THE PHOENIX TECH STORY

How talent, a pro-business environment and quality of life are shaping the Phoenix tech scene
TABLE OF CONTENTS

01 The Phoenix Tech Story
03 The Tech Sector and Phoenix Roots
05 Population
This report examines the Phoenix value proposition to tech companies and how Phoenix compares to some of the most dynamic tech cities in the country. Although companies continue to operate—and in some cases, expand—in established markets such as the Bay Area, New York, Washington, D.C., and Seattle, rising costs and intense competition for talent have continued to motivate business leaders to consider alternative locations. The most competitive alternative locations are generally smaller, have a strong talent pool and business-friendly environment and also offer a high quality of life. Phoenix is an attractive place, not just because of its competitive advantage with regard to cost, but because of its deep talent pool: existing and growing portfolio of tech companies, universities and tech resources; and quality of life.

Testimonials

“Fueled by a diverse, motivated talent pool and an excellent transportation hub.”

Bruce Hoechner
CEO, Rogers Corporation

“The excitement behind the Phoenix technology scene is contagious... The value proposition of starting and scaling a business in Phoenix is clear and has the attention of our friends in Silicon Valley, who are investing their dollars and creating jobs in our community.”

Anthony Kaennada
CMO, Gainsight

“Arizona is a wonderful state, ripe with talented people and a favorable business environment. We are excited for the future.”

Pat Hurley
VP Sales, Acronis

“Incredibly diverse, LGBTQ friendly, and a surplus of tech and support talent.”

Ben Hindman
CEO, Splash

“For nearly two decades, University of Advancing Technology (UAT) has been committed to producing the best cybersecurity talent in the world. This next generation of cyber warriors is ethically trained and thoughtfully prepared to thwart crime and protect our nation’s assets.”

Jason Pistillo
President, UAT

“The talent pool in Phoenix is as robust as anywhere in the country ... It’s the perfect place for startups—a supportive, unpretentious community with no existing status quo—so you don’t get lost in the crowd, and everyone plays a role in shaping it.”

Brad Jannenga
CEO, SaaS Industries

“Greater Phoenix is the only metropolitan [area] in America without natural disasters, which makes it perfect for data centers and fighting cyber crime. This is just one of the many reasons I chose to start and grow my business here.”

Ori Eisen
Founder & CEO, Trusona
THE TECHNOLOGY SECTOR HAS DEEP ROOTS IN PHOENIX

Greater Phoenix’s tech sector emerged following World War II, as the federal government spread outposts throughout the U.S. Phoenix quickly became a hotbed for aerospace and defense and semiconductor industries as companies servicing military operations started investing in research and development labs in the region. The region evolved with the rise of the internet age, becoming home to several large enterprise software development and web hosting companies. Today, Greater Phoenix is attracting expanding companies from New York to California due to its ability to attract top talent outside of high-cost markets. In recent years, the tech ecosystem has progressed into a highly desirable market for next-generation technologies focused on cybersecurity, autonomous vehicles, fintech, medtech and other industries related to the internet of things.

