present the **best places for growth** based on industry opportunity and market costs.

THE JLL LOCATOR MATRIX



TOP LEFT QUADRANT: LOWER INDUSTRY OPPORTUNITY; LOWER COST

This quadrant includes markets where startup opportunity is less abundant but costs are affordable. Markets like Boise, Tampa and Cleveland are at the extreme in this quadrant, while markets like Detroit, Pittsburgh and St. Louis are near the cusp. These markets are attractive from a cost perspective, but are still growing their industry base.

BOTTOM LEFT QUADRANT: LOWER INDUSTRY OPPORTUNITY; HIGHER COST

The bottom left quadrant indicates markets where there is less industry opportunity, but also higher costs. None of the markets in our study fell into this quadrant, although markets like Sacramento and Houston are on the edge given their mid-range costs and smaller industry clusters.

TOP RIGHT QUADRANT: HIGHER INDUSTRY OPPORTUNITY; LOWER COST

This is the sweet spot for growing technology companies, especially those with cost top of mind. Markets in this quadrant that are farther to the right are those with the strongest metrics for tech growth, like access to capital and a deep and highly-educated talent pool, and those higher in the quadrant are those that are also more affordable.

Notable markets include Raleigh-Durham, Atlanta, Northern Virginia and Chicago. These are places where real estate costs and talent are still relatively affordable (but rising), but also have all the elements in place to foster both startup and large technology company growth.

BOTTOM RIGHT QUADRANT: HIGHER INDUSTRY OPPORTUNITY; HIGHER COST

Markets listed in the bottom right quadrant, like San Francisco, Silicon Valley and New York, have clear advantages for growing technology companies with greater access to capital, higher concentration of innovation, great talent accessibility and an existing industry cluster. However, these markets are also more costly in terms of housing, real estate and wages. For companies with less cost sensitivity, these are the best target markets for growth.

Identifying the most resilient markets for the future: THE JLL TECH MARKET SCORE

In previous years, our ranking model highlighted markets that had the most growth potential and would be the best targets for investors looking to acquire or reposition assets in high-growth technology markets. This year, we have taken a closer look at the factors that support market resiliency into the future, through the lens of the technology industry.

The Market Score is a tool for real estate investors to quickly identify which markets will be the most resilient through periods of economic contraction. We selected 16 variables in four major categories to rank markets that would better weather periods of economic slowing. A higher score indicates strong market resiliency while a lower score indicates less resiliency.

the market score

The Market Score is a tool for investors to quickly identify which markets will be the most resilient through periods of economic contraction.

// All markets included within this report have been scored based on the following four major categories //



ECONOMIC MOMENTUM includes variables that measure job growth over the last three years on both an absolute and a percent basis, as well as wage growth. This category accounts for 20 percent of the overall score.



TALENT POOL metrics include total size of the tech labor pool, net migration over the last five years, share of young talent (working-age millennials age 20 to 34), demographic diversity, educational attainment and single-family housing affordability (as an indication of how easily young talent will be able to plant deeper roots in a market). This category accounts for 40 percent of the overall score.



INNOVATION is measured by patents as a share of total U.S. patents, venture capital funding as a share of total U.S. funding, and average number of employees at each technology firm (where a larger number indicates a more mature industry, and therefore more resilient to market or industry contractions). This category accounts for 22.5 percent of the overall score.



COST takes into account the average cost of office space per square foot in each market, labor costs, the average cost of an apartment, and the premium on urban apartment rents. This category accounts for 17.5 percent of the score.

// For investors //

Based on the four main categories above, our ranking model revealed that Silicon Valley will be the most resilient technology market for the foreseeable future. This market may be costlier than others, but the ingredients that make this market the center of the technology universe are also the factors that cement its place as the most resilient technology market for years to come: innovative minds, highly educated population, the largest technology talent pool and a steady stream of venture capital funding.

Other technology market juggernauts round out the top five, including San Francisco, Austin, Seattle-Bellevue and Boston—markets that share many of the same qualities as Silicon Valley today, with highly educated populations, numerous innovations as measured by patent activity and strong net migration as a result of booming economies.

Minneapolis may be a surprising market in the top ten, but the local industry scored high on the size of its talent pool, its highly-educated workforce, and innovation metrics, providing a strong foundation for market resilience through industry ups and downs. Alternatively, Washington, DC may be a surprise market on the low end of the spectrum; it's relatively smaller labor pool, smaller than average size of technology firms and higher than average labor costs all indicate that the industry's roots may not be as deep as other markets, and the market is therefore less resilient to industry volatility as a whole (with a mitigating factor being the necessity for large technology firms to locate lobbying groups within the beltway).

Market rankings should be considered a tool to determine just how resilient a market will be through the technology business cycle. The higher the ranking, the better our analysis reveals that the market will be able to handle technology industry volatility over a long-term period.