Companies with Large Tech Presence

**Intel** • Chandler  
11,000 Employees  
Headquartered in Santa Clara

**Charles Schwab** • Phoenix  
3,650 Employees  
Headquartered in San Francisco

**General Motors** • Chandler  
700 Employees  
Headquartered in Detroit

**Uber** • Phoenix  
600 Employees  
Headquartered in San Francisco

**Infusionsoft** • Chandler  
550 Employees  
Headquartered in Chandler

**Northern Trust** • Tempe  
500 Employees  
Headquartered in Chicago

**Carvana** • Tempe  
479 Employees  
Headquartered in Tempe

**JDA Software** • Scottsdale  
314 Employees  
Headquartered in Scottsdale

### Recent Tech Job Announcements

<table>
<thead>
<tr>
<th>Company</th>
<th>Function</th>
<th>Location</th>
<th>Expected New Jobs</th>
<th>Total Occupied SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel</td>
<td>Manufacturing</td>
<td>Chandler</td>
<td>3,000</td>
<td>7,200,000**</td>
</tr>
<tr>
<td>USAA</td>
<td>Software Development, Data Scientist, IT</td>
<td>Phoenix</td>
<td>1,100</td>
<td>150,000</td>
</tr>
<tr>
<td>Willis Towers Watson</td>
<td>Software Engineers, Customer Service</td>
<td>Tempe</td>
<td>800</td>
<td>92,000</td>
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<tr>
<td>Orbital ATK</td>
<td>Manufacturing</td>
<td>Chandler/Gilbert</td>
<td>655</td>
<td>777,000**</td>
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<tr>
<td>Endurance Int'l Group</td>
<td>Sales/Customer Service, Software Developers</td>
<td>Tempe</td>
<td>600</td>
<td>140,000</td>
</tr>
<tr>
<td>Zenreach</td>
<td>Sales/Customer Service</td>
<td>Phoenix</td>
<td>350</td>
<td>34,074</td>
</tr>
<tr>
<td>Amazon</td>
<td>Software Development</td>
<td>Tempe</td>
<td>300</td>
<td>81,405</td>
</tr>
<tr>
<td>Indeed</td>
<td>Sales/Customer Management</td>
<td>Downtown Scottsdale</td>
<td>300</td>
<td>52,641</td>
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<tr>
<td>Upgrade Inc.</td>
<td>Customer Service</td>
<td>Phoenix</td>
<td>300</td>
<td>34,074</td>
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<tr>
<td>Vixxo</td>
<td>Web Developer, Analysts, Technicians</td>
<td>Scottsdale</td>
<td>300</td>
<td>37,500*</td>
</tr>
<tr>
<td>Drexcom</td>
<td>Manufacturing</td>
<td>Mesa</td>
<td>262</td>
<td>148,797</td>
</tr>
<tr>
<td>General Motors</td>
<td>Software Devs, Database Admins, System Analysts</td>
<td>Chandler</td>
<td>250</td>
<td>160,000</td>
</tr>
<tr>
<td>Nextiva Inc.</td>
<td>Software Developers, Customer Support</td>
<td>Scottsdale</td>
<td>200</td>
<td>75,000</td>
</tr>
<tr>
<td>Oscar Health</td>
<td>Customer Support</td>
<td>Tempe</td>
<td>200</td>
<td>93,481</td>
</tr>
<tr>
<td>ZipRecruiter</td>
<td>Sales/Customer Service</td>
<td>Tempe</td>
<td>200</td>
<td>54,270</td>
</tr>
<tr>
<td>Benchmark Electronics</td>
<td>Headquarters</td>
<td>Tempe</td>
<td>170</td>
<td>63,000</td>
</tr>
<tr>
<td>Clearlink</td>
<td>Sales/Customer Support</td>
<td>Downtown Scottsdale</td>
<td>150</td>
<td>39,218</td>
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<tr>
<td>Freshly</td>
<td>Customer support/ Engineers</td>
<td>Downtown Phoenix</td>
<td>150</td>
<td>13,561</td>
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<tr>
<td>Houzz</td>
<td>Sales/Client Services</td>
<td>Tempe</td>
<td>150</td>
<td>32,206</td>
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<tr>
<td>MST Solutions</td>
<td>Managers, Analysts, Architects, Developers</td>
<td>Chandler</td>
<td>150</td>
<td>7,000</td>
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<tr>
<td>SAP SE</td>
<td>Sales/Management</td>
<td>Tempe</td>
<td>150</td>
<td>40,000</td>
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<td>Valor Global Services</td>
<td>Customer Support</td>
<td>Scottsdale</td>
<td>120</td>
<td>15,000*</td>
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<tr>
<td>Gabriel Partners</td>
<td>Sales Support</td>
<td>Downtown Phoenix</td>
<td>100</td>
<td>20,000</td>
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<tr>
<td>Ring</td>
<td>Customer Support</td>
<td>Glendale</td>
<td>100</td>
<td>25,904**</td>
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<tr>
<td>Sitelock</td>
<td>Sales/Customer Service, Software Engineers</td>
<td>Scottsdale</td>
<td>100</td>
<td>54,000</td>
</tr>
<tr>
<td>Upgrade Inc.</td>
<td>Customer Service, Credit Operations, Collections</td>
<td>Downtown Phoenix</td>
<td>100</td>
<td>37,000</td>
</tr>
<tr>
<td>Microchip Technology</td>
<td>Software Developers, Hardware/Product Engineers</td>
<td>Chandler</td>
<td>85</td>
<td>1,093,622***</td>
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<tr>
<td>OpenDoor</td>
<td>Sales, Support, Operations</td>
<td>Scottsdale</td>
<td>85</td>
<td>25,092</td>
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<tr>
<td>Solera Health</td>
<td>Engineers, Account Managers</td>
<td>Downtown Phoenix</td>
<td>80</td>
<td>19,300</td>
</tr>
<tr>
<td>Pivotal Payments</td>
<td>Sales/Customer Service, Software Developers</td>
<td>Scottsdale</td>
<td>70</td>
<td>26,000</td>
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<tr>
<td>Datashield</td>
<td>Security Analysts</td>
<td>Scottsdale</td>
<td>60</td>
<td>7,500*</td>
</tr>
<tr>
<td>Mindtree</td>
<td>Network Operations Engineers, Applications Operators</td>
<td>Scottsdale</td>
<td>60</td>
<td>10,000</td>
</tr>
<tr>
<td>Mosaic451</td>
<td>Security Analysts, Network Engineers</td>
<td>Phoenix</td>
<td>60</td>
<td>7,500*</td>
</tr>
<tr>
<td>SiSense</td>
<td>Sales/Management/Support Engineers</td>
<td>Downtown Scottsdale</td>
<td>50</td>
<td>6,299</td>
</tr>
<tr>
<td>Aviag</td>
<td>R&amp;D/Manufacturing</td>
<td>Peoria</td>
<td>40</td>
<td>5,000</td>
</tr>
</tbody>
</table>

*Source: Greater Phoenix Economic Council, CBRE Research.**

**Estimate based on 125 sq. ft./person

**Aggregate of all locations in Phoenix metro
Phoenix is one of the fastest-growing regions in the nation. The metro is home to more than 4.7 million people, and its growth is fueled by net migration. Over the last two decades, the metro has grown on average by 92,000 people annually. In 2017, the region added an average of 100 new households each day. Furthermore, metro Phoenix has a relatively young population with a median age of 35.8 years, falling below the national median of 38.2.