Considering that we're measuring markets for long-term technology industry stability, those who lived through the first dot.com boom and bust may question why Silicon Valley and San Francisco are sitting at the top when these markets suffered more than others during that cycle. They roared back with a vengeance, and the industry's roots in these markets are deeper than ever. The factors that make these markets attractive to tech companies today, including a highly innovative, educated, and diverse workforce, outsized access to capital, and the sheer number of companies pumping out truly innovative products underscore why Silicon Valley and San Francisco are at the center of this global industry.

Silicon Valley

will be the most resilient technology market for the foreseeable future

TOTAL WEIGHTED JLL TECH MARKET SCORE

Minneapolis

may be a surprising market in the top ten, but the local industry scored high on the size of its talent pool, its highly-educated workforce, and innovation metrics, providing a strong foundation for market resilience through industry ups and downs.

SILICON VALLEY	95.4	
	87.3	SAN FRANCISCO
AUSTIN	84.2	
	82.3	SEATTLE-BELLEVUE
BOSTON	82.2	
	80.6	RALEIGH-DURHAM
OAKLAND-EAST BAY	79.9	
	78.7	NEW YORK CITY
SAN FRANCISCO PENINSULA	77.5	
	77.4	MINNEAPOLIS
NORTHERN VIRGINIA	77.0	
	76.6	DALLAS
ATLANTA	74.8	
	74.3	MADISON
PORTLAND	73.6	
	73.6	PHOENIX
CHICAGO	73.2	
	73.1	LOS ANGELES
SAN DIEGO	72.8	
	72.3	DETROIT
SALT LAKE CITY	72.1	
	71.9	INDIANAPOLIS
DENVER	71.2	
	71.1	NEW JERSEY
BOULDER	69.9	
	68.8	ORANGE COUNTY
COLUMBUS	68.3	
	67.9	WASHINGTON, DC
SUBURBAN MARYLAND	67.7	
	67.1	PHILADELPHIA
CHARLOTTE	66.1	
	65.5	SOUTH FLORIDA
ST. LOUIS	65.4	
	64.1	HOUSTON
CLEVELAND	63.7	
	63.7	PITTSBURGH
BALTIMORE	62.5	
	62.3	CINCINNATI
ORLANDO	61.0	
	61.0	BOISE
MILWAUKEE	60.6	
	59.7	TAMPA
NASHVILLE	58.1	
	56.3	SACRAMENTO
RICHMOND VIRGINIA	52.7	

Diversity will drive MARKET RESILIENCE

“Companies with a more diverse workforce perform better financially,”* tend to have a stronger organizational culture, are better able to compete for talent and have more satisfied employees. Despite this evidence, the tech industry has experienced a lack of diversity in its population and leadership, and for this reason many of the largest and most influential tech companies across the country have made it a priority to increase ethnic, gender and racial diversity at their organizations.

// A few examples of these diversity efforts include: //

\$300M

Intel has committed to spend \$300 million on a diversity-in-technology initiative. First announced in 2015, Intel recently released its first report on their progress.

\$150M

In 2015, Google unveiled a \$150 million plan to get more women and minorities into tech through internal programs and donations to outside organizations.

\$50M

Apple announced plans to partner with nonprofit organizations and fund more than \$50 million toward diversity efforts.

Municipalities, economic development organizations, nonprofits and regional public-private partnerships also have embarked on a wide array of initiatives in an effort to help increase the pool of diverse talent in their areas, as well as provide firms with diversity improvement strategies and tools. Inequity hinders economic growth and prosperity, while equity and inclusion fosters stronger and more sustained growth. The question remains what impact these types of efforts will have on the tech ecosystem in a market and how much they will enhance the resilience of those markets.

One way to commit to a more inclusive culture is a public pledge to do so. Another is a collection of affinity **NETWORKS AND SUPPORT GROUPS** dedicated to providing resources to assist with diversity efforts. Examples of these can be found in the largest tech markets like Silicon Valley as well as those emerging centers of innovation, including Portland and Minneapolis:

- **White House Tech Inclusion Pledge** – signed by 30 of the largest tech companies in the world in advance of the Global Entrepreneurship Summit in Silicon Valley.
- **National Venture Capital Association Pledge** – 45 VC firms pledged to bring greater diversity to their profession.
- **Project Include** – a nonprofit launched by a group of tech women in Silicon Valley offering resources, recommendations and tools to create a more inclusive work environment.
- **Portland Tech Diversity Pledge** – the area’s most visible tech companies signed this pledge to commit to promote diversity in their workforce.
- **Minnesota Technology Diversity Pledge** – created by a Minneapolis-based firm asking members to commit to improving diversity in the industry.

**diverse
workforce
=
better
performance**

*
“Companies with a more
diverse workforce perform
better financially”

- Why Diversity Matters,
McKinsey & Company,
January 2015

Many **NONPROFITS** focus their efforts on exposing teens and young adults to technology careers in an effort to increase the diversity and depth of the pool of talent that is available in these areas. They sponsor hackathons, offer coding camps, host career days and provide exposure and access to mentors and leaders in the industry. These types of efforts are especially critical to expanding the talent pool, an issue that many tech employers face today, as alternatives to a college degree are exposed as options in the industry. A small sampling of these organizations include:

- **Black Girls CODE** – introduces programming and technology to girls ages seven to 14; recently moved into a permanent space in Chelsea that was donated by Google. The organization has offered programs in New York, Oakland, Memphis, Los Angeles, Washington, DC, Chicago and Dallas among others.
- **iUrban Teen** – partners with tech companies such as Google and Microsoft as well as institutions of higher learning to bring STEM + Arts career-focused education to underrepresented teens with active programs in Seattle, Portland, Los Angeles, Northern California, South Florida and Houston.
- **Code 2040** – a San Francisco-based organization that focuses on creating access and opportunities for Black and Latino talent to participate in the innovation economy.
- **Girls Who Code** – whose mission it is to close the gender gap in technology through after school clubs and summer immersion camps, with programs in 42 states.

PUBLIC-PRIVATE PARTNERSHIPS are also a significant force in advancing diversity efforts within markets. Some of them are dedicated to providing access to capital, which supports local economic expansion. A small sampling of these organizations include:

- **The Equitable Innovation Economies Initiative (EIE)**, a multi-year project launched by the Pratt Center for Community Development with PolicyLink and the Urban Manufacturing Alliance to help cities pursue more inclusive growth strategies in innovation. In the first phase of the project, Indianapolis, New York City, Portland and San Jose have been working to identify and address barriers in their individual economic development strategies.
- **Next Top Makers** was launched by New York Economic Development Corporation (NYCEDC) and is a community-sourced incubator providing advanced manufacturing startups with support.
- **Startup PDX Challenge**, launched by Portland's economic development agency and the Portland Development Commission (PDC) in partnership with local organizations is an annual competition designed to connect diverse founders to Portland's growing entrepreneurial ecosystem and assist the businesses for one year through their early-stage growth.

Finally, and perhaps most important, tech organizations are establishing **VENTURE CAPITAL FUNDS** dedicated to supporting diverse entrepreneurs:

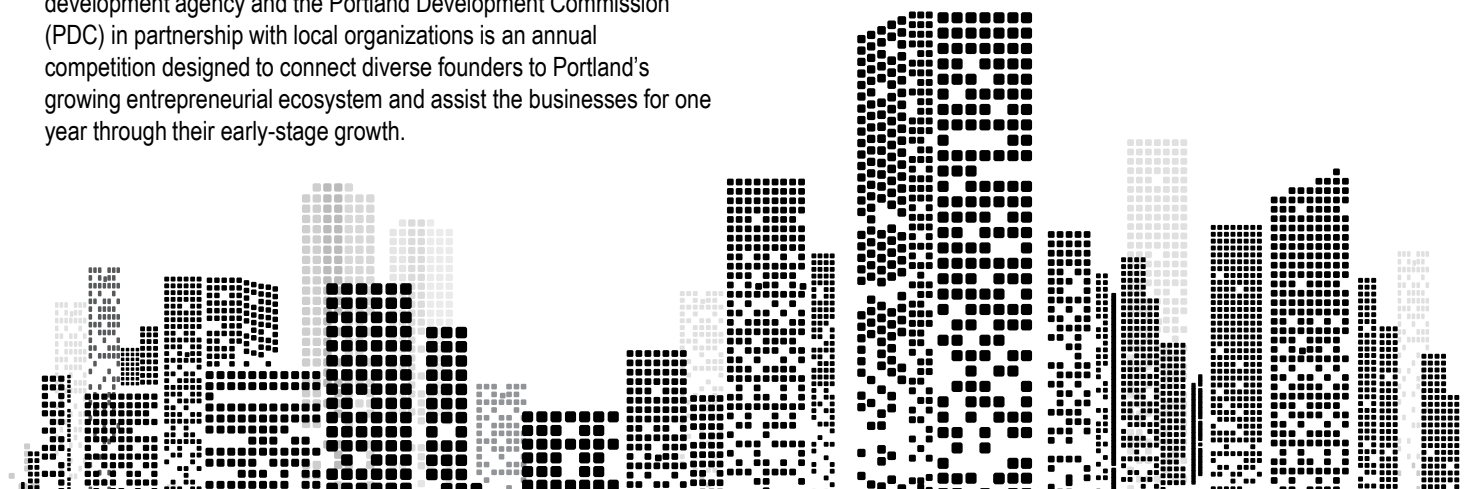
- Intel has established the \$125 million **Intel Capital Diversity Fund**, the largest fund of its kind, dedicated to investment in technology startups run by women and underrepresented minorities.
- San Diego-based **Founders First Capital Partners** launched a program focused on underrepresented and underfunded demographics.
- Comcast Ventures has established the **Catalyst Fund** to invest in companies founded by underrepresented ethnic minority entrepreneurs.