### Phoenix Population by Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Less than 5</td>
<td>7.0%</td>
</tr>
<tr>
<td>5-19</td>
<td>20.2%</td>
</tr>
<tr>
<td>20-34</td>
<td>21.6%</td>
</tr>
<tr>
<td>35-49</td>
<td>19.0%</td>
</tr>
<tr>
<td>50-64</td>
<td>17.2%</td>
</tr>
<tr>
<td>65+</td>
<td>14.9%</td>
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</tbody>
</table>


### Median Age by Metro

<table>
<thead>
<tr>
<th>City</th>
<th>Median Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Lake City</td>
<td>32.1</td>
</tr>
<tr>
<td>Austin</td>
<td>34.0</td>
</tr>
<tr>
<td>Phoenix</td>
<td>35.8</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>36.0</td>
</tr>
<tr>
<td>Denver</td>
<td>36.9</td>
</tr>
<tr>
<td>Chicago</td>
<td>37.0</td>
</tr>
<tr>
<td>San Jose</td>
<td>37.3</td>
</tr>
<tr>
<td>Charlotte</td>
<td>37.4</td>
</tr>
<tr>
<td>Seattle</td>
<td>37.9</td>
</tr>
<tr>
<td>U.S.</td>
<td>38.2</td>
</tr>
<tr>
<td>New York</td>
<td>38.6</td>
</tr>
<tr>
<td>San Francisco</td>
<td>39.2</td>
</tr>
<tr>
<td>Boston</td>
<td>39.4</td>
</tr>
</tbody>
</table>

## Change in Population of 20-34 Year Olds

<table>
<thead>
<tr>
<th>Year</th>
<th>Phoenix</th>
<th>Austin</th>
<th>Charlotte</th>
<th>Atlanta</th>
<th>Denver</th>
<th>Seattle</th>
<th>Los Angeles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2017</td>
<td>15.6%</td>
<td>15.6%</td>
<td>14.2%</td>
<td>12.2%</td>
<td>11.1%</td>
<td>10.3%</td>
<td>9.7%</td>
</tr>
<tr>
<td>2018-2023*</td>
<td>8.0%</td>
<td>12.7%</td>
<td>6.9%</td>
<td>6.5%</td>
<td>6.8%</td>
<td>5.1%</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Salt Lake City</th>
<th>Boston</th>
<th>San Jose</th>
<th>San Francisco</th>
<th>New York</th>
<th>Chicago</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2017</td>
<td>7.8%</td>
<td>7.8%</td>
<td>7.0%</td>
<td>6.5%</td>
<td>5.3%</td>
<td>3.8%</td>
</tr>
<tr>
<td>2018-2023*</td>
<td>1.4%</td>
<td>3.5%</td>
<td>4.9%</td>
<td>3.6%</td>
<td>1.3%</td>
<td>-1.3%</td>
</tr>
</tbody>
</table>


*Forecast

## Phoenix’s Robust Population Growth Driven By Net Migration

### Net Migration  | Natural Increase  | Historical Average
--- | --- | ---
0 | 0 | 0

Source: Moody’s Analytics, 2018.

*Forecast
Greater Phoenix is one of the most rapidly expanding high-tech job markets in the nation. With more than 83,000 high-tech employees, metro employment has grown 33.5% over a five-year period. Phoenix tech employment not only surpasses many of its tech peers, such as Denver and Austin, but it also provides labor at a relatively lower cost than its competitive markets. Beyond its existing supply of high-quality talent, its future labor pipeline is bolstered by one of the largest universities in the nation—Arizona State University—in addition to other major universities and college systems, ensuring employers will have access to talent that meets their future labor needs.

Phoenix is the place to scale

Phoenix High-Tech Employment Breakdown

12,900
Computer Systems Analysts

3,710
Computer Programmers

2,540
Web Developers

2,870
Comp. Network Architects

5,570
Computer and Information Systems Managers

8,260
Software Developers, Systems Software

5,730
Network and Computer Systems Administrators

490
Electrical & Electronics Drafters

Source: BLS, May 2016.
4,650 Computer Network Support Specialists

2,130 Elec. Engineering Technicians

570 and Information Managers

2,670 Electrical Engineers

10,980 Computer User Support Specialists

550 Computer Hardware Engineers

2,330 Database Admin.

2,980 Comp. Jobs (other)

2,280 Info Security Analysts

310 Electro-Mechanical Technicians

12,190 Software Developers, Applications
# Workforce vs. Other Tech Markets

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>7,069,200</td>
<td>276,200</td>
<td>3.9%</td>
<td>246,180</td>
<td>32.9%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>6,736,800</td>
<td>259,700</td>
<td>3.9%</td>
<td>126,730</td>
<td>19.0%</td>
</tr>
<tr>
<td>Chicago</td>
<td>4,868,900</td>
<td>229,500</td>
<td>4.7%</td>
<td>143,190</td>
<td>32.8%</td>
</tr>
<tr>
<td>San Francisco Bay Area*</td>
<td>3,482,800</td>
<td>93,200</td>
<td>2.7%</td>
<td>328,070</td>
<td>49.9%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>3,053,400</td>
<td>126,200</td>
<td>4.1%</td>
<td>133,810</td>
<td>47.6%</td>
</tr>
<tr>
<td>Washington, D.C.</td>
<td>2,682,600</td>
<td>99,200</td>
<td>3.7%</td>
<td>243,360</td>
<td>9.6%</td>
</tr>
<tr>
<td>Boston</td>
<td>2,681,500</td>
<td>74,100</td>
<td>2.8%</td>
<td>115,560</td>
<td>11.4%</td>
</tr>
<tr>
<td>Phoenix</td>
<td><strong>2,325,100</strong></td>
<td><strong>91,700</strong></td>
<td><strong>3.9%</strong></td>
<td><strong>83,140</strong></td>
<td><strong>33.5%</strong></td>
</tr>
<tr>
<td>Seattle</td>
<td>2,083,300</td>
<td>84,400</td>
<td>4.1%</td>
<td>136,910</td>
<td>33.4%</td>
</tr>
<tr>
<td>Denver</td>
<td>1,613,000</td>
<td>47,400</td>
<td>2.9%</td>
<td>77,310</td>
<td>29.4%</td>
</tr>
<tr>
<td>Charlotte</td>
<td>1,306,200</td>
<td>54,300</td>
<td>4.2%</td>
<td>49,830</td>
<td>77.1%</td>
</tr>
<tr>
<td>Austin</td>
<td>1,150,400</td>
<td>30,800</td>
<td>2.7%</td>
<td>68,810</td>
<td>28.3%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>663,100</td>
<td>17,900</td>
<td>2.7%</td>
<td>31,750</td>
<td>45.3%</td>
</tr>
</tbody>
</table>


*Aggregate of San Francisco, Oakland and Silicon Valley
Tech talent density measures the number of computer and mathematical workers in a market relative to the market’s total population. The number of tech workers in the Phoenix metro as a percentage of its population has increased an average of 28.2% over the last 5 years, outpacing growth in markets such as San Francisco and New York.
Arizona State University is home to the largest engineering school in the nation with 20,000 students currently enrolled. Over 68% of graduates since 2010 stay in the Greater Phoenix region after graduation. The region also draws talent from the other major state universities as well as a system of public and private two- and four-year schools.

Enrollment and Graduates: Phoenix Area Universities (2017)

<table>
<thead>
<tr>
<th>School</th>
<th>Total Enrollment</th>
<th>2017 Grads</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASU</td>
<td>97,951</td>
<td>23,334</td>
</tr>
<tr>
<td>GCU</td>
<td>75,834</td>
<td>17,911</td>
</tr>
<tr>
<td>UA</td>
<td>43,387</td>
<td>9,880</td>
</tr>
<tr>
<td>NAU</td>
<td>29,524</td>
<td>7,267</td>
</tr>
<tr>
<td>TOTAL</td>
<td>246,696</td>
<td>58,392</td>
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</table>

Graduate Students by Major (2010-2017)

<table>
<thead>
<tr>
<th>School</th>
<th>Engineering Grads</th>
<th>MBA Grads</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASU</td>
<td>9,528</td>
<td>6,602</td>
</tr>
<tr>
<td>UA</td>
<td>4,257</td>
<td>2,586</td>
</tr>
<tr>
<td>NAU</td>
<td>1,413</td>
<td>1,985</td>
</tr>
<tr>
<td>TOTAL</td>
<td>15,198</td>
<td>11,173</td>
</tr>
</tbody>
</table>

ASU = Arizona State University
NAU = Northern Arizona University
UA = University of Arizona
GCU = Grand Canyon University

**Woz U**

**Location** Scottsdale  
Length of Course 33 weeks  

**Subject Material**  

**Notable Features**  
In addition to online curriculum, Woz U will also provide school districts with K-12 STEAM projects. In 2019, Arizona will become home to the Woz Accelerator, an immersive in-person training program.

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**Galvanize**

**Location** Phoenix  
Length of Course 12 & 24 weeks  

**Subject Material**  
Web Development, Data Science, Python, JavaScript and others.  

**Notable Features**  
120 companies working on site.

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**Tech Talent South**

**Location** Phoenix  
Length of Course 4, 8, & 12 weeks  

**Subject Material**  
JavaScript, Ruby on Rails, Domain Modeling, HTTP and “RESTful” Design, HTML/CSS, iOS, Google Analytics, and AJAX.  