As we explore the tech landscape across the U.S. with a focus on market resilience, it is clear that a diverse employment base is of critical importance to growing technology firms. Companies are committing resources and pledging to adopt more inclusive hiring practices as well as making a commitment to measure their progress toward a workforce that reflects their customer base and the population at large.

But the efforts do not end there; public-private partnerships and nonprofits are getting in the game as municipalities and the business community partner to enhance the pipeline of talent and the diverse tech ecosystem within their markets. These efforts will not only contribute to the long-term viability and resilience of a market's tech environment but will also help to ensure that the pipeline of diverse talent will be deep enough for the increasing need for a tech-savvy labor force.

critical
importance

*it is clear that a diverse
employment base is of
critical importance to
growing technology firms*



// APPENDIX //

// Resiliency model scores | Total weighted score for each major category //

Weighted score	Market score for resiliency	Economic momentum	Talent pool	Innovation	Cost
Atlanta	74.8	15.2	32.1	13.4	14.1
Austin	84.2	18.5	35.8	18.0	12.0
Baltimore	62.5	9.8	27.7	11.3	13.6
Boise	61.0	10.5	16.9	14.6	18.9
Boston	82.2	15.8	36.5	19.5	10.4
Boulder	69.9	10.8	32.5	13.3	13.3
Charlotte	66.1	15.9	23.2	12.8	14.2
Chicago	73.2	16.1	30.5	13.6	12.9
Cincinnati	62.3	14.3	18.0	11.3	18.7
Cleveland	63.7	14.0	17.4	13.5	18.9
Columbus	68.3	14.2	24.5	11.6	18.0
Dallas	76.6	14.7	30.9	17.5	13.5
Denver	71.2	15.3	32.1	10.7	13.0
Detroit	72.3	15.6	22.7	16.6	17.3
Houston	64.1	10.5	28.1	12.8	12.7
Indianapolis	71.9	15.8	22.6	14.2	19.3
Los Angeles	73.1	14.7	29.1	17.8	11.5
Madison	73.8	15.9	26.8	14.2	17.0
Milwaukee	60.6	8.9	20.4	15.0	16.3
Minneapolis	77.4	13.4	31.8	18.8	13.4
Nashville	58.1	14.1	20.2	8.8	15.0
New York City	78.7	19.7	33.0	18.1	8.0
New Jersey	71.1	13.1	30.3	13.7	14.1
Northern Virginia	77.0	10.6	38.6	14.9	12.9
Oakland-East Bay	79.9	16.2	33.4	18.0	12.3
Orange County	68.8	12.6	26.8	17.5	11.9
Orlando	61.0	14.2	20.4	10.5	16.0
Philadelphia	67.1	10.9	28.6	14.7	12.8
Phoenix	73.6	16.3	25.1	16.4	15.9
Pittsburgh	63.7	14.4	19.5	14.3	15.5
Portland	73.6	14.1	29.5	17.2	12.8
Raleigh Durham	80.6	14.4	33.9	16.1	16.2
Richmond Virginia	52.7	7.2	21.2	7.5	16.8
Sacramento	56.3	10.0	20.3	12.6	13.5
Salt Lake City	72.1	15.5	25.8	13.5	17.2
San Diego	72.8	11.7	31.1	17.9	12.2
San Francisco	87.3	21.9	35.0	22.4	7.9
Seattle-Bellevue	82.3	17.6	35.0	18.6	11.1
SF Peninsula	77.5	14.2	33.3	21.7	8.2
Silicon Valley	95.4	19.9	41.4	26.8	7.4
South Florida	65.5	14.9	24.0	11.4	15.1
St. Louis	65.4	13.9	21.2	12.7	17.5
Suburban Maryland	67.7	6.6	33.1	14.5	13.5
Tampa	59.7	13.0	18.5	11.7	16.6
Washington, DC	67.9	13.7	31.5	12.1	10.6

Source: JLL Research

Curious about the
DETAILS?

Reach out to the
CONTACTS!



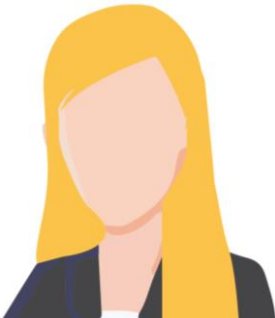
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