**Notable Features**  
Lifetime access to Coder Camps online curriculum to maintain current expertise.

---

**Dev Mountain**

**Location** Phoenix  
Length of Course 12 weeks  

**Subject Material**  
Web Development.  

**Notable Features**  
Free housing for students on a first-come first-serve basis, one-on-one mentoring.

---

**Coder Camps**

**Location** Scottsdale  
Length of Course 12 & 24 weeks  

**Subject Material**  
Full Stack Web Development and Coding from Scratch. Languages include JavaScript, .Net and Ruby.  

**Notable Features**  
Lifetime career services and access to all courses.
COST OF DOING BUSINESS: A Comparison of Major Tech Hubs

Texas and Washington do not have a corporate income tax but do have a gross receipts tax.

- Average Office Asking Rents (Q4 2017, FSG per sq. ft.)
- Labor Cost: Software Engineer
- Average Corporate Tax Rate

LEGEND

SEATTLE*
$33.79 $128,898 N/A*

SAN FRANCISCO
$72.76 $126,726 8.8%

SAN JOSE (SILICON VALLEY)
$57.42 $134,381 8.8%

SALT LAKE CITY
$23.79 $98,387 5.0%

DENVER
$26.54 $112,815 4.6%

PHOENIX
$25.49 $95,298 4.9%

LOS ANGELES
$40.44 $111,880 8.8%

*Texas and Washington do not have a corporate income tax but do have a gross receipts tax. Source: CBRE Research, Q4 2017; Bureau of Labor Statistics, Tax Foundation, 2017.
Two Ways to Save $1M*

Small Change Creates HUGE Impact

Source: CBRE Labor Analytics.

*Based on 500 employees at 125 sq. ft. each

RENT SCALE

Least Expensive
($20 PSF)

Most Expensive
($80 PSF)

AUSTIN*

CHICAGO

NEW YORK

WASHINGTON, D.C.

CHARLOTTE

BOSTON

$34.39 $101,751 N/A*

$30.22 $100,794 9.5%

$75.25 $114,542 6.5%

$38.56 $117,300 9.0%

$26.16 $101,833 6.0%

$25.93 $103,802 3.0%

$34.39 $103,802 2.0%

$35.40 $111,085 8.0%

$38.56 $117,300 9.0%
HOTTEST PHOENIX TECH SUBMARKETS

Downtown Tempe

<table>
<thead>
<tr>
<th>4.0M SF</th>
<th>0.9%</th>
<th>$41.53/SF</th>
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<tbody>
<tr>
<td>Total Base</td>
<td>Vacancy Rate</td>
<td>Lease Rate (FSG)</td>
</tr>
</tbody>
</table>

Downtown Tempe was the top tech submarket in the nation for rent growth and net absorption growth from Q2 2015 to Q2 2017. The submarket is successfully attracting companies due to the presence of Arizona State University’s main campus, a large and talented workforce and a walkable urban environment that provides an abundance of amenities. Additionally, Class A development along Tempe Town Lake has attracted tech companies seeking high-quality space at reduced costs, including Zip Recruiter, LifeLock and Limelight.

Chandler Price Corridor

<table>
<thead>
<tr>
<th>3.0M SF</th>
<th>6.9%</th>
<th>$29.05/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Base</td>
<td>Vacancy Rate</td>
<td>Lease Rate (FSG)</td>
</tr>
</tbody>
</table>

The Price Corridor in Chandler is a high-demand submarket for fintech and high-tech manufacturing companies. Notable tech employers in the submarket include Intel, PayPal and General Motors. High college attainment and availability of skilled labor make the area attractive to employers. Additionally, an abundance of low-cost land has resulted in a significant amount of office construction over the last few years, providing users with numerous and quality space options. Furthermore, the submarket is surrounded by affordable housing and a thriving shopping and dining scene that helps attract and retain top talent.

Downtown Phoenix

<table>
<thead>
<tr>
<th>6.4M SF</th>
<th>15.3%</th>
<th>$31.13/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Base</td>
<td>Vacancy Rate</td>
<td>Lease Rate (FSG)</td>
</tr>
</tbody>
</table>

Downtown Phoenix is a vibrant, diverse neighborhood that offers a genuine live-work-play lifestyle. Major draws to downtown include Arizona State University’s Downtown Phoenix Campus, light rail, a large and educated workforce and walkable streets lined with restaurants, retail and entertainment options. An increasing number of technology companies—such as Uber, DoubleDutch and Gainsight—are moving from coastal markets to downtown Phoenix. This shift has diversified the submarket’s employer base, which was historically dominated by financial and government services firms.

South Scottsdale

<table>
<thead>
<tr>
<th>2.3M SF</th>
<th>19.9%</th>
<th>$34.67/SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Base</td>
<td>Vacancy Rate</td>
<td>Lease Rate (FSG)</td>
</tr>
</tbody>
</table>

Tech employers are drawn to South Scottsdale due to its high concentration of millennials, educated workforce and amenities that attract top talent. The submarket offers numerous and walkable attractions, including Scottsdale Fashion Square (the largest mall in the Southwest), a growing culinary scene, unique shops and boutiques and vibrant nightlife. Technology companies (including Yelp, Weebly and ZocDoc) have expanded in the area over the past several years. Currently, vacancy is elevated due to McKesson’s recent relocation to a build-to-suit just outside the submarket.

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 Greater Phoenix offers an array of amenities and attractions expected of a bustling urban and suburban region. From unique art and hip eateries to major sporting events and breathtaking hiking spots, the region offers something for everyone.

**ARTS AND CULTURE**
- Arizona Opera
- ArtLink First Fridays
- Ballet Arizona
- Desert Botanical Gardens
- Gammage Auditorium
- Heard Museum
- Mesa Arts Center
- Musical Instrument Museum
- Orpheum Theater
- Phoenix Art Museum
- Phoenix Symphony
- Phoenix Zoo
- Scottsdale Museum of Contemporary Art
- South Mountain Park
- Tempe Beach Park
- WestWorld

**LOCAL BREWERIES**
- 8 Bit Brewing Company
- Arizona Wilderness Brewing Co.
- Beer Research Institute
- Blasted Barley Beer Company
- Bold Barley Brewing
- Desert Eagle Brewing Company
- Dubina Brewing Co.
- McFate Brewing Company
- Four Peaks Brewing Company
- Freak N Brewing Company
- Goldwater Brewing Co.
- Huss Brewing Co.
- Mather Bunch Brewing
- North Mountain Brewing
- O.H.S.O. Brewery + Distillery
- Peoria Artisan Brewery
- The Perch
- Saddle Mountain Brewing Company
- SanTan Brewing Company
- Scottsdale Beer Company
- Sleepy Dog Brewing
- Sonoran Brewing Co.
- SunUp Brewing Co.
- The Phoenix Ale Brewery
- Uncle Bear’s Brewery
- Westward Brewing Co.
- Wren House Brewing Co.

**LOCAL RESTAURANTS**
- Barrio Café
- Berkley’s
- Blanco Tacos - Tequila
- Bourbon & Bones
- Chestnut
- Churn
- Citizen Public House
- Crudo
- Culinary Dropout
- Doughbird
- Famous 48
- Fat Ox
- Federal Pizza
- Flower Child
- Forno Fabbri
- Four Peaks
- Gallo Blanco
- Garcia’s Mexican Restaurant
- Hot Noodles Cold Sake
- Joe’s Farm Grill
- Joyride Taco House
- Kai
- Liberty Market
- Little Cleo’s Seafood Legend
- Lo-Lo’s Chicken & Waffles
- Morning Glory Café
- North Italia
- Olive & Ivy
- Otso Café
- Pizzeria Bianco
- Pomo Pizzeria
- Poolino
- Quiessence
- The Arrogant Butcher
- The Breadfruit and Rum Bar
- The Farm Kitchen
- The Gladly
- The Greene House
- The Henry
- The House Brasserie
- The Mission
- Traifl
- True Food Kitchen
- Vincent on Camelback
- Virtù
- Wasted Grain
- Windsor
- Zinburger Wine & Burger Bar
- Zinc Bistro

**QUALITY OF LIFE**
**ARTS AND CULTURE**
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- Mesa Arts Center
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- Orpheum Theater
- Phoenix Art Museum
- Phoenix Symphony
- Phoenix Zoo
- Scottsdale Museum of Contemporary Art
- South Mountain Park
- Tempe Beach Park
- WestWorld

**LOCAL COFFEE SHOPS**
- Cartel Coffee Lab
- Copper Star
- Fair Trade Café
- Giant
- Hob Nobs
- Jobot
- Lola
- Lux
- Momin’ Moonshine
- Nami
- One Coffee Co.
- Press Coffee Roasters
- Red Hat Coffee
- Royal Coffee Bar
- Shine
- Songbird
- The Refuge
- Urban Beans

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- True Food Kitchen
- Vincent on Camelback
- Virtù
- Wasted Grain
- Windsor
- Zinburger Wine & Burger Bar
- Zinc Bistro
COST OF LIVING

The cost of living index measures relative price levels for consumer goods and services. The national average is 100, and each index is read as a percentage of the national average.

<table>
<thead>
<tr>
<th>Metro</th>
<th>Median Household Income ($)</th>
<th>Average Rent ($, monthly)</th>
<th>Rent to Income Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>75,419</td>
<td>2,761</td>
<td>43.9%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>101,555</td>
<td>3,386</td>
<td>40.0%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>68,599</td>
<td>2,242</td>
<td>39.2%</td>
</tr>
<tr>
<td>San Diego</td>
<td>72,880</td>
<td>1,942</td>
<td>32.0%</td>
</tr>
<tr>
<td>Boston</td>
<td>87,130</td>
<td>2,150</td>
<td>29.6%</td>
</tr>
<tr>
<td>San Jose</td>
<td>115,807</td>
<td>2,714</td>
<td>28.1%</td>
</tr>
<tr>
<td>Chicago</td>
<td>70,149</td>
<td>1,478</td>
<td>25.3%</td>
</tr>
<tr>
<td>Seattle</td>
<td>82,786</td>
<td>1,702</td>
<td>24.7%</td>
</tr>
<tr>
<td>Denver</td>
<td>76,057</td>
<td>1,429</td>
<td>22.5%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>64,754</td>
<td>1,144</td>
<td>21.2%</td>
</tr>
<tr>
<td>Dallas</td>
<td>66,120</td>
<td>1,137</td>
<td>20.6%</td>
</tr>
<tr>
<td>Charlotte</td>
<td>62,479</td>
<td>1,052</td>
<td>20.2%</td>
</tr>
<tr>
<td>Austin</td>
<td>73,812</td>
<td>1,197</td>
<td>19.5%</td>
</tr>
<tr>
<td><strong>Phoenix</strong></td>
<td><strong>61,932</strong></td>
<td><strong>997</strong></td>
<td><strong>19.3%</strong></td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>72,776</td>
<td>1,075</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

Source: Moody’s Analytics, CBRE EA, Q3 2017.

*Based on average rent for a one bedroom apartment (CBRE EA) and median household income (Moody’s)
### HOUSING AFFORDABILITY

The Housing Opportunity Index (HOI) for each market is defined as the percent of homes sold in that area that would have been affordable to a family earning the metro area median income, based on standard mortgage underwriting criteria.

Nationwide, **59.6%** of new and existing homes sold in Q4 2017 were affordable to families earning the U.S. median income of $68,000.

<table>
<thead>
<tr>
<th>City</th>
<th>Median Price</th>
<th>Affordability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlotte</td>
<td>$227,000</td>
<td>68.7%</td>
</tr>
<tr>
<td>Atlanta</td>
<td>$270,000</td>
<td>67.3%</td>
</tr>
<tr>
<td>Chicago</td>
<td>$230,000</td>
<td>65.7%</td>
</tr>
<tr>
<td>Phoenix</td>
<td>$255,000</td>
<td>63.1%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>$307,000</td>
<td>62.1%</td>
</tr>
<tr>
<td>Austin</td>
<td>$293,000</td>
<td>57.6%</td>
</tr>
<tr>
<td>Denver</td>
<td>$381,000</td>
<td>50.3%</td>
</tr>
<tr>
<td>Dallas</td>
<td>$287,000</td>
<td>48.2%</td>
</tr>
<tr>
<td>Boston</td>
<td>$430,000</td>
<td>45.3%</td>
</tr>
<tr>
<td>Seattle</td>
<td>$501,000</td>
<td>39.3%</td>
</tr>
<tr>
<td>New York*</td>
<td>$440,000</td>
<td>32.7%</td>
</tr>
<tr>
<td>San Diego</td>
<td>$530,000</td>
<td>18.2%</td>
</tr>
<tr>
<td>Silicon Valley</td>
<td>$945,000</td>
<td>15.0%</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>$575,000</td>
<td>9.6%</td>
</tr>
<tr>
<td>San Francisco</td>
<td>$1,257,000</td>
<td>6.3%</td>
</tr>
</tbody>
</table>


*New York-Jersey City-White Plains, NY-NJ
Arizona maintains its pro-business climate through a simplified tax system and comparatively low corporate and personal income taxes. Following a multi-year phasedown in 2015, the state’s corporate income tax rate fell from 5.5% to 4.9% in 2017—one of the lowest rates in the country and significantly below coastal and competitive markets.

### Corporate Income Tax

<table>
<thead>
<tr>
<th>State</th>
<th>Bracket</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>All</td>
<td>4.90%</td>
</tr>
<tr>
<td>Texas</td>
<td>Texas Margin Tax</td>
<td>N/A</td>
</tr>
<tr>
<td>Colorado</td>
<td>All</td>
<td>4.63%</td>
</tr>
<tr>
<td>California</td>
<td>All</td>
<td>8.84%</td>
</tr>
<tr>
<td>Washington</td>
<td>Washington Business &amp; Occupation Tax</td>
<td>N/A</td>
</tr>
<tr>
<td>Utah</td>
<td>All</td>
<td>5.00%</td>
</tr>
</tbody>
</table>

### Personal Income Tax (Single Filer)

<table>
<thead>
<tr>
<th>State</th>
<th>Rates</th>
<th>Brackets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arizona</td>
<td>2.59% &gt;</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>2.88% &gt;</td>
<td>$10,179</td>
</tr>
<tr>
<td></td>
<td>3.36% &gt;</td>
<td>$25,445</td>
</tr>
<tr>
<td></td>
<td>4.24% &gt;</td>
<td>$50,890</td>
</tr>
<tr>
<td></td>
<td>4.54% &gt;</td>
<td>$152,668</td>
</tr>
<tr>
<td>Texas</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Colorado</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>California</td>
<td>Rates</td>
<td>4.63% of federal taxable income</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>Rates</td>
<td>Brackets</td>
</tr>
<tr>
<td></td>
<td>1.00% &gt;</td>
<td>$0</td>
</tr>
<tr>
<td></td>
<td>2.00% &gt;</td>
<td>$8,015</td>
</tr>
<tr>
<td></td>
<td>4.00% &gt;</td>
<td>$19,001</td>
</tr>
<tr>
<td></td>
<td>6.00% &gt;</td>
<td>$29,989</td>
</tr>
<tr>
<td></td>
<td>8.00% &gt;</td>
<td>$41,629</td>
</tr>
<tr>
<td></td>
<td>9.30% &gt;</td>
<td>$52,612</td>
</tr>
<tr>
<td></td>
<td>10.30% &gt;</td>
<td>$268,750</td>
</tr>
<tr>
<td></td>
<td>11.30% &gt;</td>
<td>$322,499</td>
</tr>
<tr>
<td></td>
<td>12.30% &gt;</td>
<td>$537,498</td>
</tr>
<tr>
<td></td>
<td>13.30% &gt;</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Utah</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

*Gross receipts taxes are business taxes imposed at a low rate but on a wide base of transactions, resulting in effective tax rates that can vary by industry.
Relevant Tax Credit Programs in Arizona

**RESEARCH & DEVELOPMENT TAX CREDIT**
Provides an Arizona income tax credit for increased research and development activities conducted in the state, including research conducted at a state university and funded by the company. It applies to both corporations and individuals and is equal to 24% of the first $2.5 million in qualifying expenses plus 15% of the qualifying expenses in excess of $2.5 million.

**QUALITY JOBS TAX CREDIT**
Provides tax credits to employers creating a minimum number of net new quality jobs and making a minimum capital investment in Arizona. The program offers up to $9,000 of Arizona income or premium tax credits spread over a three-year period for each net new quality job.

**ANGEL INVESTOR TAX CREDIT**
Provides tax credits to investors who make investments in targeted small businesses certified by the Arizona Commerce Authority (ACA). The ACA can authorize $10 million in tax credits against qualified investments made in qualified small businesses through June 30, 2021. No more than $2.5 million in tax credits may be authorized per calendar year.

**MICROENTERPRISES FUND DEDICATION**
Requires the ACA to reserve up to $1 million of the Arizona Competes Fund (ACF) for grants to advance microenterprise development (companies based in Arizona with 10 or fewer employees, including start-up, home-based and self-employed businesses).
REGULATORY POLICY

Arizona Works to Enable New Technology Adoption

Arizona’s regulatory environment is intentionally pro-business, fostering a culture of innovation and growth in the state. Whether encouraging research and development into autonomous vehicles or working to make sure that ride-share drivers have protections under the law, Arizona is embracing the future. The reduction of regulatory burdens on existing and prospective companies in Arizona will continue to attract new companies and create jobs in the state.

In 2015, Governor Ducey signed Executive Order 2015-09, which allows for the testing of autonomous vehicles in Arizona. The order explicitly encouraged state agencies to support the development of autonomous vehicles and set basic safety parameters under which testing should occur. It also established the Self-Driving Vehicle Oversight Committee, which is charged with advising relevant stakeholders on the matter.

It should come as no surprise that in the years following the implementation of this Executive Order, Greater Phoenix has developed a robust autonomous vehicle development environment. Companies like Uber, Waymo, Cruise Automation and Local Motors are all testing and developing autonomous vehicle technology in Greater Phoenix.

Establishing New Insurance Financial Limits and Requirements for TNCs (2015)
House Bill 2135, which was signed into law in 2015, was designed to provide a basic, safety-oriented regulatory framework for Transportation Network Companies (TNCs). The law created insurance financial limits and requirements for TNCs and required TNCs to conduct background checks on drivers, mandated TNC vehicle identification, and set requirements on what is and is not acceptable for drivers to have been cited for. This legislation legitimized the industry and gave TNCs a clear set of rules under which to operate. Notably, these rules were not written in a way that would inhibit the industry from actively functioning in Arizona.

Short-Term Rentals (2016)
Senate Bill 1350, which was signed into law in 2016, prohibits banning of short-term rentals. It also establishes a straightforward regulatory framework in which some taxation is enacted for online lodging services. It also limits the ways in which cities and towns can regulate short-term rentals. These regulatory avenues are largely aimed at the protection of public health and safety.

Enabling Electronic Transactions Utilizing Blockchain Technology (2017)
HB 2417 recognizes smart contracts, which are secured through blockchain, as valid forms of contracts in Arizona. Governor Ducey and the State Legislature, through this bill and others, are working to show that Arizona recognizes and embraces new technologies. This forward-thinking legislation places Arizona among a handful of states that have enacted legislation that recognizes and utilizes the security benefits of blockchain technology.

Regulatory Sandbox for Fintech (2018)
In 2018, Governor Ducey signed H.B. 2434 which is intended to spur the development of fintech, blockchain and cryptocurrencies in the state by removing regulatory barriers for innovators. Arizona is the first in the U.S. to adopt a “regulatory sandbox” which will take effect in late 2018. Under the measure, companies will be able to test their products for up to two years and serve as many as 10,000 customers before needing to apply for a formal license.
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cathy.teeter@cbre.com